Gathering Hopewell

Society, Ritual, and Ritual Interaction

edited by

Christopher Carr and D. Troy

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Ritual Interaction

INTERDISCIPLINARY CONTRIBUTIONS TO ARCHAEOLOGY

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Ritual Interaction

Edited by

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To Stuart Struever

For your vigorous work and well-thought-out vision
in the service of archaeological research and education

Stuart Struever in 1977 at the Koster Site, Illinois.

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Preface

Explaining and appreciating others, as goals of an anthropological archaeology that strives to be, at once, scientific and humanistic in outlook, are reconciled in the detailed study of local peoples in their local and broader cultural and natural contexts. Through the rich description of a local people and their ideas, practices, and environments, the possibility arises for the researcher to come to know those people and their ways in terms of their own self-images, roles, practices, values, and beliefs, rather than his or hers, to glimpse their aspirations and motivations, and to begin to understand them. Detailed, personalized observation of a people, and situating oneself in their midst, lay the groundwork for a deeper experience of them, and open the door to true humanistic appreciation and faithful comparative study and explanation.

In this light, finding the faces, actions, consequences, and motivations of past peoples as individuals, as social persons who constructed and played out varying social roles, and as larger social formations with social raisons d'être—thickly describing past peoples—is vital to a fully realized archaeology that is scientific and humanistic. This calling is especially salient when an archaeological landscape is richly endowed with culturally expressive material remains at multiple scales, as is true of Hopewellian landscapes over the Eastern Woodlands of North America.

Within the verdant valleys of the Woodlands, Hopewellian peoples of 2,000 years ago built truly monumental, often complexly designed earthworks for their ritual gatherings and burying their dead, masterfully worked glistening metals and stones acquired from long, dangerous travels afar into elaborately embellished symbolic forms, and honored many of their dead in meaningfully rich and laboriously expensive mortuaries. Multicommunity, earth-enclosed ceremonial grounds of many tens of acres, aligned precisely to the solstices, equinox, and rising moon; ceremonial, three and four-tone panpipes sheathed in silver and copper and sometimes used in rites of passage; smoking pipes sculpted with creatures that provided personal connections to power; figurines of elite, shaman, and commoners in ritual and ordinary-life routines; tombs of oaken logs and cremation basins filled with dozens to hundreds of gifts of copper axes, copper breastplates, quartz crystal points, or galena cubes by community leaders, elite sodality members, and shaman-like diviners or healers—such expressiveness of lives past makes Hopewellian material records among the most socially and personally vocal archaeological remains on the North American continent.

In this book, twenty-one authors in interwoven efforts immerse themselves in this vibrant archaeological record and guide the reader through it in order to richly document Hopewellian life and to develop new, more intricate understandings of Hopewellian peoples, who have intrigued and mystified professional archaeologists and laypersons for now more than two centuries. By assembling and analyzing deep and broad archaeological data on an unprecedented scale, the authors offer detailed views of the practices, ideas, and motivations of Hopewellian peoples in their local and

interregional cultural and natural contexts in eastern North America. It would be possible, instead, to simply imagine how various expressive material remains and practices of Hopewellian peoples might have figured into their lives, or to place them in some generalized, theoretical framework from an outsider's perspective (e.g., ecological, neo-Darwinian, symbolic–structuralist), but these efforts would bring us only a little closer to Hopewellian peoples themselves. Rather, by thickly describing local Hopewellian life, in personalized, contextualized, ethnographic-like detail to the extent archaeologically feasible, the authors here lay a strong foundation for knowing Hopewellian peoples in their own terms, and for appreciating and explaining them and their works in a manner that is sensitive to their voices.

The twenty chapters of this book introduce the reader to many previously unknown aspects of the social, political, and ceremonial lives of local Hopewellian peoples, especially those in the northern Woodlands of Ohio, Indiana, and Illinois. Diverse leadership roles with sacred and secular bases of power; the development of institutionalized, multicommunity leadership positions from classical shamanism over time; the animal-totemic clans of local societies and their relative wealth, size, networking, and access to leadership positions; the simplicity of social ranking and its low priority for symboling; gender distinctions and relationships as seen in the access of the sexes to leadership positions and sodality membership, day-to-day tasks, workload, and health; the possible recognition of a third gender; patrifocal and matrifocal kinship structures; ceremonial societies/sodalities with overlapping membership; earthwork ritual gatherings, their sizes, social-role compositions, foreign participant levels, and functions, and changes in these characteristics over time; intercommunity alliances and their changing means, formality, and size over time; and the correlation between alliance development and leadership form—each of these features of Hopewellian social, political, and ceremonial life is defined empirically for local Hopewellian peoples. Necessarily, these features are also resolved and understood in the context of the ceremonial–spatial organizations of local Hopewellian communities, including ceremonial sites of differentiated ritual functions, the use of singular ceremonial sites by multiple communities, and the triscalar organization of residential, local symbolic, and demographically sustainable kinds of Hopewellian communities.

In order to come to know local Hopewellian peoples more closely—to personalize and humanize Hopewellian material records—many of the authors of this book emphasize identifying the social and ritual roles of actors: public ceremonial leader, ritual greeter of foreigners, diviner, healer, corpse processor, and such. Roles are cultural models that guide the actions and interactions of persons by defining or suggesting their relative rights, duties, actions, responses, and tasks in a given social context, and are media that facilitate creative social expression of actors. As such, roles are closely associated with the social action of individuals. Roles bring a dynamism to archaeological records that structural studies of social identities, personae, and positions, which have been a mainstay in modern mortuary archaeology, do not. Roles also give a personal quality to archaeological studies, but at a level of abstraction above the individual and more archaeologically resolvable than the individual agent and his or her specific social actions and effects, which are popular yet debated foci in anthropological archaeology today.

It is from the detailed views of the lives of local Hopewellian peoples that their interregional travels, long-distance procurement of materials, far-flung social–ritual interactions, and spread of ceremonial practices, ideas, raw materials, artifact classes, and material styles are understood here in Hopewellian terms. Interregional-scale Hopewellian practices and connections are shown to have been motivated by, and aspects of, local social, political, and ritual practices and foundational beliefs. Once thought to have been a relatively coherent exchange system fueled by local subsistence risk and/or demands for social status markers, interregional Hopewellian connections empirically turn out instead to have been very diverse in form, and commonly spiritually focused. Vision and power questing, pilgrimages to places in nature, the travels of medicine persons and/or patients

for healing, the buying and spreading of religious prerogatives, pilgrimage to a ceremonial center, personal travel to a ceremonial center for tutelage in religious knowledge and ceremony, and occasional cases of long-distance spirit adoption or intermarriage each had a part in creating the web of interregional Hopewellian connections seen archaeologically in widespread shared or analogous practices and material culture. Fundamental religious emphases on transformation, light and darkness, the tripartite universe and its creatures, power, and the acquisition and managing of power, which are revealed here through material–symbolic studies, are found be among the important local impetuses for long-distance Hopewellian activities.

Writing thick, interwoven descriptions of the lives of local Hopewellian peoples and their interregional ventures—personalized, contextualized, ethnographic-like accounts—was made possible at this time by the convergence of many significant empirical advances in Hopewell archaeology. A number of very large data sets relevant to diverse, specific features of Hopewellian social, political, and ceremonial life were assembled or reconstituted between the mid-1990s and the present: systematized museum data from 19th through early 20th century excavations of Hopewellian sites, detailed laboratory analyses of artifacts and skeletal remains, and new excavations and surveys of habitation sites and earthworks (esp. Romain, Chapter 3, Appendix 3.1; Ruby and Shriner, Chapter 15; Cadiente 1998; Carr and Haas 1996; Carr and King n.d.; Carr and Maslowski 1995; Case and Carr n.d.; Dancey and Pacheco 1997b; Penney and Carriveau 1983; Ruby 1997a–e; Ruhl 1996; Spence and Fryer 1996; Turff 1997; and see summaries in Ruby

et al., Chapter 4). Each potent in its own right, the meeting of these empirical advances gave a special synergy and jump-start to the thinking, analyses, and interpretations of the authors of this book. Also critical to our writing fine-grained descriptions have been recent refinements in archaeological, middle-range theories that are useful for identifying and sorting out the various social and other cultural dimensions reflected in mortuary practices and styles of artifacts, which comprise a good bulk of the information studied here. Finally, recent anthropological, theoretical developments in the study of community organization, shamanism, gender, alliance development, and long-distance journeying for social and religious reasons have aided our efforts to reveal Hopewellian peoples and their ways. These archaeological and ethnological theories are summarized, and in some cases further developed here, as the Hopewellian records to which they are relevant are explored.

Many of the large, raw data sets analyzed here are reproduced in the CD Appendices listed at the back of this book. Some of the interpretive, anthropological potential of these data sets has been brought forward here, but more patterns and insights remain for others to reveal. We hope that these hard data, and the authors' rich, personalized renderings of the practices, ideas, and motivations of Hopewellian peoples in their local and interregional settings, will serve professional archaeologists well in their future strides to know, faithfully explain, and appreciate Hopewellian life.

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Acknowledgments

Hopewell West: The Saguaro Tradition. Contributors to this book who were in residence at Arizona State University. *Bottom row, left to right:* **Katharine D. Rainey, Stephanie Field, Anne J. Goldberg, Tina Lee.** *Middle row, left to right:* **Jaimin D. Weets, Wesley Bernardini, Christopher Carr, Teresa Rodrigues, Chad R. Thomas.** *Top row, left to right:* **Beau J. Goldstein, Cynthia Keller, D. Troy Case, Ian Robertson. Special thanks to Deann Gates for photo rendition.**

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Dedication to Stuart Struever

On a lazy, flowing Illinois River, in a country valley nestled in a quiet, wispy fog of early morning and then drenched in sparkling dew as the sun grows higher, a ferry from times gone by passengers vehicles of archaeologists and students across the waters toward their day's adventures in an earthen past. Hopewell burial mounds plentifully dot the bluff crests above, reminding the crews of a long-gone yet present humanized landscape, of a valley community of Hopewellian peoples, whom the archaeologists hope to come to know a little better by the end of the day. Kampsville, 1960–2002: a simple and pleasing scene, yet in that garden was planted and grew and ripened one of the most critical, successful, and complex experiments in modern American archaeology—the formalizing of multidisciplinary, regional-scale archaeological research as an academic and economic institution.

Organization building is a phrase easily associated with Stuart Struever for those who know him even remotely. Nearly all of his life, from his 22nd year to the present, at age 72, he has been laying the fiscal and interpersonal foundations for realizing deep, rich, regional-scale archaeological research and education. He has personally raised more than $40 million in support of archaeology and built two multidecade archaeological research and education centers: the well-known Center for American Archaeology in Illinois and the Crow Canyon Center in Colorado. And archaeological work through these centers has pivotally changed our knowledge and views of Archaic, Woodland, and Mississippian peoples from 7200 B.C. to A.D. 1400 in the eastern

United States and of Puebloan peoples from A.D. 500 to A.D. 1300 in the Four Corners area of the American Southwest.

What is not so well understood is Stuart's broader vision of archaeology as a mature, scientific, anthropologically targeted, multidisciplinary intellectual endeavor, his commitment as a prehistorian and theorist to fine-grained, locally focused research at the scale of past human societies, and how he saw archaeological institution building as fundamental to realizing these potentials. Also not recognized are his broader intellectual impacts evident in the scores of now professional archaeologists and literally tens of thousands of high schoolers, undergraduates, graduate students, elementary and high school teachers, and laypersons who were trained through his programs in Illinois and Colorado.

Indeed, it is within the expanse of Stuart's vision and passion for a multidisciplinary, fine-grained, locally focused anthropological archaeology that the most basic cornerstones of this book are laid. The close, long-term, team efforts of the authors to interweave their research, and the emphasis here on humanizing the past by richly documenting local peoples, their ideas, practices, and cultural and natural environments, with diverse and deep data—what I call *thick prehistory*—have their roots in Stuart's training ground. For five field seasons and a winter in Kampsville, from 1972 through 1977, I was immersed in archaeological research with and for the center that Stuart constructed, where these views and ways of doing archaeology were instilled through classes, long-night talks, and

practice. My interest in Hopewellian peoples also sprang from those days and the solid foundation of research on Hopewell that Stuart and his colleagues had laid during the previous two decades in the Illinois valley: it was Stuart who selected a Middle Woodland habitation site for me to explore in my doctoral dissertation.

This dedication is written, with much thanks, from my experiences in Kampsville and from a six hour, in-person interview and a half-dozen long telephone conversations with Stuart from spring through autumn 2003. It also benefits from several long discussions with Mike Wiant, of the Illinois State Museum, who was a student and employee of Stuart's and has had a long-standing relationship with him. Mike also helpfully wrote down many thoughts that added to this dedication.

Stuart's career is an inseparable interweaving of several passions that he has pursued with sustained focus for now more than five decades: prehistory; team-based, multidisciplinary archaeological research at the regional scale in response to the demands of theoretical and methodological developments in post-1960 Americanist archaeology; building and funding of organizations to provide a stable fiscal and personnel basis for such expensive and lengthy research; and education of the public both as an engine for funding research and for humanitarian reasons. In Stuart's clear, self-knowing words,

> There are three things I see myself as having that, together, other archaeologists seldom have: first, a vision to do archaeology on a bigger, different level, through a different organizational way, as I laid out in 1965 [Struever 1968d]; second, my immense passion to achieve the goal I set. This passion was caught by others from whom I sought funds and made me a successful fund-raiser for archaeology. The ability to light the imaginations of others is essential to be a successful fund-raiser; and third, endurance—an unwillingness to be turned aside by things that might discourage many individuals. I would not be put off by persons who did not understand the vital linkage between deep archaeological research and institution building.

With these unique personal qualities and visions, Stuart remade and is remaking significant sectors of American archaeology in its understandings of prehistory, its form of intellectual interaction and work, and its service to society.

Born in the rural, upstate Illinois town of Peru, and the son of a local industrialist of means, Stuart was surrounded from birth by the curiosities of the archaeological record and the know-how of leaders of large-scale organizations. This environment, his natural, precocious attraction to the archaeological past, and his strong intuition for how to go about archaeology set the direction of his life career. Stuart's passion for archaeology was sparked by his first find of a projectile point on a neighbor's farm at the age of nine on Easter Sunday, 1940. Holding the point in his hand, he was mesmerized by the thought of what it might tell him about some unknown person of antiquity. Soon after, he discovered that his family's farm on the Vermilion River had artifacts. He surveyed it, finding several habitation sites, and meticulously picked up all the artifacts, charcoal, and burned clay he could find, keeping the remains from different habitations and even concentrations within them separate from each other. Thereafter, he expanded his research to neighboring farms and, after getting his drivers license, made a total, systematic survey of a four-mile stretch of the lower Vermilion River valley, numbering and naming sites, mapping them on U.S. Geological Service (USGS) quads and plat books, curating the remains by site, and displaying them in a little museum that he made on his grandparents' sunporch—all without instruction.

After entering Dartmouth and meeting his first professional archaeologist, Elmer Harp, Stuart, at age 19, began his formal instruction in fieldwork, his forging of lifelong colleagueships with key Illinois archaeologists, and his 30-year career in Illinois valley prehistory. He dug at the French fort in Starved Rock State Park under Richard Hagen in 1950, near his natal home, along with James Brown, with whom Stuart later would come to teach for many years at Northwestern University and the Center for American Archeology, and to jointly explore Illinois valley prehistory. After a field school in New Mexico,

Stuart excavated and field supervised at an 18th-Century Illiniwek village at the mouth of the Kaskaskia and across the river from Modoc rock shelter. There, he met Melvin Fowler, who directed excavations at both sites, and Howard Winters, who was a field supervisor at Modoc. Stuart and Howard tented together that summer of 1952, brainstorming about Illinois archaeology, and became close friends, with Howard to have continuing influences on Stuart's anthropological thinking for much of their lives. Earlier, in June, on his way to Illiniwek from Dartmouth, Stuart made an impromptu visit to Ann Arbor to visit James B. Griffin, whose article on Illinois Woodland ceramic typology and chronology (Griffin 1952a), and especially the Hopewellian materials, had caught Stuart's eye. There, at the Ceramic Repository in the Museum of Anthropology, Griffin graciously gave Stuart a personal, hands-on seminar on Illinois ceramics for four or five days and greatly impressed him with the need to understand ceramic chronology in depth to culturally order archaeological records. "That was the first time I touched Hopewell artifacts" and also "built a close relationship between Jimmy Griffin and myself, which carried on for most of our lives."

Stuart graduated from Dartmouth in 1953 and, after a brief year of graduate school in anthropology at Harvard University, was drafted for the Korean War and then released in early 1955. Uncertain about what to do with his life, and loving archaeology, he turned to excavating a Middle Woodland habitation site, Kuhne, in the upper Illinois valley near the town of Henry for three summers, with the help of high school students. To support himself and the excavations, and to find volunteer diggers, he gave public lectures on archaeology at high schools and colleges. He gave his first in March of 1955, and soon realized that he was a strong public speaker. Within a year, Stuart was lecturing in a six-state area and had hired a booking agent for his business. Also, in order to attract tax-deductible donations from the local wealthy—and on the advice of his father, Carl, and with his help—Stuart established a not-for-profit foundation, Archaeological Research, Inc. Thus at age 24 began Stuart's long career combination of archaeological field

research, lectures to the public to fund it, training of laypersons in the field, and archaeological organization building. The venture was successful. Archaeological Research, Inc. later became the Foundation for Illinois Archaeology, and then the Center for American Archaeology—a major, national research and education institution.

Realizing through his work at Kuhne that he did not know how to analyze archaeological remains and draw inferences solidly in an anthropological way, Stuart applied for graduate school in anthropology at Northwestern University in 1958. His plan to focus there on African archaeology was short-lived. In May, 1958, Stuart's fascination with Hopewell was broadened and his work in the lower portion of the Illinois valley was initiated by serendipity when, driving through the area, he saw Kamp Mound 9—a flood plain Hopewellian burial mound—beginning to be bulldozed by the curious landowner, Pete Kamp, the grandson of the founder of Kampsville. Stuart felt compelled to rescue the mound, and Mr. Kamp agreed that he would leave it alone if Stuart would excavate it professionally, which he did, beginning in August, with the help of high school students from the Chicago area, undergraduates from several colleges, and graduate students from Northwestern.

The Kamp Mound 9 excavations set in motion a number of events that solidified Stuart's career as a Hopewell archaeologist and his investment in the lower Illinois valley. The excavation became the subject of his master's thesis and his first detailed, anthropological archaeological analysis. Kamp 9 also fascinated Howard Winters, who came to visit Stuart many times over the two years of its excavation, deepening their friendship and colleagueship. Brainstorming sessions between the two archaeologists widened Stuart's perspective on Illinois Hopewell, especially relative to the Ohio Hopewellian record, and ultimately led him to write his 1965 *American Antiquity* article on the subject—still one of the few systematic comparisons of the two regional traditions. Likewise, Stuart's Kamp 9 excavations attracted the attention of Joseph Caldwell, Curator of Anthropology at the Illinois State Museum, who played

an especially important role in Stuart's intellectual development. Specifically, Stuart's Kamp 9 work and master's thesis were conceptualized in the single-site, normative perspective popular at the time. Caldwell forcefully encouraged Stuart to instead widen his perspective and reconsider Illinois Hopewell using Caldwell's concept of the "Interaction Sphere." In 1959, while Stuart was visiting Caldwell at his excavations at Dickson Mounds, he asked Stuart to prepare a paper on his Kamp 9 work from this new Interaction Sphere vantage for presentation at in A. R. Kelly's organized session at the 1961 American Anthropology Association meeting in Philadelphia. Stuart undertook the challenge and spoke about his work, but just as significantly, he intently absorbed much new information that was surfacing on Hopewellian traditions elsewhere in the Eastern Woodlands through the research of Don Dragoo, Olaf Prufer, James Brown, and Edward McMichael. The insights that Stuart gained resulted in his seminal 1964 article, "The Hopewell Interaction Sphere in Riverine–Western Great Lakes Culture History," in which he linked areas of Hopewellian development to specific climatic and geomorphological conditions that were optimal for growing Eastern Agricultural Complex cultigens. Stuart's argument for the development of Hopewellian cultures in the area was at once ecological, demographic, and social—lines of thought he learned from Robert Braidwood and Lewis Binford (see below), and a major change from his earlier, normative thinking. In the article, Stuart also laid out his "mud-flat horticulture hypothesis" of the independent origins of agriculture in the Riverine–Great Lakes area, initiating a decade-long period of his career when he would publish and become well-known for his contributions to thought and data on the origins of agriculture, generally (Struever 1971; Struever and Vickery 1973).

The period between 1959 and 1964 for Stuart was a rich and continuous stream of teachers and anthropological theoretical ideas, deep discussions with colleagues, and immersion in the Hopewellian archaeological record of the lower Illinois valley, all of which congealed in his research there. During the fall quarter of his second year at Northwestern, in 1959, Stuart participated in a joint University of Chicago–Northwestern University graduate seminar on subsistence and settlement patterns offered by Robert Braidwood and Creighton Gabel. Braidwood's concept of the subsistence-settlement cultural domain and his ideas about ecology and the origins of agriculture absolutely fascinated Stuart, as did Braidwood's views on multidisciplinary research. Stuart had begun to systematically survey the lower 70 miles of the Illinois valley, from Meridosia to Grafton, in 1958, and readily saw Braidwood's subsistence-settlement view of landscapes manifested in the lower Illinois as he continued surveying there from 1959 through 1961. After completing his master's degree on Kamp Mound 9 (Struever 1960), Stuart transferred to the doctoral program in anthropology at the University of Chicago in the summer of 1960, to work with Braidwood. With the intellectual foundation laid by Braidwood, and Stuart's now-deepening view of the lower Illinois valley archaeological landscape, Stuart was well prepared to absorb the ideas of Lewis Binford, who taught at Chicago from 1961 through 1964 and became Stuart's mentor. Through Binford, Stuart learned the theoretical frameworks of cultural evolution and systems notions of ecology, the goal of elucidating cultural process in contrast to culture history, the distinction between subsistence and settlement patterns, on one hand, and subsistence-settlement systems on the other, the question of how subsistence and settlement change systemically over time, the ideas of activity areas and tool kits, and sampling excavation strategies. Through the classroom, informal gatherings of U of C students with Binford in Stuart's apartment kitchen in Hyde Park, and Binford's trips from Carlyle Reservoir to visit Stuart in the field, Binford played an active role in cementing the ideas of the soon-to-become New Archaeology into Stuart's Hopewell research, especially the analysis of subsistence-settlement systems. Stuart notes, "Binford was constantly provoking me to try to develop a typology of sites of differentiated function and from that to try to evolve an interpretation of what kind of cultural system was going on" in the lower Illinois during the Middle Woodland. At the same time, at the Illinois State Museum in Springfield, Stuart was also mulling

over Illinois Hopewell and Hopewell across the Woodlands in broader terms with Joseph Caldwell, Robert Hall, Howard Winters, and James Brown, with Binford's ideas liberally salted in. Winters and Brown were finishing their degrees at Chicago, and Caldwell, Hall, Winters, and Brown all had offices at the museum at various times during the period. Finally, Stuart's conception of the Havana Hopewellian record was much enriched by years of discussions in the field with Gregory Perino, who excavated Middle and Late Woodland burial mounds in the lower Illinois for the Gilcrease Foundation, Tulsa, Oklahoma, from the early 1950s through the late 1960s, and then for the Center for American Archaeology from 1971 through 1976. Perino knew the archaeology of the lower Illinois valley better than any amateur or professional archaeologist, having grown up in the area, and naturally thought about it in regional-scale, cultural terms. He helped Stuart greatly in learning the geographic distributions, internal spatial structures, and contents of Hopewellian mortuary and habitation sites throughout the lower valley. Stuart and Perino first met when he paid Stuart a visit at his Kuhne site excavations in 1955, and they came to cement a long professional relationship and friendship as Stuart dug Kamp Mound 9 and surface surveyed the lower Illinois valley. One substantial result of all of this synergy was Stuart's (1968a) article on "Woodland Subsistence-Settlement Systems in the Lower Illinois Valley," in *New Perspectives in Archaeology*, which yet stands largely correct as a model of Early Woodland Black Sand and Middle Woodland Havana Hopewellian subsistence-settlement systems in the lower valley. The article realized Binford's urging: it documented both of the systems in terms of sets of differentiated settlement types defined by their microenvironmental locations, sizes, forms, and internal structures, artifact contents, and deduced functions; mobility patterns among sites were also inferred. Stuart also integrated Caldwell's lead that the development of primary forest efficiency over the Woodlands continued in certain ecologically favored, restricted locations, and proposed in the article a model for Early to Middle Woodland subsistence-settlement change that involved the development of "intensive harvest col-

lecting" of select, high-yielding natural foods, including members of the Eastern Agricultural Complex, at such locales. The rise of Havana Hopewell social complexity was linked by Stuart to increases in economic productivity and population. This model, empirically well supported, came to replace Griffin's earlier projection that Hopewellian cultural florescences were based in maize agriculture.

From 1962 through 1967, in order to document such subsistence-settlement change and for the completion of his dissertation, and continuing in 1968, Stuart intensively excavated Middle Woodland habitation sites and an Early Woodland site in the lower Illinois valley: Apple Creek, Snyders, Macoupin, Peisker, and others. This work, in turn, led to three lines of innovation to which Stuart made absolutely critical contributions to Americanist archaeology: first, multidisciplinary cultural–ecological research anchored in the natural sciences; second, the conceptualization of rich, detailed archaeological work on local cultural systems within a defined research universe; and third, the building of independent archaeological research and education centers. Each of these three contributions is now considered.

Stuart was highly impressed with the multidisciplinary team of natural scientists that Braidwood had assembled to tackle the issue of the origins of agriculture in Iraq and Iran, and had some experience with the approach himself. Early in his career, while excavating the Kuhne site, Stuart had enlisted one vertebrate biologist, Paul Parmalee, of the Illinois State Museum, to identify faunal remains and had found the documented species very insightful: he could determine in a general sense the microenvironments around Kuhne that its inhabitants had exploited for food. For his Apple Creek work, and later his Macoupin excavations, Stuart cast his net wider, to include Parmalee, fisheries biologist Andreas Paloumpis, mammalogist Robert Weigel, and herpetologist Alan Holman, the latter three from the biology department at Illinois State Normal University. Paloumpis, in particular, gave Stuart fine-grained information on the microenvironmental zones that Middle Woodland peoples were using and affirmed for him the

utility of the multidisciplinary team approach to an ecologically oriented, cultural–processual archaeology. It was also at Apple Creek that Stuart and his wife Alice developed water separation and chemical flotation methods for freeing and capturing small faunal and floral remains from soils (Struever 1968c), augmenting the need for botany and malacology experts on archaeological teams. Stuart nurtured these developments, also recognizing that they antiquated the lone-scientist model of archaeological research and placed new demands on team building.

As his ecological orientation deepened through the 1960s, Stuart came to formally define a 2,800-square mile, 70×40-mile research universe encompassing the lower Illinois valley and its upland surroundings, and an "Illinois Valley Archaeological Program" dedicated to its archaeological and ecological study. The area was mapped botanically, and later geomorphologically, and changes in vegetation and landforms over prehistory were reconstructed. A focus on revealing the rich details of local cultures in their local environments emerged—a theme carried forward in this book. Stuart, like I, was strongly influenced by Walter Taylor's (1948) emphasis on establishing context in detail as a basis for reconstructing a past culture.

Stuart's central insight about the necessity for fiscally independent, long-term, multidisciplinary archaeological research institutions emerged early during his graduate studies and became stronger as his own research in the lower Illinois valley became theoretically and analytically more complicated. In Room 310 of the Oriental Institute of the University of Chicago, in 1961 and 1962, Stuart would gather for lunch with his fellow graduate students, Frank Hole, James Brown, Patty Jo Watson, Kent Flannery, and others, and, along with Braidwood, talk about their research. There, Stuart had the opportunity to see Braidwood repeatedly express his frustrations in trying to continuously fund his archaeological work in Kurdistan. Stuart observed that although Braidwood was a world-famous archaeologist and was receiving some of the largest grants awarded by the National Science Foundation at the time, they were nevertheless not enough and not regular enough to fund his long-

term, multidisciplinary project, and required him to run around to wealthy Chicagoans to piece together sufficient support. Stuart saw the growing disparity between the increasing scientific demands of anthropological archaeology and its organizational structure. In particular, he came to understand within a few years that the shift in theory to a concern for cultural process and ecology, the regional-systems scale of research that theory required, the paleo-environmental reconstructions and three-phase excavations at multiple sites that were integral to detailed, locally contextualizing analysis, the concomitant physical and natural scientific analyses of the excavated remains, and the multidisciplinary teams of researchers required to achieve these tasks greatly exceeded in cost the amount of funding available to any American archaeologist. He also saw that the continually expanding array of physical, chemical, and biological techniques applied to archaeological research were too costly to be used with regularity. Thus, although theory, problems, and methods had become more sophisticated in American archaeology, their potentials were seldom being realized. On this basis, Stuart argued that single-investigator-focused departments of anthropology at universities and museums lacked the institutionalized organizational means for expanding archaeology's horizons, and that independently funded centers dedicated to the long-term fiscal and personnel requirements of archaeology were needed. This message Stuart first delivered in 1964 at a meeting of the Anthropological Society of Washington, by invitation from Kent Flannery, then at the Smithsonian, and subsequently published (Struever 1968d).

Once Stuart's vision of an ideal organizational infrastructure for archaeology and its theoretical and methodological justification was clear to him, he acted on it boldly. In 1964, after Lewis Binford left the University of Chicago, Stuart was invited to serve as lecturer in Binford's place. Braidwood liked the work on subsistence-settlement systems that Stuart was doing in the Illinois valley. However, when Stuart discussed with Braidwood the matter of developing an institute of archaeology at Chicago in order to facilitate work in the Illinois valley, Braidwood

was discouraging. He had seen the financial difficulties that James Henry Breasted had had in maintaining the Oriental Institute, and that Faye Cooper-Cole had had in running his central Illinois valley archaeological program at the University of Chicago, and feared the same plight for a lower Illinois valley center. Determined in his vision, in 1965, Stuart left his plush academic job at Chicago—a hotbed of archaeological development for several decades—to take a position at Northwestern University, which was removed from the mainstream of academic archaeology. There, to Stuart's liking, Paul Bohannan, who led the hiring, and other faculty in the department, expressed no resistance to Stuart's idea of building an institute of archaeology. The department was small, was not entrenched in archaeology, and had no preconceptions about how archaeology ought to be done or organized.

In 1968, after completing his dissertation at Chicago, on Hopewell in Eastern North America (Struever 1968b), Stuart began building a permanent field research and teaching center in Kampsville, an old river town on the banks of the Illinois River, to house his now long-term, regional, multidisciplinary Illinois Valley Archaeological Program. His efforts began modestly, with the securing of a donation of $4,000 to purchase the old hardware store he had been renting in Kampsville as a field laboratory and the renaming of Archaeological Research, Inc., as the Foundation for Illinois Archaeology, in order to emphasize its Illinois focus. By 1981, the center had expanded to 39 buildings and had an annual operating budget of over two million dollars. During its height in the 1970s and early 1980s, the center came to continuously support scholars from eight academic disciplines. It had dedicated laboratories for zoology, botany, malacology, geomorphology, human osteology, artifact analysis, flotation, central data processing of field records, and computer analysis. Out-of-town specialists in pollen analysis, phytolithic analysis, geology, and geomorphology completed the multidisciplinary team of collaborating scientists. The remote computer lab was humidity, temperature, and dust insulated, and truly novel for its time. A research library, exceptional biological comparative collections,

extensive housing and dining facilities and personnel that could provide for up to 100 students and staff, a fleet of field vehicles, a supply warehouse, a public museum, and, eventually, a collections facility filled out the research center. In any given field season, typically multiple excavations were in progress at once, producing huge quantities of data, often collected with pioneering technologies and analytical designs. The flotation laboratory alone processed hundreds of half-bush sediment samples per day, the carbonized plant remains and small animal bones from which were analyzed by the botany and zoology laboratories. Innovation in archaeological methods, with technology and information transfer from the physical and natural sciences, was a regular part of Kampsville archaeological life and a defined mission of the center.

Kampsville during the summer-through-fall field season was as intellectually vigorous as any graduate school—"an unparalleled, extraordinary milieu of discovery, expertise, information, and opportunity that influenced a generation of archaeologists, many of whom are widely recognized in the profession today" (M. Wiant, personal communication). With large numbers of professional archaeologists and members of supporting disciplines in town, as well as visiting scholars, there were many long nights of intellectual discussions to be had by the academically curious. More than a dozen college courses were taught on-site, in laboratories and the field, with credit offered through Northwestern University. Lectures were regularly given two or more nights of the week by resident professors, natural science laboratory directors, and professional staff, who were at the cutting edges of the field: David Asch, James Brown, Jane Buikstra, Bruce McMillan, Bonnie Styles, Joseph Tainter, Michael Wiant, and others. Students and faculty were frequently given unique vistas of contemporary archaeological thought and research through the guest lectures given by archaeologists who visited the operations. The most current of Americanist archaeology was debated on the lecture hall floor. Binford gave his seminal "Willow Smoke and Dog's Tails" article seven years before it appeared in print (Binford 1980), and in greater scope. Griffin disagreed with Struever

and Houart's (1972) economic formalization of the Hopewell Interaction Sphere and spoke about the latest understandings of Hopewellian obsidian procurement. Lectures by Karl Butzer, Robert Whallon, Frank Hole, Charles McGimsey, Dan Morse, Patrick Munson, Howard Winters, Gregory Perino, and other senior academicians, as well as by researchers who were innovatively applying techniques and methods from the physical and natural sciences, provided a forward-thinking and creative milieu for the ongoing research at Kampsville. Through all this daily, rich intellectual interaction, Kampsville became a honing ground for new visions of archaeology, theories, and laboratory and field techniques, for resident and visiting scholars alike. The Foundation for Illinois Archaeology, later renamed the Center for American Archaeology, also sponsored three special think-tank retreat-seminars on current topics in anthropological theory, archaeological theory, and regional prehistory for professionals, and maintained a substantial publication stream of monographs, books, and well-prepared contract survey and excavation reports, in joint efforts with the Illinois State Museum or Northwestern University, and independently.

Stuart's realization of archaeology's structural need for multidisciplinary, stable, financially independent research centers and his founding of one at Kampsville depended closely on concepts and insights he had obtained from Braidwood and Binford, and on putting those ideas into practice with his intensive Middle Woodland archaeological research in the lower Illinois valley. The success of the center at Kampsville came, in part, from the intersection of Stuart's upbringing and the fortuitous discovery of the Koster site at just the right time in his career trajectory.

Stuart's upbringing gave him two strong qualities that were critical ingredients to building Kampsville: an understanding of using teamwork among specialists to efficiently create a product, and the confidence to take financial and career risks. Regarding the first, between the ages of 5 and 12 or so, on Sunday mornings, Stuart would tour his family's industrial plant in Peru with his father.

"He'd tell me how the production of his company was the result of many specialists in product development, sales, advertising, purchasing—all the different elements of a manufacturing corporation. By all those specialized elements working together, a valuable product could be made efficiently, at a profit. The key was that each of the persons in the different departments had to work as a team . . . . So I learned the idea of specialists being brought together in integrated research teams, integrated production teams if you want to call them that, when I was a boy."

And Stuart did know how to organize and motivate the Kampsville team and make it run. The field and laboratory components of the Koster project in the 1970s operated like a production line, from the removal of artifacts and ecofacts at the site, to their washing and gross inventory, to their detailed analysis by specialists. Even within the excavation, screened back dirt was brought by conveyor belt out of the block excavation to a holding location.

Significantly, Stuart's conception of teamwork in archaeology was not limited to fieldwork, as often was the case then, with individual specialists and laboratories producing their own reports. Teamwork to Stuart extended to the entire research spectrum, including organized, think-tank dynamism before, during, and after fieldwork, through analysis and publication. I recall Stuart saying many times that the most difficult aspect of multidisciplinary research is not the gathering of specialists and crews and the collection of data, but the integrated analysis, write-up, and publication of the data. The latter can involve both personal and financial challenges, including the sometimes conflicting ideas and egos of specialists and the paucity of fiscal support in the governmental and private sectors for the unglamourous tasks of writing and publication. This commitment to full-spectrum, multidisciplinary research Stuart impressed on me in the early 1970s and is represented in this book of richly coauthored chapters, as well as by publications from the Kampsville seminar series (Farnsworth and Emerson 1986; Whallon and Brown 1982).

Stuart's upbringing gave him not only an understanding of teamwork by integrated

specialists, but also a strong confidence in setting a course into uncharted fiscal and professional territory. Growing up in a wealthy family with great economic stability, Stuart did not worry about taking risks with money. "I never worried about money . . . it just seemed deep in my soul that there would always be enough to take care of me, even though I was a kid during the Depression . . . . I was reared with a mentality that's quite ready to take risk . . . . I have always been able to risk. And that allowed me to try new ways of organizing archaeology without apprehension." The career risks that Stuart took when he left the University of Chicago for Northwestern to start an archaeological institute, and later when he resigned from Northwestern to build the Crow Canyon Archaeological Center, reflect the confident outlook that his family instilled in him.

The opportunity for Stuart to take Kampsville to a much larger scale came after a heavy night's rain, when Alec Helton, a local farmer, paid his usual visit to Stuart and Frank Rackerby at their excavation of the Macoupin site in the lower Illinois valley. Laying a dozen and a half whole and broken projectile points on the hood of his pickup, Mr. Helton said, "Look what I found after the storm." The points dated all the way from Middle Archaic through Mississippian times, and seeing that, Stuart knew a special find was in the making. He accompanied Mr. Helton to a cornfield in a small creek valley on the farm of Theodore Koster and located the site of Koster. Initially, Stuart's attraction to the site came from its largely pure early Late Woodland Whitehall surface component, which offered the opportunity to extend his study of the origins of agriculture from Early and Middle Woodland times into subsequent centuries. Few purely Whitehall features had been excavated at the time; substantial Whitehall habitation remains at Apple Creek were mixed with Hopewellian ones. After digging test pits into Koster in summer 1969 and finding it to be deeply stratified, Stuart at once recognized the greater value of the site: for exploring the origins of agriculture and culture process in the Midwest on a long time scale, and for serving as a centerpiece for expanding the nascent, multidisciplinary research institute

at Kampsville. Here, Stuart's archaeological interests incited by Braidwood and Binford and his family-rooted intuition for and rapport with matters of finance coincided. For the entire next decade while Koster was excavated, Stuart's life was dominated by the twin anthropological and institution-building opportunities it afforded.

The spectacular nature of Koster was essential to Stuart's obtaining sufficient private funds to build the archaeological center in Kampsville into the incredible research and education program it became. Koster drew publicity in a way that the center itself could not and did not previously, and opened doors to donors. Stuart became masterful at harnessing the media. He was interviewed on the *Today* show in New York and a dozen other programs on NBC, ABC, and CBS, and had major stories on Koster published in *Time* magazine, *Newsweek, The New York Times, The Wall Street Journal, Reader's Digest, Smithsonian* magazine, *Natural History*, and many more serials. This massive media campaign resulted in contributions by more than 80 corporations to help the Koster project and the Kampsville infrastructure, and made the dynamic academic life in Kampsville possible.

Stuart attributes much of his success as an organization builder during that era to Robert Lemon, then CEO of NBC's Chicago radio and television network, and to Gaylord Freeman, chairman and CEO of the First National Bank of Chicago, both of whom befriended Stuart and took him on as a protégé in developing the Kampsville center. Prior to meeting them, Stuart had never known an institution builder. He knew from his family business how a corporation should operate, but not how to build one. Lemon taught Stuart the power of the press and arranged for his appearance on the *Today* show and other programs. Freeman taught Stuart the culture of philanthropy among the elite of Chicago and continuously gave Stuart feedback on his philanthropic strategies and work.

In 1972, Stuart saw that he no longer could play the roles of field archaeologist and institution builder well simultaneously. He hired Bruce McMillan to run the day-to-day field operations of the Koster dig and set full pace toward developing the research, education, and facilities

components of the Kampsville center. This shift was a difficult one for him, he said, given his, by then, 32 year passion for archaeology, but had its rewards through the students who were funded by him and carried on his Hopewellian and other research programs. Though I doubt he knew it at the time, many of the graduate students from Northwestern University and elsewhere who were supported by his philanthropic efforts fondly, and in awe, called him "Uncle Stuart." My own methodological experimentation with resistivity surveying at the Hopewellian Crane site during 1974 and 1975, which became the basis for my doctoral dissertation, was fully supported by Stuart to the cost of several tens of thousands of dollars when we could not obtain substantial grant support for the project, given my beginning Master's student status. For Stuart's help I will always be thankful, and I know others feel the same way about how he supported their work.

After excavations at Koster ended in 1979, Stuart found it increasingly difficult to raise the funds necessary to maintain the Kampsville research and education center, which had been renamed the Center for American Archaeology (CAA) just the year before, with hopes for expansion. Looking back at the era from the knowledge of organization building that he now has, Stuart recognizes that he made a number of critical mistakes in the Kampsville venture. First, although he built a strong board of trustees, it was not comprised of enough people of wealth—those who would donate to the organization and connect him with other large donors. Second, he did not build an endowment to solidify the financial base of the center. Third, he did not recognize that corporate and individual support for the center was so singly tied to Koster and that it would evaporate when the project ended. He expected that the fiscal momentum and network that he had created would continue in response to the more fundamental messages of the work at Kampsville. Fourth, just prior to 1980, when the Center began undergoing financial difficulties, Stuart's vision, in the form of a Center for *American* Archaeology, was expanding to a three-campus institute, with one campus at Kampsville, focused on Ar-

chaic and Woodland archaeology; a second at Crow Canyon, near Cortez, Colorado, focused on the rich Puebloan record of the Four Corners area; and a third in New York City, to cover historic, urban archaeology. The Crow Canyon campus was realized in 1982 with the purchase of 70 acres of land and some facilities—an overhead for the CAA without returns through donor support and student tuitions substantial enough to balance its cost. Finally, Stuart tried some laudable but expensive experiments that could not be afforded, such as the *Early Man* magazine for the public.

These fiscal mistakes that Stuart made in his first attempt at organization building he learned from and quickly corrected in his second attempt, at Crow Canyon—today a very vivacious and financially stable research and teaching center. In 1984, Stuart made a bold move to secure Crow Canyon, just as he had in 1965 to start building the Kampsville center. With the help of Ray Duncan, an oil entrepreneur in Denver and friend since their birth in the same home town, Crow Canyon was purchased from the CAA, and Stuart resigned from both the presidency of the CAA and the faculty at Northwestern University and became President of the Crow Canyon Archaeological Center. He shared the decision making with Mr. Duncan as Chairman of the Board and CEO, and Ian Thompson as Executive Director of campus operations, to ensure that organization building stayed on goal. A board of wealthy and generous people was established, with only one academic—William Lipe—and an endowment was set up, which grew to $3.4 million by the time Stuart left the presidency in 1992. The mission of the Crow Canyon center was kept pinpoint focused on research and education for the public, without admixing the complications of culture resource management contracts or other tangential projects. By the end of Stuart's presidency, Crow Canyon served more than 4,000 people per year in its various education programs, including elementary, junior high, senior high, college undergraduate, and graduate students, as well as teachers and adult laypersons. The campus had 13 buildings. Today, the Crow Canyon center has an annual budget of

$3.5 million, with $400,000 to $600,000 earmarked annually for research in the Four Corners area. In 1999, Stuart launched a $9 million endowment campaign, over $7 million of which has been raised as of this writing, as well as a $1.5 million dollar bricks-and-mortar campaign. Stuart hit his mark, fully by organizational means, without the aid of one centerpiece archaeological site.

Over the course of his academic and institution-building career, Stuart's commitment to the educational aspects of archaeological fieldwork, especially public education, grew very deep. Early on, at Kuhne, Kamp Mound 9, and Apple Creek, Stuart had excavated with high school and college students in order to secure the labor necessary to the projects, and education was loosely coupled with fieldwork. This changed in 1970, when Mrs. Genevieve Mac-Dougall, a seasoned junior high school teacher from Winnetka, Illinois, convinced Stuart with her single-minded persistence to take 15 junior high students on the Koster dig and demonstrated to him that they could do professional excavation work, and would provide tuition income on top of that. Although Stuart's "original motivation was, in truth, the need to greatly expand financial support for research . . . as time went on, the educational programs [at Kamspville and Crow Canyon] evolved their own independent missions" (Struever 2004). Today, beyond teaching excavation, the Crow Canyon center has seminars and workshops on Anasazi prehistory and on historic and contemporary Puebloan and Navajo culture. An active program for Native Americans engages more than 500 Puebloan, Navajo, and Ute students a year at the center. Perhaps most satisfying to Stuart is seeing Native American, ghetto black, and affluent suburban youth intermingle at the campus while focused on a common research cause, breaking down stereotypes, bridging ethnic groups, and building a healthy, pluralistic American society. And this valuable service has not been at the price of draining resources from archaeological research. On the contrary, Stuart points out that beyond bringing in tuition, the synergistic, experiential-based, educational environments created at Kampsville and

Crow Canyon for young students attract the donations of parents and other adults. While university administrators and the American public generally place archaeology low on the pole of financially worthy investments, because its social payoffs are unclear, adults in America are very concerned about the education of their young and generously support education enhancement. Thus, after decades of hard work, Stuart found a fiscally sustainable infrastructure for American archaeology—the combination of professional research and public education through private organization.

Today, and over the last six years, Stuart has gone beyond building the financially sustainable, independent, archaeological research and education center at Crow Canyon to building a "culture" of institution building within its leadership, which will help to secure the center. As a member of the Executive Committee of the Board of Trustees for the center, he actively mentors President Ricky Lightfoot and the Committee, one on one, in the priorities for successful institution building. He also is in the process of constructing a strong department of institutional development that will support the President's and Board's efforts. No longer in the day-to-day stream of demands of the presidency, Stuart has had the time to reflect on and define the most fundamental elements of sustainable, not-for-profit institutions—a stimulated Board of Trustees, a substantial endowment, a strong presidency, and a sophisticated development department—and to instill these values in the center's staff: the final cornerstone to sustainability beyond the lifetime of one institution builder.

Stuart has held many positions that mark his intellectual and professional achievements and standing. He has served as President of the Society for American Archaeology, President of the Illinois Archaeological Survey, member of the National Science Foundation's Research Grant Committee for Anthropology, member of the National Endowment for the Humanities' Grant Committee on Basic Research, member of the Chicago Academy of Science's Board of Scientific Governors, editor of the Society for American Archaeology's *Memoire* series, editor of

Academic Press's *Studies in Archaeology* series, and Chairman of Northwestern University's Department of Anthropology. In 1995, he received the Society for American Archaeology's Distinguished Service Award. His most seminal writings on prehistory and other topics are cited in the bibliography below. In each of these ways, Stuart has contributed strongly to the making and operating of contemporary American archaeology. His premier gifts to the profession, however, have been the Kampsville and Crow Canyon centers, which he built through incredible vision, energy, and commitment, and the intensely creative research and educational experiences the centers have embodied. For these experiences, a huge American public, and scores of now professional archaeologists who passed through his programs, are deeply thankful to Stuart.

Christopher Carr
January 8, 2004

TIME LINE OF STUART STRUEVER'S CAREER

1931	Born in the upper Illinois valley, in Peru, Illinois, on August 4, in a rural landscape rich in archaeological remains, to a family that understood money, of a father who was an industrialist and knew how to harness the teamwork of specialists.
1939–47	Age 8. Learned that creating products efficiently requires combining the expertise of many specialists, through Sunday walks with his father through the family metal plating company, American Nickeloid.
1940–49	Age 11. Began actively collecting prehistoric artifacts from plowed fields surrounding Peru. Catalogued the finds and created a small museum of them in his grandparent's house.
1946–49	Age 15. Surveyed four miles of the Vermilion River for archaeological sites, self-trained. Mapped, numbered, and named sites on USGS quad sheets and plat books.
1949	Age 18. Entered Dartmouth College and met first professional archaeologist.
1950	Age 19. Worked on first professional excavation, at Starved Rock State Park, Illinois, under the direction of Richard S. Hagen.
1951	Age 20. Attended University of New Mexico Field School at Feather Cave, under the direction of Professor Paul Reiter.
1952	Age 21. Met James B. Griffin and learned concepts of ceramic chronology through a one-week, one-on-one, hands-on session with the type collections in the Ceramic Repository, Museum of Anthropology, University of Michigan.
1952	Age 21. Met Melvin L. Fowler and Howard Winters as a field supervisor on the 18th-Century Illiniwek village site excavations under the direction of Fowler, and through work at neighboring Modoc Rock Shelter under the direction of Winters.
1953	Received B.A. in anthropology from Dartmouth College.
1955	Age 24. Founded his first not-for-profit, tax-exempt corporation, Archaeological Research, Inc. (later renamed the Foundation for Illinois Archaeology), to receive private contributions in support of his archaeological research in the Illinois valley.
1955–57	Age 24. Organized, led, and funded the first excavation of his own: a Middle Woodland habitation, the Kuhne site, in the upper Illinois valley.
1958	Age 27. Met and had long talks with Lewis Binford for the first time, at the University of Michigan.
1958	Age 27. Began graduate work in archaeology at Northwestern

University, Department of Anthropology.

1958–59   Age 27. Began the Lower Illinois Valley Archaeological Program, in a 40×70 mile research universe centered on the valley, with excavations of the Kamp Mound Group, a Middle Woodland mortuary and habitation site, for his Master's thesis.

1959   Age 28. Learned the concepts of long-term, multidisciplinary archaeological research and subsistence-settlement systems from Robert Braidwood (University of Chicago) at an "Origins of Agriculture" seminar held at the Field Museum of Natural History.

1959   Age 28. Asked by Joseph Caldwell to apply Caldwell's "Interaction Sphere" concept to Hopewell in a paper for a symposium at the American Anthropological Association meetings.

1960   Age 29. Received M.A. in anthropology from Northwestern University.

1960–69   Age 29. Lower Illinois Valley Archaeological Program continued with Stuart's annual excavation of Middle Woodland habitations (Apple Creek, Peisker, Snyders, and others) and building models of Middle Woodland subsistence-settlement systems.

1961   Age 30. Began doctoral work at University of Chicago, where he learned many theoretical and methodological concepts from Lewis Binford.

1961–62   Age 30. Recognized the infrastructural problem with sustaining long-term, regional-scale, multidisciplinary archaeological research programs and conceived of building an independent, privately funded archaeological research center with staff, facilities, and budgets necessary for the task.

His observations of Robert Braidwood's difficulties in obtaining a continuous funding stream convinced Stuart of this.

1963   Age 32. Completed residency for Ph.D. in anthropology at the University of Chicago.

1964–65   Age 33. Worked as Instructor, Department of Anthropology, University of Chicago.

1965   Age 34. Colleagues at University of Chicago discouraged him from building a privately funded archaeological research center, motivating his move to the Department of Anthropology, Northwestern University, as Instructor.

1968   Age 37. Received Ph.D. in anthropology from the University of Chicago. Launched a permanent field research and teaching center to house the long-term Lower Illinois Valley Archaeological Program with the purchase of a first building in Kampsville, Illinois. Joint Northwestern University–Foundation for Illinois Archaeology venture.

1968   Age 37. Appointed Associate Professor of Anthropology, Northwestern University.

1969–79   Age. 38. Excavation of the Koster site led to nationwide funding of a multidisciplinary research team of scholars and major expansion of the Kampsville center.

1970   Age 39. Appointed Professor of Anthropology, Northwestern University.

1970   Age 39. Became a protégé and friend of Robert Lemon, then CEO of NBC's Chicago operations, who taught Stuart how to work with the press to finance Koster and the Kampsville center.

1972   Age 41. Became a protégé and friend of Gaylord Freeman, chairman and CEO of the First National Bank of Chicago, who taught

Stuart the do's and don'ts of philanthropy among the elite of Chicago and all aspects of building a nonprofit organization.

1975–78   Age 44. Served as Chairman, Department of Anthropology, Northwestern University.

1978   Age 47. Foundation for Illinois Archaeology renamed the Center for American Archaeology.

1982   Age 51. Center for American Archaeology purchased 70 acres near Cortez, Colorado, to launch its Crow Canyon campus, and construction began.

1983   Age 52. First junior and senior high school students (400) participated in Crow Canyon research excavations.

1984   Age 53. Resigned from the faculty of Northwestern University and the Presidency of the Center for American Archaeology. Worked with Raymond T. Duncan, a Colorado businessman, and two others to buy the Crow Canyon campus from the Center for American Archaeology.

1985   Age 54. Crow Canyon Archaeological Center established as an independent, not-for-profit Colorado institution, with Raymond Duncan as chairman of the Board of Trustees, Stuart as President, and Ian Thompson as Executive Director of the center's operations, benefiting from what Stuart had learned about organization building at Kampsville.

1985–92   Age 54. Annual student and adult lay participation at Crow Canyon grew from 450 to 3,500, including elementary school, junior and senior high school, college undergraduate, and college graduate students, with Native American student participation reaching 350 annually. The campus grew to 14

buildings and had an annual operating budget of over $3,200,000.

1992   Age 61. Resigned as President of the Crow Canyon center.

1993–96   Age 62. Became the first recipient of the Crow Canyon Chair for Research.

1998   Ricky Lightfoot named President of the Crow Canyon center.

1999   Age 68. Launched a $9 million endowment campaign for the Crow Canyon center, with $7 million raised as of September 2003 and a projected total of $12 million for 2004.

1999–2003   Age 68. Chaired the $10.5 million capital campaign for the Crow Canyon center and named Chair of the Development Committee of the Board of Trustees.

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General Introduction

Chapter **1**

The Gathering of Hopewell

CHRISTOPHER CARR AND D. TROY CASE

It is through finding and richly describing *people* in an archaeological landscape
that we come to know a people and their culture—
and perhaps,
begin to understand them
and to realize archaeology as both a science and one of the humanities.

Hopewellian geometric earthworks, burial mounds, and fine artworks of the North American midcontinent, which date to the beginning of the first millennium A.D., have fascinated both the public and academic archaeologists since these works were first discovered by early travelers and settlers more than three centuries ago. The truly monumental nature of Hopewellian earthworks and some mounds, the beautiful designs and minerals that Hopewellian artists mastered, and the wide distribution of these remains across the Eastern Woodlands have each caused a deep curiosity about who the Hopewell were, how they lived, and how they achieved and spread their material legacy.

Yet despite the richness of Hopewellian archaeological records and their goodly excavation, and for all the modern, scientific studies that have been made of them, we still do not know much about Hopewellian society, those who constituted it, and their social and ritual lives. For example, a number of Ohio Hopewellian artworks depict elite, their costumery, marks of social positions, and sometimes their activities (e.g., Dragoo and Wray 1964; Fowke 1902:592; Moorehead 1922:128; Shetrone 1936:122; Willoughby and Hooton 1922:plate 15). Representations such as these have been described individually or in

various subsets but have never been evaluated as a whole corpus to compose an integrated picture of the social personae, roles, and groups within Ohio Hopewell communities. Likewise, the Hopewellian mortuary records of Ohio and Illinois are plentiful, very telling of social roles, and well documented, yet in the past 30 years, these remains have been systematically explored for merely one aspect of Hopewell social life— whether or not Hopewell societies were organized by principles of rank (e.g., Braun 1979; J. A. Brown 1981; Buikstra 1976; Greber 1976, 1979a). Little has been inferred from either the art or the mortuary records of Hopewellian peoples about their leaders and other persons of influence—their sacred, economic, and/or demographic power bases, their specific roles in public functions and more intimate, client-oriented rituals, the formality or centralization of their roles, and whether their domains of power were limited to a local community or spanned multiple communities. Nothing of which we are aware has been written about gender relations in Hopewell society—differential prestige, the roles open or closed to genders, or whether third genders were recognized. What clans, phratries, moieties, sodalities, or other possible horizontal social divisions may have constituted Hopewellian

societies remain unknown empirically and the subject of speculation (e.g., Byers 1996; De-Boer 1997). The sizes and social constitutions of ritual gatherings at Hopewellian mound and earthwork centers, and the distances from which participants came, have been very roughly suggested from the sizes of burial populations, the scale of earthworks, and the diversity of artifact styles within mounds (e.g., Buikstra and Charles 1999), but not formally estimated. There has been little systematic reconstruction of Hopewellian ritual beyond disposal of the dead (e.g., Baby 1954; J. A. Brown 1979; Magrath 1945; Mills 1916), although shamanic and other ritual paraphernalia from which specific Hopewellian ritual practices might be inferred (e.g., crystals, mirrors, rattles, conch shells for drink, panpipes) abound and are well contextualized in burial assemblages across the Eastern Woodlands. Topics such as these must be addressed if "Hopewell" is to be more than a faceless enumeration of the material accomplishments of past peoples, whether for professional anthropologists or the lay public.

The impetus for this book on Hopewell comes from three sources. First is our goal to humanize the Hopewellian material record, accompanied by our realization that the material records of many Hopewellian societies are quite adequate for reconstructing their personnel and ceremonial activities in detail. In this book, systematic, empirically based, scientific attempts are made to begin to reveal aspects of Hopewellian social and ritual life such as those just mentioned, and which have captured the imagination of western European Americans over the centuries. We do so by consciously following three guiding approaches to research. First is to *personalize* Hopewell with social actors in active, on-the-ground, social and ritual roles (Firth 1951; Goffman 1959, 1969; Goodenough 1965; Linton 1936; Nadel 1957:26, 35, 41; J. Turner 1991:426; R. Turner 1962)—to provide Hopewell a social substance beyond its known material expressions. Thus, the authors of this book discuss Hopewell women and men; leaders in roles of various kinds; ritual gatherings of a diversity of sizes, role compositions, and goals; and rites of passage, to name a few topics. Dynamic views of social "organization"

in operation in daily life and special ceremonial occasions (see references just cited)—the action and interaction of individuals and groups within roles—serve as the framework for the research of this book, rather than static, structural, normative models (e.g., Blau 1970; Evans-Pritchard 1940; Murdock 1949a:1–112; Radcliffe-Brown 1952a; Radcliffe-Brown and Forde 1950), which can be quite removed from social content, practice, and meaning, as well as from the individual social and personal actor (e.g., Greber 1976, 1979a).

The second research approach used here is to *contextualize* that which is Hopewell by focusing on the "thick description" of *local* society (social personae, groups, roles, and relations), local culture (practices and ideas), and local history, as a first phase of research. This is done prior to interregional comparison and the study of

Figure 1.1. Terra cotta figurines of a woman and man from the Havana Hopewellian tradition, Illinois. From Mound C°8, Knight site, Illinois (Griffin et al. 1970:71–88, plates 69, 73); casts at the Newark Earthworks Museum, Ohio, from originals at the Milwaukee Public Museum, Wisconsin. (A) The woman has hair topknots and earspools, marking high prestige, and holds two "foot-like" (McKern et al. 1945) items—foot trophies or grinding stones? (B) The man has earspools and shaved hair around the ears, marking high prestige. He rests his head on an atlatl, has his eyes closed, and sits in thought or trance. Photo by permission of Pictures of Record.

interregional procurement and social interaction, but with an eye toward these most common subjects of Hopewell archaeology. Our concern with local society and culture contrasts with the strong emphasis that has often been placed academically on interregional Hopewellian interaction and its evidence in material similarities and sources across the Eastern Woodlands. We would argue, filling out the more partial views of some of our predecessors (e.g., Ford, 1974; Struever 1964), that the causes of interregional Hopewellian interaction are to be found in localized ideas and practices, and localized conditions, needs, and idiosyncratic events. Thus, socially, culturally, and historically rich reconstructions of multiple local pasts are needed as a basis for understanding the interregional dimensions of Hopewell. Such local reconstructions seem reasonably feasible, given the vocality of Hopewellian material records (e.g., Buikstra and Charles 1999).

The third approach taken by the authors of this book is to *generate* interregional Hopewellian interaction and material similarities from local scenes—in particular, from the actions and practices of social actors in social roles, who were motivated by local conditions, local social demands, and individual needs to travel afar for materials, knowledge, ceremonial rights, power, and such and to engage socially with others interregionally. Thus, in this book, broad-scale interaction is described and understood in a grounded manner, in terms of motivated social persons such as power and vision questers, pilgrims, those seeking to buy prerogatives to ceremonies, and burgeoning local leaders wishing to learn esoteric knowledge from prestigeous leader–teachers afar. These descriptions place Hopewellian interaction in the hands of people and provide substance to more removed, structural descriptions (e.g., Seeman 1979a; Struever and Houart 1972) and ecological–functional (e.g., Ford 1974) and neo-Darwinian (e.g., Braun 1986; Dancey 1996a) interpretations, as much as these views are informative and a part of the picture.

In all, we call our personalized, contextualized, and generative approach to exploring archaeological records *thick prehistory*. Our approach attempts to create a "thick," detailed view of past societies, constituent social actors, and their motives at the local level, with implications for broader regional and interregional organization and change over time.

The second impetus for this book is our realization that headway on fine-grained topics of the locally contextualized and personalized kinds mentioned cannot be made without the assembly of relatively large and systematic data sets that pertain to the social roles and actions of a good sample of individuals who comprise a society. For example, to evaluate the nature of leadership roles in a society, the degree to which they were centralized, and which particular roles were regularly combined (i.e., institutionalized) requires more than a single or a few elaborate burials in log tombs. Many instances of leaders, spanning multiple generations and buried in the multiple mounds used by a society synchronically and diachronically, are required. Interregional comparisons of leadership roles require even larger data sets. Fortunately, in recent years, comprehensive data sets relevant to fine-grained social reconstruction have been assembled and studied by a number of the researchers of Hopewell archaeology. The fruits of the descriptive and analytical labors of many of these researchers are reported in the chapters in this book.

The third rationale for this book is the long-standing belief of ours and others that anthropology, including archaeology, has the potential to be a science, a humanity, and a historical discipline, and is at its best when it combines the goals and viewpoints of these disciplines (see also Carr and Neitzel 1995a:10, 15; Flannery 1972:409; Hall 1977, 1997; Hawkes 1968:255, 260–262; Hodder 1987; Hogarth 1972:304; Wheeler 1950:128–129). The locally contextualized, personalized, and generative approach advocated and used here for reconstructing and understanding past Hopewellian peoples, their practices, their ideas, and their material remains helps to define an intersection of the scientific, humanistic, and historical viewpoints. By hinging especially on social roles in local context, our approach encourages the study of persons and motivations, as do the humanities, but within local and more broadly shared cultural and natural conditions and demands, and the structural and

processual regularities that those conditions and demands may produce, as studied by scientific method. The approach also affords the opportunity to see historical change as generated through personal actions and motives that are constrained by and interact with local factors. In these ways, the approach balances and integrates the ends and values of the humanities, science, and history.

TOPICAL AND EMPIRICAL SCOPE

Local Hopewell

The chapters in this book address Hopewell in both its local and its interregional guises. Local societies, rituals, and ritual interaction within primarily four northern Hopewellian regional traditions are discussed: the Scioto and Miami traditions of Ohio, the Mann phase of the Crab Orchard tradition in Indiana, and the Havana tradition in the lower Illinois valley. Seven core aspects of society and ritual are explored for one or more of these regions. First, the ceremonial–spatial organization of Hopewellian communities is examined. By this is meant the system of multiple ceremonial sites of differentiated ritual functions used by a community and situated over its landscape, as well as the use of certain special ceremonial sites by multiple communities. This differentiated form of community organization, documented here, contrasts with some previously offered models that envisioned single communities focused on single ceremonial centers (e.g., Dancey and Pacheco 1997a; Prufer 1964a). In addition, differences in the scale and ceremonial–spatial complexity of Hopewellian communities in different regions, the various degrees to which these communities segregated domestic and public ceremonial spaces, and diffences in sedentism are related to fundamental contrasts in the biotic richness and spatial structure of the regions' natural environments. Chapters 3, 4, 7, and 13 address various facets of these topics.

Second, the nature of Hopewellian leadership is investigated. Many features of leadership are revealed, including the range of roles played by leaders, the sacred or secular nature of their power base and especially their development from classical shamanism, the degree to which leadership roles were centralized in the hands of one or a few persons or segregated among many, changes in role segregation and power bases over time, the extent to which such roles were institutionalized, the recruitment of leaders of various kinds from specific clans, and the differential access of men and women to leadership roles of particular kinds. These subjects are discussed in Chapters 5, 6, 8, 9, 10, and 11.

Third, the question of whether Illinois and/or Ohio Hopewellian societies were organized by principles of ranking is rethought in Chapters 6 and 7. Although this issue was investigated heavily 20 to 30 years ago (e.g., Braun 1979; J. A. Brown 1981; Buikstra 1976; Greber 1976, 1979a; Tainter 1975a, 1977), contradictory conclusions were reached by different researchers. The topic is more tractable today, in light of recent advances in archaeological theory on the determinants of mortuary patterning, which are used here. Other seminal frameworks that are harnessed to solve the problem are ethnological theory that acknowledges the diverse range of ranking structures found in societies of midlevel complexity; conceptual disaggregaton of ranking, achieved leadership, ascribed leadership, wealth, and achieved prestige as distinct social dimensions and separation of their archaeological correlates; and a regional rather than site-specific analytical approach, which recognizes that different segments of a community may be buried in different cemeteries rather than just one. Chapters 6 and 7 deal with these issues.

Fourth, the animal-totemic clans of Hopewell societies in Ohio are reconstructed. The aspects of clan organization that are covered include the eponyms of most if not all clans that had animal totems; regional variation in clan composition; the lack of institutionalized geographic localization of specific clans; the access that members of different clans had to key roles of leadership and social importance; differences among clans in their wealth, degree of social networking through sodalities, and size; and the dependence of a clan's success in recruitment to key social roles upon its wealth and degree of social networking. These topics are taken up in Chapter 8.

Fifth, gender distinctions from local Hopewellian perspectives are defined and used

Figure 1.2. The Pricer mound within the Seip earthwork, Ohio. Ohio, Indiana, and Illinois Hopewellian earthwork and mound sites varied widely in their scales and ceremonial functions, and served single to multiple communities of varying sociopolitical composition. Photo by permission of the Ohio Historical Society, Columbus.

as windows to explore a variety of sociological features. These matters include similarities and differences in the range of day-to-day, utilitarian tasks undertaken by men and women; the kinds of social and sociopolitical roles to which men or women did or did not have access, including many shaman-like and other forms of leadership; access to sodality membership; rights to manufacture certain kinds of ritual paraphernalia and to participate in graveside rituals; variations in personal prestige; what gender patterns tell about the reckoning of kinship; the possibility of third genders related to shaman-like practices; differences in these sociological features among regions; and the definition of ethnic distinctions across regions based on such differences in gender patterns. Additional, biological topics that are investigated are the health, overall workloads, and specific physical stresses of men and women,

and the degree to which men and women in important social positions were sheltered from diseases and strenuous work. These topics are introduced to Hopewellian studies in Chapters 9, 10, 11, and 18.

Sixth, the nature of ritual gatherings at Hopewellian ceremonial centers is explored. The sizes of such assemblies, the social roles of those who congregated, the social segments with which local participants were affiliated (e.g., lineages, clans, dual divisions), and the distances and regional cultural traditions from which external participants came (e.g., traditions in the deep Southeast) are estimated. Gatherings of different nature and functions are defined, considering whether they were focused on the deceased; if so, whether rites of separation or liminality (van Gennep 1960) are suggested; whether the gatherings were predominated by a homogeneous or
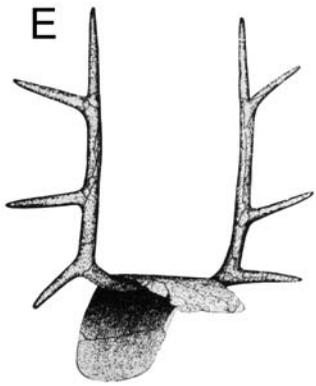
heterogeneous set of social roles; and the particular spectrum of roles represented. Chapters 12 through 15 are devoted to these topics.

Seventh, the nature of alliances among neighboring Ohio Hopewellian communities is investigated. Studies of both the spatial–ceremonial organization of Hopewellian communities and the nature of their ritual gatherings contribute to defining the nature of the alliances. Mechanisms of alliance, including economic and social forms of exchange among individual dyads from different communities; multicommunity cooperative and/or competitive ceremonial gift-giving and display orchestrated through local leaders; burial of the dead from multiple communities together in each other's charnel houses; and the involvement of increasing numbers of communities in such joint burial ceremonies are each documented and tracked as a sequence of development through time. These shifts in how alliances were achieved among communities are shown to correlate with the social roles—personal roles, shaman-like leadership, and more secular leadership—around which mortuary ceremonial gatherings were focused and the overall size of the gatherings, which changed through time. These studies are presented in Chapters 3, 4, 7, 13, and 14.

Interregional Hopewell

At the interregional scale of the Eastern Woodlands, Hopewellian travel, procurement, and social and ritual interaction are considered for three topics. Each pertains to the relation of such interregional activity to local conditions and the personal and social motivations they may foster. First, the specific social and religious forms in which interregional travel, procurement, and interaction took place are identified and discussed. The forms were many and varied in the geographic scales at which they operated. They include vision and power questing, pilgrimage to a place in nature, travels of medicine persons or patients for healing, elite exchange of valuables, pilgrimage to a ceremonial center, travel to a ceremonial center of learning, buying and spreading of religious prerogatives, spirit adoption, and intermarriage. These mechanisms, and the personal, social, and sociopolitical motives and ideologies that they imply, are quite distinct from earlier views of interregional Hopewellian interaction as material exchange in some form and based primarily in local subsistence and/or demands for social status markers. The mechanisms are defined in Chapter 16, and specific instances of their occurrence are inferred and documented there and in Chapters 11, 15, and 17 through 20.

Second, the receptivity of certain local traditions to extralocal ideas, practices, and raw materials is documented. If ideas, practices, and raw materials obtained from other societies or natural environments through long-distance travels were to become important in a local society, spread throughout it, and made archaeologically visible, that society must have been open to cultural innovation, and the imported features must have been valued or made valuable by some of the society's members and coordinated with other

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Figure 1.3. Images and headgear of shaman-like Hopewellian leaders that impersonated animals. (A) Copper headplate in the form of a bird's feather (Shetrone 1926:37, 176, fig. 104). From an unnumbered burial, Mound 7, the Hopewell earthwork, Ohio. (B) Mica cutout of a bird impersonator (note nose/beak) with a three-layered, turban-like headdress (Willoughby 1922:plate 15). From the Central Altar, Mound 3, Turner earthwork, Ohio. Object courtesy of the Peabody Museum of Archaeology and Ethnology, Harvard University, acc. no. 30002. (C) Stone carving of a cat impersonator (Shetrone 1936:122, fig. 66; Squire and Davis 1848:244, fig. 142). From the altar, Mound 8, Mound City earthwork, Ohio. (D) Copper headplate with cutout of a cat's paw and claws (Shetrone 1926:176, fig. 105). From Burial 4, Mound 25, Hopewell earthwork, Ohio. The paw design is possibly comprised of a pair of bird heads as typically stylized in the Adena tablets and Ohio Hopewell art (Webb and Baby 1957:83–101). (E) Copper headplate with elk antlers (Willoughby 1916:489–500, plate 4a; Moorehead 1922:107–108, plate XLIX; see also Greber and Ruhl 1989:99). From Burial 248, Mound 25, Hopewell earthwork, Ohio. (F) Copper deer racks for attachment to a headdress (Mills 1922:545). From Burial 4, Mound 13, Mound City earthwork. Photographed objects by permission of (A, D) the Ohio Historical Society, Columbus, OH; and (B) the Peabody Museum of Archaeology and Ethnology, Harvard University. Photographed by Christopher Carr.

A

B
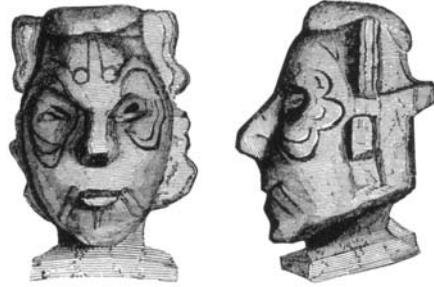
C

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E

F

of their ideas and practices. Such susceptibilities and values are reconstructed here for some local Hopewellian societies by investigating the stylistic diversity or homogeneity of certain artifact classes within those societies, and the distributions of the styles across regional traditions. Also telling are the varying sources from which certain raw materials were or were not systematically obtained, sometimes despite higher economic costs. Chapters 11 and 20 examine these issues.

Third, the similar or different social and philosophical–religious meanings given to raw materials and ceremonial paraphernalia in different regional Hopewellian traditions and in different local societies are teased out. Hopewellian artifact classes with wide, interregional distributions, such as panpipes, earspools, and celts, are argued to have been useful for metaphorically communicating very basic social and/or religious principles and meanings among distant peoples who wished to interact, yet spoke mutually unintelligible languages and probably considered each other something other than human and/or dangerous, if cross-cultural tendencies apply (Helms 1976, 1988; Seeman 1995). The meanings include the humanness and sentience of individuals revealed through multinote panpipes that resembled the human voice in song and speech; an individual's personal access to power in possessing an artifact of copper, power being copper's most basic common denominator semantically over the historic Woodlands; and the dark and light duality of the cosmos, expressed in the ringlike highlights and shadows of earspools with undulating profiles. These fundamental, interregional Hopewellian concepts contrast with the more specific social and philosophical–religious meanings that were attached to panpipes, earspools, and celts within regional Hopewellian traditions and that varied among traditions. Such semantic variations are evident in the different social roles, ages, and sexes with which each of the artifact classes were associated across traditions and in certain stylistic dissimilarities in these artifacts across regions. In the case of silver, the difference in sources (Cobalt, Keweenaw) used by different regional traditions is shown not to depend on the least-effort factor of geographic distance from source; instead, it is suggested to relate to the natural, singular occurrence of silver or its combination with copper at these sources, the varying ritual acceptability of these two forms of silver, and the differing potentials they had for being interwoven with stories of personal long journeys to acquire silver and with a concept of the personhood of silver. Finally, the ethnographically unlikely proposal that breastplates varied in their sociological meaning among the closely neighboring communities in the Scioto Hopewell tradition (Greber 1979a) is refuted. This is done in part by tying differences in breastplate frequencies and artifact associations among ceremonial centers and burials not to sociologically distinct meanings but, rather, to differences in cemetery function, variations in community material wealth and prestige, and the use of breastplates to mark sodality membership for persons varying in other social roles and prestige. These

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Figure 1.4. Images and costumery of non-shaman-like Hopewellian leaders and elite. (A) Human head with face painting, tattooing, or scarification, carved on a pipe bowl (Greber 1983:33). From the Edwin Harness mound, Liberty earthwork, Ohio. (B) Human head with face painting, tattooing, or scarification, carved on a pipe bowl (Squire and Davis 1848:244, fig. 143). From Mound 8, Mound City earthwork, Ohio. (C) Human head with face painting, tattooing, or scarification; terra cotta. From the village area of the Mann earthwork, Indiana. (D) Wild cat jaw pendant painted black, white, and yellow, probably worn by a clansperson or clan leader (see Thomas et al., Chapter 8). From Burial 10, the Pricer Mound, Seip earthwork, Ohio (Shetrone and Greenman 1931:382–383, 346, fig. 60a). (E) Bear claws from a necklace, effigy carving of wood, probably worn by a clansperson or clan leader (see Thomas et al., Chapter 8). From the Conjoined Mound, Seip earthwork, Ohio (Shetrone and Greenman 1931:382–383). (F) Fox chief and member of the bear clan (left), and interpreter dressed in Fox style (right), about 1899. Note bear claw necklaces on both and the interpreter's turban (as in Figure 1.3B). Photographed objects by permission of (C) Mr. Charles Lacer, Evansville, IN, and (D, E) the Ohio Historical Society, Columbus, OH, acc. nos. 957/44 and 957/283, respectively. Photographs by Christopher Carr. (F) Photograph by permission of the University of Oklahoma Library, Western Historical Collection, Norman, OK.

issues of sociological and religious meaning are addressed in Chapters 7 and 17 through 20.

Historical Perspectives, Ethnological Theory, and Ethnographic Analogs

Historical reviews of the contributions made by previous researchers of the Hopewell material record to the above topics of inquiry—when they have been investigated—are presented in Chapters 2, 3, 12, and 16. These chapters consider studies of both local Hopewellian expressions and interregional travel, procurement, and interaction.

Ethnological theory is neither built nor tested in this book. It did, however, play a key role in guiding the range of questions we asked of the Hopewellian archaeological record. Because ethnological theory is, among other things, a concise summary of cultural features and processes across many societies, it, along with ethnographic analogs from the historic Eastern Woodlands, provided insights into the specific kinds of sociological phenomena one might find in middle-range societies like those of Hopewell peoples, and prompted our search for whether such phenomena were aspects of Hopewellian societies. The anthropological theories that were especially critical in these ways concern the social and ideological definition of communities, including residential, sustainable, and symbolic communities, and the natures of their organization (e.g., Mahoney 2000; Murdock 1949a; Preucel 2000; Varien 1999) (Chapter 4); the nature of the classical shaman and the differenti-

ation and development of supralocal leadership roles from local shamanic positions (e.g., Netting 1972; Winkelman 1989, 1990, 1992) (Chapter 5); cross-cultural variations in principles of social ranking (e.g., Fried 1957, 1960; Rosman and Rubel 1971) (Chapter 6); regularities in the sequential development of alliances among communities in "tribal" societies (e.g., Carr 1992a; Slobodkin and Rapoport 1974) (Chapters 7, 13, and 14); the relationship among the social dominance of males or females, their roles in religious systems, and kinship configurations (e.g., Sered 1994) (Chapter 10;); the seminal, functional position of gender variance in shamanism and shaman-like spiritual traditions (e.g., Nanda 2000) (Chapter 10); and the relationships among long-distance traveling, power, and the sacred in societies of middle-range complexity (e.g., Helms 1976, 1988) (Chapters 16 and 20). Ethnographic information from the historic Eastern Woodlands was particularly useful to us in determining the characteristics of Hopewellian clans and sodalities (Chapters 7 and 8), the possible social and sociopolitical roles filled by Hopewellian women and their relative prestige (Chapters 9 through 11), the credibility of our estimates of the sizes of Hopewellian gatherings at ceremonial centers and our inferences about participants from afar (Chapters 13 and 14), the sociological roles in which many kinds of Hopewellian ceremonial paraphernalia and elite items were used (Chapters 5, 17, and 18), and the philosophical–religious meanings of copper and silver (Chapter 18).

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Figure 1.5. Parphernalia of Hopewellian shaman and shaman-like practitioners. (A) Copper effigy turtle carapace rattle, one of eighteen sewn on a leather belt, each with twelve holes in the four semicardinal or solstice directions. Ethnohistorically, turtle shell rattles and other kinds of rattles were used in ceremony and to induce trance. From Burial 12, Mound 7, Mound City (Mills 1922:494–496, 549–552, figure 74). (B) One of two known Hopewellian effigies of mushrooms, which may have been ingested to induce trance. From the Middle Woodland component of the Fort Ancient earthwork, Ohio.The second mushroom effigy is from Burial 9, Mound 7, Mound City (Mills 1922:489–491, 547–548, figures 31, 32, 71; Romain 2000:212–216). (C) Quartz crystals, used ethnohistorically in divination and healing. From Altar 1, Mound 25, the Hopewell earthwork, Ohio (Moorehead 1922:113). (D) Mica mirror, useful for divination. From the Mound City earthwork. (E) Copper boatstone filled with white and pink quartz pebbles, useful in divination and/or gambling (Mills 1916:285, 366–367, figure 96). From the Great Cache in the Tremper mound, Ohio. (F) Cones, copper and hollow, milky quartz and solid, limestone and solid, similar to ones used ethnohistorically in divination and gambling. From the Great Cache in the Tremper mound, Ohio (Mills 1916:285, 367–368). Photographed objects by permission of (A, D) Hopewell Culture National Historical Park, National Park Service, Chillicothe, OH, acc. nos.2687 and 1927; (B, F) the Ohio Historical Society, Columbus, OH, acc. nos. 1039/, 125/, 125/125, 125/136; and (C) the Field Museum of Natural History, acc. no. 56555. Photographs by Christopher Carr.
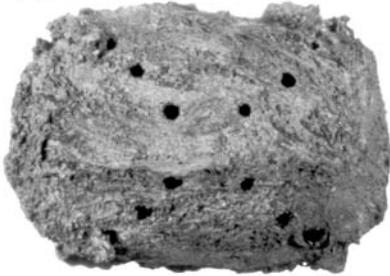
Diverse Media

Social and ritual aspects of local and inter-regional Hopewell are addressed in this book through the description and analysis of a great variety of material media. The media that dominate discussion include earthworks and mounds, burial artifactual assemblages, human skeletal remains, smoking pipes, ceramic vessels, terra cotta figurines, other artistic representations of Hopewell people and supernaturals, the power parts of animals that symbolized clans, metallic celts, panpipes, and earspools, and silver in raw and artifactual form. The technologies, styles, frequencies, contexts of deposition, material associations, geographic sources of acquisition or manufacture, and/or local and regional distributions of these artifact classes and raw materials are evaluated. In addition, information on the geographic sources and distribution of a number of other "Interaction Sphere" raw materials beyond silver is systematized and interpreted.

Exploring multiple material media is vital to personalizing the Hopewellian material record and was considered so from the inception of planning this book. This is the case because different media are employed in the different roles played out by the members of a society or a broader social network and, thereby, give insight into those roles and various sociocultural and other processes. Media differ in their functions, visibility, rarity and accessibility, aesthetic features, malleability, durability, and portability and many other qualities that affect how they are used socially and ritually and by whom (Carr 1995a:249).

Regarding interregional Hopewell, many kinds of artifacts and raw materials have been identified as being somehow essential to a material definition of it (e.g., Seeman 1979a; Struever and Houart 1972). Following the above logic, these different media can be expected to reveal different specific and multiple forms of interregional Hopewellian ritual interaction. In order to investigate the diverse mechanisms of interregional Hopewellian interaction, this book focuses on metallic panpipes, earspools, and celts, terra cotta figurines, and raw silver. These media have been selected because they are fairly widely

to very widely distributed across Hopewellian traditions over the Eastern Woodlands, and they vary in their geographic scales of distribution and the forms of interaction they possibly reflect. Panpipes, earspools, celts, figurines, and raw silver have been found in five to all eight of the regional Hopewellian traditions of the Eastern Woodlands studied by Seeman (1979a), and the first three classes are known from a great many sites compared to other interregionally distributed Hopewellian artifact and raw material classes. At the same time, panpipes, earspools, figurines, and, to some extent, celts are technologically and stylistically complex enough, and differ enough in these regards across space, to provide sociologically significant insights. Terra cotta figurines, although limited in the number of Middle Woodland sites from which they are known, have the additional advantage of directly depicting persons, often with role markers. Also, they, along with Hopewell ware, are the only preserved Hopewell Interaction Sphere items that were made of plastic media and, by ethnographic analogy, were likely produced by women rather than men. All other Interaction Sphere goods are made of hard media more likely worked by men (Keller and Carr, Chapter 11; Murdock and Provost 1973). Figurine styles thus are used here to reveal patterns and kinds of gender-specific interaction at the local and interregional scales. Two other raw materials—copper and galena—have been found in many Middle Woodland sites and have broad geographic distributions, which have been defined and reported previously (Goad 1978, 1979; Walthall 1981; Walthall et al. 1979, 1980). Their distributions are reinterpreted here sociologically, in Chapter 16.[1]

New, Comprehensive, Well-Focused Empirical Foundations

To address the detailed, on-the-ground issues that are the subjects of this book has required more than a change in conceptual orientation to local context, social actors, and their local and interregional affairs. It has also required the collection, systematization, and analysis of very large data sets on very specific, socially relevant kinds of material remains from individual local

Hopewellian expressions and across multiple regional traditions over significant space. Our past views of local and interregional Hopewell have remained generalized to a considerable degree for the lack of assembly of the detailed local and geographically wide-ranging data necessary to answer questions about the topics enumerated above. Where great strides have previously been made in understanding Hopewell, such as Buikstra and Charles's (1999) reconstruction of the dichotomous ceremonial organization of lower Illinois valley peoples, or Seeman's (1979a) inquiry into the structure of the Hopewell Interaction Sphere, deep and wide empirical coverage has stood at the foundation. Many of the chapters in this book offer such coverage as well.

The empirical contributions of this book are of three kinds. First is the *systematization* of vast amounts of data on material remains that were collected from Hopewellian sites in primarily the 19th and early 20th Centuries over eastern North America. This effort has involved extensive work by several of the authors with archaeological collections, museum catalogs, field notes, and older publications in an attempt to inventory and provenience archaeological remains, in preparation for their social analysis. Resolving conflicting information and associating particular objects with particular reports of them were major, time-consuming tasks that took many field seasons. The data sets that have resulted from this work, and the chapters in the book that analyze them and that reference appendices with the data sets, are as follows. (1) The grave good associations and tomb forms of almost all exhumed Hopewellian skeletal remains in Ohio for which records exist, along with their ages and sexes where determined, numbering 854 individuals in 33 sites (Case and Carr n.d.), are investigated in Chapters 5, 7, 8, 10, and 13. (2) Nearly all ceremonial deposits of artifacts excavated from mounds in Ohio, numbering 65 from 14 sites (Case and Carr n.d.), are analyzed in Chapters 8 and 13. (3) The site and/or intrasite proveniences, raw materials, and stylistic characteristics of almost all Hopewellian metal-jacketed panpipes in eastern North America, totaling 105 panpipes from 55 sites (Turff 1997), are studied in Chapter 18. (4) The site and/or

intrasite proveniences, lengths, and widths of Hopewellian copper celts in eastern North America, totaling 217 of 332 celts from 47 sites, are considered in Chapter 17. (5) The site proveniences and artifact morphologies of the majority of extant copper earspools, numbering 686 from 64 sites in the northern Scioto, Havana, Goodall, Crab Orchard, and Trempeleau Hopewellian traditions and the southern Copena, Miller–Porter, and Marksville traditions (Carr and King n.d.; Ruhl 1996) are studied for their styles and technologies in Chapter 19. (6) The site and/or intrasite proveniences and stylistic traits of most whole or largely whole terra cotta figurines from the Havana, Mann, and Scioto regions, numbering 148 figurines from 10 sites, are analyzed in Chapter 11.

Summary tabulations of these data sets are provided in the texts of the chapters, while the raw data themselves are reported in the compact disk appendices to the book for all but the Ohio Hopewell burial assemblages and ceremonial deposits. The latter, very bulky information is being fully documented for the benefit of other researchers in a separate monograph, currently in preparation (Case and Carr n.d.). Parallel efforts to systematize old data on Hopewell, but not reported in this book, include Lane Beck's (1990) compilation of Depression-era excavations of mortuary sites in the Tennessee Copena region and Seeman and Branch's (n.d.) mapping and comparison of the distributions of Adena and Hopewell mounds in the central Scioto.[2]

The second kind of empirical contribution made by this book is the reporting of detailed laboratory analyses of artifacts and human skeletal remains. (1) Spark source mass spectrometry, flame atomic absorption spectrophotometry, and inductively coupled plasma mass spectrometry determinations of the geological sources of raw and artifactual silver from most Hopewellian sites over eastern North America that have yielded silver, totaling 54 specimens from 25 sites, are investigated in Chapter 20. (2) Instrumental neutron activation analytic determinations of the geological sources of the pipestones used to manufacture some of the smoking pipes found at the Tremper earthwork, Ohio

(Penney and Carriveau 1983, 1985) are studied in Chapter 14. (3) Petrological, x-ray diffraction, and scanning electron microscopic determinations of the geological sources of some of the clays and tempers used to manufacture utilitarian and fancy ceramics at the Mann earthwork, Indiana, are analyzed in Chapter 15 (see also Ruby 1997). (4) Osteological determinations of the ages, sexes, health, and activity stresses of individuals buried at the Turner site, Ohio, are made and interpreted in Chapter 10.

The third form of empirical contribution made here is the documenting of newly completed field excavations and surveys. (1) Excavations of habitation locales, neighboring and distant to earthwork ceremonial centers in the Scioto–Paint Creek area of Ohio, are summarized in Chapter 4. (2) Field measurements and mathematical assessments of the astronomical orientations of earthwork architecture in Ohio, which are pertinent to the organization and historical development of ritual landscapes, are reported in Chapter 3.

The assembling of data sets with the local detail and geographic breadth presented in this book is essential if the nature of Hopewell societies, their rituals, and their ritual interconnections are to be understood. Local detail is required, if on-the-ground actors, individually and as groups, are to be identified and defined for their social positions, roles, actions, and relationships. Geographic breadth is necessary because some of those same actors ventured out to neighbors and more distant lands and peoples and steered the courses of their own societies and local practices in light of what they experienced and brought home. To take a locally contextualized, personalized, and generative approach to understanding Hopewell requires information at the very scales at which Hopewellian societies once operated.

The title of this book, *Gathering Hopewell*, encapsulates this view. The title reflects not only our topical emphasis on the social–ceremonial life, gatherings, and other social interactions of Hopewellian peoples, but also the comprehensive gathering and systematizing of data on Hopewellian remains that have allowed such interpretations. The title embraces both a human-

ized, peopled view of Hopewell and an empirical, scientific one.

POINT OF VIEW: THICK PREHISTORY, AGENCY, PRACTICE, AND ROLES

This book is foremost about past Hopewellian peoples and the rich archaeological data by which one can come to know them today. However, to better understand the goals and nature of the chapters to come, some words about our theoretical approach are necessary, and specifically its logical place relative to contemporary anthropological and archaeological theory.

The personalized, locally contextualized, and generative approach to the archaeological record that is taken in this book, which we call thick prehistory, follows broad trends in Anglo-American archaeology over the past 20 years to invest views of the past with people, to evoke their intentions and decisions from material remains, and to explore the richness of the content of particular cultures contextually and historically (e.g., Conkey and Spector 1984; Dobres and Robb 2000b; Gillespie 2001; Hodder 1982a, 2000; Marcus and Flannery 1996; Miller and Tilley 1984; Pauketat 2000, 2001a, 2001d; Robb 1999; Tringham 1991). Like other current attempts to humanize the archaeological record, thick prehistory is an active counterbalance to the attention given in earlier decades to formulating abstract, functional, and/or structural models of cultural systems comprised of mathematical variables and relationships among them (e.g., Clarke 1968; Flannery 1972; Hassan 1977; Keene 1981; Redman 1977; Thomas 1972), to classifying prehistoric cultures into homogenizing evolutionary–societal types and exploring system-level development from one type to another (e.g., Braun 1977; J. A. Brown 1981; Clay 1992; Flannery 1972; Ford 1974; Voss 1980), and occasionally to openly ridding archaeological interpretations of human actors and intentionality by applying some narrow brands of neo-Darwinian selectionist logic (e.g., Braun 1995).[3]

At the same time, we wish to clarify that our thick prehistory viewpoint contrasts in

fundamental ways from some recent, popular, humanizing approaches in archaeology that fall in the spectrum of studies focused on "action," "agency," "practice," and "praxis" (e.g., Dobres and Robb 2000a, Dornan 2002; Pauketat 2001a, Ortner 1984; and references therein). The primary lines of difference in approach are in both goals and foundational assumptions. These are discussed below. Differences in goals involve: (1) the balance of emphasis placed on identification in distinction to interpretation; and (2) the diversity of anthropological topics addressed and the range of interpretive theoretical frameworks harnessed. Differences in assumptions include: (3) the degree to which competition is seen as intrinsic to human nature and social life; (4) the concept of the self; (5) the place of culturally defined "persons" beyond living humans, such as the deceased and spiritual beings, in sociological interpretation; and (6) the nature of social roles and the utility of the role concept in social analysis. The thrust of our discussion is that while the thick prehistory approach and action–agency–practice–praxis frameworks all attempt to personalize the past, thick prehistory logically *precedes* the other frameworks in the analytic process, and also is *broader* and more robust in its goals and assumptions.

Agency and Practice

In anthropology and sociology, recent agency and practice approaches to studying humankind are part of a long historical stream of Western thought concerned with the individual and the collective, their interrelationships and formation, and social transformation. Various social scientists and schools of thought, as noted in detail,[4] have emphasized the individual/actor/agent/micro or the collective/system/structure/macro or their intrinsic interrelationships in determining the nature of social life and social change; and the theoretical pendulum has swung among these alternative viewpoints multiple times (Ortner 1984; Ritzer and Gindoff 1994; Turner 1991). Agency and practice frameworks today in anthropology and archaeology encompass a very diverse array of individual-oriented and integrative viewpoints

that derive from these streams of thought (Dobres and Robb 2000a:9, table 1.1; Dornan 2002; Ortner 1984:127, 144, 146).

An especially significant variation in contemporary agency and practice frameworks that is significant here is the contrast between agents who produce social effects that largely are consciously intended, strategic, and based in self-interest, and agents who produce social effects that are primarily unintended through their unconscious, routinized, or habitual actions. Self-interested agents tend to be modeled as "somewhat aggressive, rational, pragmatic" and sometimes "maximizing" individuals who "rationally go after what they want, and what they want is what is materially and politically useful for them within the context of their cultural and historical situations" (Ortner 1984:151). This view has been the dominant approach taken in archaeology and anthropology to studying political behavior and the development and reproduction of social inequity (Dobres and Robb 2000a:6, 8, 10), but also very common generally in archaeology and anthropology (Gillespie 2001:74; Ortner 1984:151; Saitta 1994:203), in works both explicitly Marxist and not (e.g., Blanton et al. 1996; Boehm 1993:239; Clark 2000; Earle 1997; Hodder 1982a, 1982c; Johnson 2000; Joyce 2000; Joyce and Winter 1996; Leone 1986; Marcus and Flannery 1996; Miller and Tilley 1984; Pauketat 2001b:12–13; Price and Feinman 1995; Saitta 1994; Sahlins 1968, 1972; Spriggs 1984; Tilley 1982). In Hopewell research, the viewpoint is found in the works of James Brown (1981:36) and Buikstra and Charles (1999:205, 215), who spoke of "ostentatious, competitive displays" of social wealth and power among groups "vying with each other for highest prestige," as well as Seeman (1995:138), who perceived "increased competition for leadership roles, [which] seems to have fostered a greater demand for distant valuables. . . ." The stance emphasizing the largely unconscious, routinized, or habitual nature of the actions of agents and the unintended consequences of those actions are the views of Bourdieu (1977, 1990) and Giddens (1984). For Bourdieu, institutions, relationships of power and domination, and beliefs beyond the conscious awareness or direct control of agents are

both created by them and structure them through taken-for-granted daily routines, which he calls *habitus*, and in light of practical, nondiscursive knowledge, which he calls *doxa*. For Giddens, structure is reproduced by day-to-day routines of interaction, which ensure trust in others at an unconscious level, and is transformed through the largely unintended consequences of people's actions. In the case of both authors, structure is internal to the agent and is both constraining and enabling. Faithful archaeological uses of Bourdieu's and Giddens's frameworks are rare (Gillespie 2001:79) and perhaps most successfully exemplied in Pauketat's (2001a, 2001c) attempts to explain the making and changing of cultural traditions.

In the following discussion, the goals of our thick prehistory approach are compared to the general goal of agency and practice frameworks at large, while the assumptions behind the thick prehistory approach are necessarily compared to those of the more particular variants of agency and practice frameworks, which differ from one another in their conceptual foundations.

Differences in Goals

Thick prehistory and archaeological applications of practice and agency approaches, which share their concern for personalizing archaeological records, nevertheless differ substantially from each other in their basic goals. Thick prehistory aims most essentially at *identifying* aspects of the past as a precursor to *explaining* or *interpreting* them, whether explanation or interpretation be in light of practice, agency, or other generalizing frameworks. Thick prehistory answers the basic questions who, what, where, and when in great detail, and only then turns to consider how and why. Who were the players, including both individuals, to the extent knowable, and social groups? What social roles did they fill and recreate? What events happened, and when and where did they occur? What beliefs and basic philosophies did the players have? Thick prehistory has the goal of making fine-grained descriptions of past societies and cultures over relatively short time spans, approaching ethnographic and historical description. Thus, for example, this book documents for Ohio Hopewellian societies

the names of clans, their relative sizes, the social roles that each fulfilled, and their degree of localization. Two or more sodalities and a wide array of leadership roles are identified. Ritual gatherings of varying specific social compositions, sizes, and purposes are defined. In contrast, practice and agency frameworks, coming primarily from sociology and psychology, start with the assumption that such players and aspects of social "structure" are already observable and identified, and focus more directly on the perennial sociological and anthropological issues of the relationship of the individual to the collective, and how social continuity and change occur. Thus, a thick approach to prehistory encompasses both the explicit resolution of past social actors, groups, events, and ideas—the development of basic sociological, cultural, and historical data—and their interpretation in some way that involves the individual, whereas practice and agency frameworks deal more narrowly with interpretation and explanation.

The most basic aim of thick prehistory, to identify past persons, groups, events, and ideas, is achieved with the full arsenal of contemporary archaeological theories, methods, and techniques that are now available: middle-range theories, taphonomy, forensics, specific ethnographic analogy, the direct historical approach to analogy, cross-cultural regularities, material science techniques, and such. In this book, one finds the use of middle-range theories about artifact style and mortuary practices (Chapters 6, 7, 9, 11, and 17 through 19), depositional studies of domestic sites (Chapter 4), the identification of ritual artifact functions through specific ethnographic analogy (Chapters 5, 7, 8, 17, and 18), the determination of religious meanings of shamanic art and artifacts with cross-cultural near-universals (Chapter 5), petrography (Chapter 15), and neutron activation analysis (Chapters 13 and 20), to name a few of the tools we have used to identify persons, social groups, events, and ideas. However, tying these tools together are two overriding concerns: one for the *context* of archaeological remains and contextual relationships, and the second for the *local* scene, *within* a society. These foci, of course, were stressed by Taylor (1948) in his "conjunctive" approach to archaeology, which he contrasted with approaches that sought

to understand the archaeological record in terms of external relationships among societies. Focus on the local and the within when developing thick prehistories is deserving of emphasis, particularly in the case of Hopewell archaeology, which was heavily invested from the 1960s through the 1980s in trying to understand the nature of external relationships among Hopewellian societies across the Woodlands (Carr, Chapter 2).

The fundamental goal of thick prehistory—to form a foundation of rich, ethnographic-like and historical-like information on who the players were and what they did and believed when and where—points out a recurring problem with some recent archaeological applications of practice and agency frameworks, particularly those applications of Bourdieu and Giddens. These theories are psychologically and sociologically sophisticated and detailed, and require fine-grained sociological, cultural, and historical reconstructions of past people, groups, events, and ideas to be employed even approximately. Too commonly in archaeology, such fine-grained identifications are not or cannot practically be filled out adequately prior to applying practice and agency frameworks to make an interpretation. These empirical deficiencies, of course, lead to surficial, generalized, homogenizing, and rote applications of the frameworks, and to interpretations that gloss over cultural and historical uniqueness, variability, and richness—pictures of the past assembled with terms and phrases such as agency, practice, resistance, negotiation, contestation, domination, power, fields of struggle, masked social tension, consensual co-optation, symbolic capital, strategies, practical consciousness, unconscious motivation, rationalization of action, habitus, routinization, reflexivity, the unintended consequences of intentional actions, and so forth, but without definitive empirical evidence of these (e.g., Pauketat 2000:122, 124; 2001a:81–86; Sassaman 2000:161–163; but see Joyce 2000). This is the error of laying a theoretical viewpoint upon data rather than deriving interpretations from data in light of many possible theories (see Dobres and Robb [2000a:3, 4, 13] and Gillespie [2001:88] for their same concern)[5] and does not bring the researcher closer to knowing and understanding a past people (Carr 1991; see also the quote beginning this chapter). Prac-

tice and agency approaches demand not only very rich archaeological data, as Pauketat (2001c:253, 255) and Sassaman (2000:164) have emphasized, but also rich ethnographic-like and historical-like *identification* of the past players and events prior to the application of theory—the thrust of doing thick prehistory.[6]

A second distinction in the goals of the thick prehistory approach applied in this book from those of practice and agency frameworks is that, when the questions of how and why are confronted, explanation or interpretation is not sought in light of one theoretical arena. In this book, a broad range of ethnological theories, cross-cultural generalizations, and specific ethnographic or ethnohistoric analogies is employed to shed light on the details of Hopewellian people, their lives, and their societies (see Historical Perspectives, Ethnological Theory, and Ethnographic Analogs, above). A close fit of the interpretive vehicle and its assumptions to the archaeological data and reconstructions at hand is emphasized over the single-focused application of any one perspective, for example, one particular form of practice or agency theory. Further, thick prehistory uses diverse theories, generalizations, and analogs, with their diverse assumptions about humans, in an *exploratory* manner to generate insights into past human situations (Hanson 1972; Tukey 1980:23–24; Tukey and Wilk 1970:371, 376, 386; see also Carr 1985:30–35, 1991; G. A. Clark 1982:250,258; Hartwig and Dearing 1979:9–13,77; Tukey 1977:vii) and to *guide* in their interpretation, rather than one conceptual framework that makes a limited set of assumptions about humans and that may constrain interpretation and color our view of past peoples. Our flexibility and eclecticism in interpretation align with current, modal practice in Americanist archaeology to take multiple viewpoints (Hegmon 2003:216–230); with the multiscalar and multidimensional qualities of culture, society, and people, which require varying explanatory frameworks to understand reasonably well; and with the vast diversity of cultural worldviews, concepts of the self or person, demographic milieux, etc., across societies.

The variety of interpretive vehicles used in thick prehistory reflects the much wider range of topics that it addresses compared to

practice and agency approaches in archaeology, despite their shared interest in personalizing the past. As summarized above, practice and agency frameworks deal most fundamentally with the topics of how individuals relate to the collective, and vice versa, and how social continuity and change are effected. The domain of practice and agency frameworks is the social person, social relations, and aspects of individual psychology that impinge on social relations. Thick prehistory, on the other hand, embraces the social person, the biological individual, the individual mind at large, and the relationship of the social, biological, and psychological person to others, the natural environment, and the supernatural. This broader domain of thick prehistory leads in this book to a consideration of a great diversity of topics concerned with people and the local situation, which fall outside the traditional scope of practice and agency approaches. Examples at the level of the individual include the nature of personhood (Chapter 18); personal and household rituals (Chapter 11); individual health and workloads relative to social role and prestige (Chapter 10); the role of the shaman as healer and possibly guide of souls to a land of the dead (Chapter 5); shamanic trance, soul flight, and human–animal transformation (Chapter 5); and the long-distance journeys of persons during power quests to sacred places in nature, pilgrimages to ceremonial centers, and ventures to distant and sacred centers of learning (Chapters 15–18 and 20). Examples at the level of the social group include how essential roles in society are bundled and how bundling reflects and changes with demography, historical factors, and social values (Chapter 5); how residential communities and yet broader symbolic and ecologically sustainable communities interrelate (Chapters 3 and 4); the fluidity of community membership and community territoriality relative to local natural environmental content and structure and population levels (Chapter 4); and how strategies of intercommunity alliance evolve in regular ways based, in part, on group psychology and religious belief (Chapters 7, 13, and 14). At the same time, the thick prehistory approach applied in this book also encompasses classic subjects of practice and agency frameworks as applied in archaeology: relations of differential dominance and prestige among the sexes (Chapters 9–11); the power bases of leadership and how institutionalized, supralocal leadership positions arise through the actions of individuals (Chapters 5 and 13); social ranking (Chapters 6 and 7); and prestige and power differentials among clans (Chapter 8). Clearly, a thick approach to prehistory, focused on people and the local scene, includes the concerns of practice and agency approaches, and much more. There are many ways to personalize the archaeological past.

Differences in Assumptions

Like the goals of the thick prehistory approach to archaeology, its assumptions are broader and more robust than those of practice and agency frameworks. To explore these differences, it is necessary to carefully separate in discussion those practice and agency frameworks that emphasize the self-interested motives and actions of agents from the theories of Bourdieu and Giddens. The assumptions that we examine pertain to human competitiveness and social competition, the nature of the self, and the concept of personhood.

Competition

Practice and agency frameworks that motivate people with self-interest, which are the most commonly applied in anthropology and archaeology (Dobres and Robb 2001a:6, 8,10; Gillespie 2001:74; Ortner 1984:151), make the narrow assumption that human nature and society are intrinsically competitive, through the self-interest of individuals, and that human intents and actions have a heavy political component that focuses on domination. Thus, Dobres and Robb (2000a:13) sum up the common threads among recent agency approaches in archaeology with: "Agency is a political concept." Ortner (1984:149) concurs: "... The study of practice is after all the study of all forms of human action, but from a particular—political—angle." Pauketat's practice view of tradition-making illustrates the characterization: "Politics and tradition are quite inseparable.... Tradition [is a] process shot through with contestation, defiance, and contrary

practice" (Pauketat 2001b:12–13). Likewise in this vein, Dornan (2002:318) sees in contemporary archaeology " the common equation of agency with resistance . . . to inequity." Noting that the dominant view of actor motivation in practice anthropology comes from self-interest theory, Ortner (1984:151) goes on to acknowledge and criticize this viewpoint: "The idea that actors are always pressing claims, pursuing goals, advancing purposes, and the like may simply be an overly energetic (and overly political) view of how and why people act" (p. 151; parenthetical phrase in original). And again,

> I close this final section with two reservations. . . . The first concerns the centrality of domination within the contemporary practice framework. . . . I am persuaded as many of the authors that to penetrate into the workings of asymmetrical social relations is to penetrate to the heart of much of what is going on in any given system. I am equally convinced, however, that such an enterprise, taken by itself, is one-sided. Patterns of *cooperation, reciprocity,* and *solidarity* constitute the other side of the coin of social being . . . a Hobbesian view of social life is surely as biased as one that harks back to Rousseau. (Ortner, p. 157; emphasis added)

In contrast, the thick prehistory approach, applied in this book to personalize archaeological records, makes no assumption about the degree to which societies and humankind are naturally competitive. We attempt to understand specific societies with regard to *their own* activities, values, ideologies, worldviews, and ethos, along a spectrum of variation ranging from more cooperative to more competitive.

The common focus of contemporary practice and agency studies on competition and domination as a means for understanding human actions and interactions derives in part from the long-standing intellectual relationship that anthropology has had with the writings of Karl Marx, who was concerned with how patterns of inequality in power and wealth found in capitalist class societies are reproduced and change through conflict (J. H. Turner 1991:181–189, 490–491). More fundamentally, the focus on competition is an assumption inherited from the broad sweep of Western intellectual development during the 18th and 19th Centuries, which spanned philosophies of government, economics, biology, and demography, and which had individualism, competition, self-interest, and struggle among their central tenets.[7] Given the "fascination" of the Western world with the autonomous, egocentric individual (Gillespie 2001:75) over the collectively oriented social person, it is little wonder that the deep-seated assumptions of competition, struggle, conflict, domination, and such would be hard to untangle from general theory on humanity and society (but see Mauss's [1985] concept of *personnage*).

In contrast to self-interest forms of practice and agency frameworks, the theoretical constructs of Bourdieu (1977, 1990) and Giddens (1984) are only tangentially concerned with intentional action and do not explicitly assume the predominantly competitive nature of society and humankind. Bourdieu's and Giddens's concern for routinized, less-than-conscious behavior and Giddens's focus on the unintended effects of people's actions take precedence in their works. At the same time, the assumption of competitive humans and society lies latent in their theories. The primary subject of inquiry for both Bourdieu and Giddens is Western class society (Bourdieu 1984; Bourdieu and Passeron 1977, 1979; Giddens 1984:xvii; J. H. Turner 1991:512–517), with domination as a central feature of it and the reproduction of patterns of domination as a central theoretical concern (Dornan 2002:305; Ortner 1984:147).[8] For Giddens, domination is a core, theoretical primitive (J. H. Turner 1991:525), and for Bourdieu, Weberian politics of class domination is a primary building block (J. H. Turner, p. 512). "'Domination' and 'power' . . . are inherent in social association (or, I would say, in human action as such)" (Giddens 1984:31–32; see also Mahar et al. 1990:8–10, 13, on Bourdieu's concept of fields of "struggle" for position). Because domination has its origin in response to individual or group competition, which domination attempts to regularize and subdue, it is clear that the competitive nature of humans and society underlies Bourdieu's and Giddens's framework implicitly. Modeling the reproduction and change of dominant–subordinate social relations as a largely

unconscious, unintended, routinized, and/or ha-
bitualized process does not exclude competition
or the capacity for competition from the foun-
dations of social life implicit in Bourdieu's and
Giddens's frameworks. As Bourdieu (1977:190)
clarifies,

> Once a system of mechanisms has been con-
> stituted capable of objectively ensuring the re-
> production of the established order by its own
> motion . . . the dominant class has only to let the
> system they dominate take its own course in or-
> der to exercise their domination; but until such a
> system exists, they have to work directly, daily,
> personally, to produce and reproduce conditions
> of domination . . . they are obliged to resort to
> the elementary forms of domination, in other
> words, the direct domination of one person by
> another. . . . [9]

In distinction, our thick prehistory approach
makes no such assumption that humans are natu-
rally competitive and obliged to try to dominate
one another.

The Nature of the Self

In practice and agency frameworks that take ac-
tors to be primarily motivated by self-interest, the
assumption that social life and humankind are
by nature competitive is logically preceded by
two more basic tenets. These are the individual
self separable from society and the restriction of
personhood to living human beings. Because
these ways of experiencing oneself and the world
are not uniform across cultures, their assump-
tion in self-interest brands of practice and agency
frameworks reveals the questionable applicabil-
ity of such frameworks unconditionally to all cul-
tures and societies. An invitation is thus offered
to develop a more robust, thick prehistory ap-
proach to persons and local scenes of the past—
one that explores past cultures and societies in
terms of their own notions of self, worldviews,
and beliefs.

In the modern Western world, the self is
defined as an individual separable from soci-
ety, material in nature, and vitalized by ego. The
problem with assuming this one view of the self
uniformly in sociological theory and analysis is
made evident by looking cross-culturally. Mod-
ern Western individualism lies at the extreme of

a cross-cultural spectrum in which notions of the
self, or "person," range from the largely indi-
vidual to the largely social.[10] For example, so
socially and relationally oriented is the Kaliai
(New Guinea) idea of the self, that a person is
not conceptualized as dead *(antu)* until all his
or her social obligations to others and rights in
others have been balanced (Counts 1979); the
person is a social person more than a mate-
rial, physical individual. Creek Native Ameri-
cans have a continuous concept of the self: a
human being is connected through his or her
heart to a pervasive energy continuum *(boea
fikcha/puyvfekcv)* of which all beings and things
are a part and, together, comprise the sacred All
(Ibofanga) (Chaudhuri and Chaudhuri 2001:2,
24; for other examples see Carithers et al. 1985;
Dornan 2002:315–316; Wilber 1979, 1993).[11]
Worldviews that hold to such relational and con-
tinuous notions of the self, and that are more
holistic, do not lay the groundwork for interper-
sonal competition or an ideology of domination
in the way that the Western, separable notion
of self does. Competition becomes decreasingly
logical as "other" is seen increasingly as an as-
pect of "oneself."[12]

The Kaliai and Creek examples of rela-
tional and continuous concepts of the self are
not rare exceptions to how cultures around
the world construct and define the self but,
rather, are part of a spectrum of individualis-
tic to collective notions of the self that has
been well documented crossculturally by psy-
chologists and social-psychologists since the mid
1980s (Carithers et al. 1985; Marsella et al. 1985;
Shweder and Levine 1984; see Triandis 1989
for extensive citations) and that requires sincere
consideration in social analysis and prehistory.
Crosscultural differences are frequent enough
and strong enough that Triandis (1989) has been
able to define suites of characteristics that dis-
tinguish cultures with more individualistic no-
tions of the self from those with more collectivist
notions, and to specify some underlying deter-
minants of these characteristics. Cultures with
more individualistic concepts of the self define it
as coterminous with the body and give priority to
personal goals over collective ones. Child rearing
patterns emphasize self-reliance, independence,

and creativity. Cultures with more collectivist notions of the self define it as coterminous with some group, like a family, village, or polity, and may make no distinctions between personal and collective goals, or if they do, subordinate personal goals to collective ones. Child rearing practices focus on obedience, reliability, and proper behavior (Triandis 1989:507, 509, 510). In addition, persons in societies with collectivist notions are more likely to be concerned with the effects of their actions on other members of their group, to share resources within their group, to feel interdependent with them, and to feel involved in the lives of others in their group. Role relationships within societies having collectivist concepts of the self are perceived as more nurturing, respectful, and intimate than they are in societies emphasizing the individual. Exchange relations within societies with collectivist concepts of the self tend to show concern for the other person's needs versus a concern for equity, focus on harmonizing one's emotional state with others versus staying emotionally detached, and do not envision the benefits of an exchange as comparable versus calculate the comparative benefits of an exchange (Triandis, p. 509). These systematic, crosscultural variations in personal experiential states, perceptions, and behaviors associated with collectivist versus individualist notions of the self clearly make questionable the theoretical assumption that competition and domination are intrinsic qualities of social life.

Differences among cultures with individualistic concepts of the self and collectivist ones are strongly enough defined globally that some of the determinants of these variations have been recognized. Individualistic notions of the self are encouraged by larger numbers of in-groups within a society, affluence, mobility, and lower numbers and densities of persons; collective concepts of the self are typically formed in the opposite conditions (Triandis 1989:510, 513). In the contemporary world, cultures with individualistic notions are documented to be most common in North America and Northern and Western Europe, especially in urban settings, while cultures with collectivist concepts are most common in Latin America, Asia, and Africa, especially in traditional rural settings (Hofstede 1980).

Recognizing in social analysis this now well-documented crosscultural variation in notions of the self, with their differing implications for interpersonal competition and domination, is essential to an anthropology and archaeology truly interested in other peoples. In line with this stance, a thick prehistory approach to archaeology makes no constraining assumptions about a past society's concept of the self and whether a society and its people are intrinsically competitive or dominating. Thick prehistory is concerned with people and societies in the light of their own cultural ideas and experiences, and encourages the exploration of their position along the known, cultural spectrum of self concepts.

Personhood

A second, problematic, basic tenet of practice and agency frameworks that logically precedes their assumption that social life and humankind are naturally competitive pertains to both self-interest oriented frameworks and the theories of Bourdieu and Giddens, and again is avoided by thick prehistory. In practice and agency approaches, the social "fields" of relationships of power (Bourdieu 1983; Mahar et al. 1990:8–10) or the "contextualities of interaction" (Giddens 1984:86) that are studied are Western in quality, in being limited to the living and to human beings when, in fact, members of many non-Western societies readily also include in their social fields deceased ancestors, ghosts, nonhuman spirits, deities, animals, plants, inanimate objects, and/or places as powerful things to be dealt with. This broader arena of action, interaction, and potential competition can bring its own special twist to relations among living persons, who may cooperate rather than compete with each other in fear of, out of respect for, or in reaction to nonhumans within their social field. The issue has several variations, which we address in detail because they have relevance to Hopewellian peoples and their archaeological records.

First, many non-Western societies, especially ones of middle-range complexity, envision society as encompassing both the living and their dead ancestors (Bloch 1971; Firth 1955; Service 1962:162). Public ceremonies, warfare, agriculture, and other communal activities may

begin with seeking the approval of, honoring, or calling-in the ancestors to witness and/or participate in the activities (e.g., Mails 1978:87, 90, 91; Malinowski 1954:179–182; esp. Radin 1945; Rappaport 1968:147, 166, 175, 1971:254; Trigger 1969:105), directly involve the ancestors (e.g., Malinowski 1954:182–185; Radin 1945; Rappaport 1968), and end with thanks or repayment to the ancestors and their release or expulsion (e.g., Malinowski 1954:182, 185–186; Rappaport 1968:180, 205–206, 210–213, 216, 1971:258–261). Ancestors may vibrantly watch over the living and their territory (e.g., Chief Seattle's lament, in Nerburn 1994; Rappaport 1968:144, 171, 1971:255, 259). Significantly, the living may cooperate with each other because the ancestors require it, and to do otherwise would be disrespectful and might evoke harmful repercussions. This ethic stood at the foundation of the Huron and Algonkian Feasts of the Dead, through which alliances were built among villages within tribes and among tribes (Carr, Chapter 7; Trigger 1969:103, 108, 111) and the Maring *kaiko*, which fostered alliances among neighboring tribes (Rappaport 1968:166–218, 1971:260–261). In the Trobriand Islands, the ethic precipitated careful observance of sociability and social graces within a community during the *milamala* harvest celebration (e.g., Malinowski 1954:184–185). Among the Enga of New Guinea, relationships of the living with ancestor spirits cemented clans, were a cultural arena in which men by definition cooperated through the ethos of ancestral cults, were open to all members of a clan equally, and were a key factor in maintaining an egalitarian social structure and thwarting any aggrandizing and material appropriating efforts of individuals as Enga economy became more productive and wealthy with the introduction of the sweet potato (Wiessner and Tumu 2002:249, 251).

Second, fields of power relationships in non-Western societies usually include nonhuman spirits and/or deities, with whom humans may interact by cooperating with each other. A society may unite in ceremony to praise, thank, beseech, placate, or ward off supernatural forces. For example, traditionally, multiple shaman in a Salish community would gather to form a unified spirit canoe and together, with the support of the community, help recover the lost guardian animal spirit of a sick person through a dangerous journey to the Lower World (Harner 1980:90–91). Here, social cooperation among the living, not competition, is the logical and natural choice, and this display of intracommunity unity cannot be explained in reference to social relationships among the living alone. The field of play is larger.

The mythology of historic Native Americans of the Woodlands is replete with tales of how humans united to defeat harmful supernatural beings who were personified. A Cherokee myth tells of seven villages that united to bring illness to and defeat the supernatural being, Stonecoat, who brought evil things (witches, other monsters, etc.) into the world (Lankford 1987:131–132). A mythological cycle of the Winnebago relates how the human–deity Redhorn led teams of humans to fight against supernatural giants (Radin 1948:115–136).[13] Such myths served as templates for cooperative human interaction in ordinary reality. A good example of the essential place of the spiritual world in social fields of power and how individual human practice is affected is the particular manner in which a shaman performs his arts, especially healing. The healing practice of a shaman reflects not just the historical tradition in his culture and negotiations with community clients as they are served, but also the methodological demands of the spirits that call him to practice. During "initiatory illnesses" in which spirits are said to call a shaman, he learns that he must serve as a healer to become well himself, and is given the particulars of the techniques to heal himself and others (Eliade 1964:33–45; Halifax 1979:10–13). The particular manner in which a given shaman carries out a specific ceremony may also be changed from performance to performance, spontaneously, in response to the wishes of spirits (Mails 1991:50, 53, 54, 56, 60, 78, 86). A social field of competitive and power relationships among shaman, and among shaman and community members, would be insufficient to understand the specific medical practices of a particular shaman or variations in these from performance to performance.

The critical place of the supernatural in sociological interpretation was formalized analytically by Durkheim's student, Robert Hertz (1907,

1960a). As a heuristic for analyzing and interpreting mortuary rites, Hertz proposed a triangle of relationships: among living mourners, the corpse of the decease, and the soul of the deceased. The model suggested to Hertz three distinct answers to the question of why the corpse is feared by the Berewan in Borneo, one answer for each pair of relationships. Metcalf and Huntington (1991:85–96) extended the framework to explain the Berewan practice of secondary burial and, in particular, why a Berewan community will gather together for very extensive and expensive secondary burial rites (*nulang*). The authors (Metcalf and Huntington, p.83,85) also note that the triangle of relationships can be extended to analyze any aspect of funerary rites. We take this orientation further, noticing that the broad field of relationships among humans, the ancestors, newly deceased, ghosts, nonhuman spirits, and deities is a fertile research universe for understanding diverse forms of action of humans and interactions among them, either cooperative or competitive (e.g., Carr, Chapters 12 and 16). The assumptions made explicitly or implicitly by agency and practice frameworks, that society is comprised only of human beings and is intrinsically competitive, are too narrow to explain a good many social practices.

Whether spiritual beings are a subtle part of objective reality or projections of imaginations of the unconscious mind onto objective reality does not matter. In either case, the person experiencing the spiritual being acts in relation to it and other humans as though it were real.

Just as the social field of power of a people may extend to nonhuman spirits and/or deities, so it may encompass the natural environment. Some components of the natural environment may be attributed sentience (i.e., consciousness) and personhood (i.e., capable of social relations), and humans may cooperate with each other relative to the powers and actions of the "persons" of nature. Hallowell (1960) demonstrated, through the analysis of language, myth, and behavior, how the historic Ojibwa conceived of certain categories of plants, animals, inanimate materials, as well as extraordinary spiritual analogs to animals and humans, as persons (see also Martin 1999:200–201, 211).[14] Historic Native Americans of the Southeastern Woodlands attributed personhood to all species of plants and animals and attributed them power and social organization equivalent to those of humans (Hudson 1976:157–160). A Caddo myth tells how humans joined together against the animals to stop them from bringing death into the world (Gill 1983:114–115). Another relates how humans and personified animals of various species, along with the anthropomorphized Morning Star chief, united to slay all monsters by burning the earth (Dorsey 1905:48–50). Among historic hunter–gatherers of the northern latitudes, bears were commonly treated as persons and with great respect, and the hunting and killing of a bear demanded prescribed ceremonies of butchery, eating, and disposal, usually as part of a communal feast (Hallowell 1926:145–146). The personalities and histories of places can also affect people's practices (Basso 1996).

In Hallowell's (1960) words,

> The study of social organization, defined as human relations of a certain kind, is perfectly intelligible as an objective approach to the study of this subject in any culture. But if, in the world view of a people, "persons" as a class include entities other than human beings, then our objective approach is not adequate for presenting an accurate description of "the way a man, in a particular society, sees himself in relation to all else." A different perspective is required for this purpose. It may be argued, in fact, that a thoroughgoing "objective" approach to the study of cultures cannot be achieved solely by projecting upon those cultures categorical abstractions derived from Western thought. For, in a broad sense, the latter are a reflection of *our* cultural subjectivity. A higher order of objectivity may be sought by adopting a perspective which includes an analysis of the outlook of the people themselves as a complementary procedure.... Recognition must be given to the culturally constituted meaning of "social" and "social relations" if we are to understand the nature of the Ojibwa world and the living entities in it. (Hallowell, pp. 21, 23; emphasis in original)

The thick approach to prehistory makes no *a priori* assumptions about the worldviews of past peoples and the phenomenological expanse of their fields of social relations. By having room for

the above-enumerated, diverse views of person-hood in social analysis and attempting to study people and societies from the stance of their own beliefs to the extent knowable, thick prehistory is open to and much more capable of explaining both the cooperative and the competitive aspects of human actions and interactions. Practice and agency frameworks, in focusing narrowly on the human–human social field, are more prone to emphasize competition.

Hopewell and the Assumption of Intrinsic Social Competition

Our efforts to define a thick approach to prehistory—one free of a limited paradigmatic agenda of the competitive kind expressed explicitly or implicitly in agency and practice frameworks—stem only in part from our above observations of how non-Western peoples may conceive of themselves and their world and thus act. Our chosen approach also derives from our noticing certain aspects of Hopewellian archaeological records that would be hard to explain with an agency or practice framework that emphasizes the competitive nature of humankind and society and the self-interested qualities of people. Most critical in this regard is the long-recognized *Pax Hopewelliana*—a socially cooperative period of about four centuries when bioarchaeological indications of lethal violence are almost completely lacking in Illinois and Ohio Hopewellian societies, which are known best, and that contrast with the preceding Late Archaic and subsequent Late Woodland periods, when social violence is well documented (Buikstra 1977:80; Johnston 2002:105–113; Milner 1995:232, 234–235; 1999:120–122). The abundant material evidence for relatively unimpeded movement of Hopewellian peoples over long distances across the Woodlands and the gathering together of distant peoples for ceremony (Ruby, Chapter 15; Carr, Chapter 16; Spence, Chapter 20; Stoltman and Mainfort 2002) also support a view of Hopewellian, human-to-human social relations focused around cooperation. Further indication of a peaceful, human-to-human social milieu in Ohio is found in evidence for deep intercommunity alliances that were maintained by multiple communities repeatedly burying their dead together, especially their leaders, in single charnel houses (Carr, Chapter 7), by their jointly planning and/or building those facilities (Carr, Chapter 7), and by their mutually participating in large ceremonies associated with the deceased (Carr, Chapter 12; Carr et al., Chapter 13; Weets et al., Chapter 14). Also, the paucity of fancy artifacts and art dedicated to the symbolism of human conflict (Carr, Chapter 7, Table 7.2) compared to other social and religious themes (Carr 1998, 2000a, 2000b; Carr and Case 1995, 1996) is significant evidence of societal peace and cooperation. Finally, in light of these four independent kinds of data suggesting a largely cooperative cultural milieu, it is debatable whether the large deposits of decommissioned ceremonial paraphernalia found in altars and with burials in Ohio and Illinois Hopewell sites can be interpreted as the remains of "ostentatious, competitive displays" of social wealth and power among local groups that were "vying with each other for highest prestige" (J. A. Brown 1981:36; Buikstra and Charles 1999:205, 215). Only the great elaboration of ceremony can be directly inferred from the deposits, leaving open whether they are more accurately interpreted as the remains of primarily cooperation, largely competition, or both interwoven.

The focus of northern Hopewell societies around human-to-human cooperation, and the anomalous character of this situation in the greater history of social relations over the Woodland period, is difficult to understand within agency and practice frameworks that emphasize social competition and dominance and that limit their field of studied relations to the living, human components of societies. If, however, the social field of persons and power is widened to include deceased ancestors, ghosts, nonhuman spirits, deities, animals, plants, inanimate objects, and/or places that are attributed personhood, as is so common in non-Western societies, then an understanding of the *Pax Hopewelliana* is more easily drawn. Specifically, northern Hopewellian peoples made large investments of time, labor, and materials acquisition into ritual paraphernalia, ritual architecture, sacred travels, and ceremony relevant to the spiritual constituents of their societies and cosmos. Many of these acts involved whole or large segments of communities,

or persons from multiple communities, near and far. These acts of cooperation can be seen as a response of the living to the spiritual persons and beings that shared in the society and world of living humans and that required attention, honor, thanks, appeasement, containment, and such, perhaps out of fear of them for their more subtle and esoteric qualities and unknowable intents, and perhaps also out of respect for their seniority or gratitude for their care. Thus, human-to-human Hopewellian cooperation is easily understandable and expectable as the outcome of the logical choices that individuals made within a broad social and cosmological field of persons, beings, and relationships that extended beyond humans. Further, the temporal limitation of cultural emphasis on cooperation and physical nonviolence to the Middle Woodland period becomes understandable through recognizing that it was during this time, and not the preceding or subsequent, that ceremony oriented toward the spiritual was most elaborated and human–spiritual relations appear to have been of greatest concern. In our view, it was with respect to the spiritual that broad human-to-human cooperation developed. An agency or practice analytical framework that is restricted to human-to-human sociological interactions is not capable of capturing this cultural logic and, thus, the timing of the *Pax Hopewelliana*.

The great attention given by Hopewellian people to the spiritual components of their societies and cosmos and their cooperation in relation to those beings are key, explicit elements of the sociological interpretations made in Chapters 7 and 12 through 14, which discuss local social–spiritual alliances and gatherings, and are assumptions that underlie Chapters 15 through 20, on interregional Hopewellian ritual connections. The reasonableness of this take on Hopewellian social interaction is readily suggested by the *Pax Hopewelliana*, its defining evidence, and its timing, as discussed above, but is made especially clear here by two poignant archaeological examples, as well as by the overall spiritual–symbolic orientation of Hopewellian material culture. These subjects will also give the uninitiated reader of Hopewellian archaeology a flavor of the symbolic intensity of Hopewellian life and material culture.

The first example is the ceremonial deposit of items found in the central altar of Mound 4 at the Turner site, Ohio (Willoughby and Hooton 1922:63–74). The altar contained the cremations of a number of persons; at least 11 clay figurines of men and women in various stances in life and perhaps prone in death; a carving of a Lower World monster with bull-like horns, four limbs like an aquatic mammal, and a rattlesnake's tail; and a second Lower World water creature of a kind with four legs. All of these were overlain by a large mica cutout of a horned snake that probably was analogous to the Lower World horned serpent in historic Algonkian, Iroquoian, and Siouan belief (Barbeau 1952; Hammel 1986/1987:79, 1987:76; Howard 1960:217; Martin 1999:202; Skinner 1915:162–186, 263, 1923). The ritual deposit appears to represent a group of individuals that had been cremated, their journey to a land of the dead, and perhaps a petition to the creatures of the Lower World for their safe passage. In historic Ojibwa lore and near-death experiences, this journey required the deceased's soul to cross over a rushing river on an unstable or rising and falling log, which turns out upon crossing to be a serpent. If a soul lost its footing and fell in the river, it was lost (Barnouw 1977:18–19, 136; Kinietz 1947:145; Kohl 1860:218–219, 222–223; see also Penney 1983). Significantly, this ritual deposit and the drama it portrayed were the product of the cooperative efforts of a broad community of living persons who were relating to the spiritual persons and beings represented. Accompanying the above items were more than 2,000 animal teeth, about 600 phalanges of small mammals, and over 200 raw pearls, which would have required many persons to obtain by hunting and collecting over a good deal of time. A wide social field of humans and nonhuman persons and beings, with humans cooperating with each other relative to the latter, is necessary analytically to make sense of the human acts entailed in this ceremony.

The second example of the emphasis that Hopewellian peoples placed on the spiritual participants within their wide, social–cosmological field of relationships, and the cooperation of Hopewellian peoples in response to those spiritual beings, is the Ohio Hopewellian practice of

constructing burials and mounds with ghost water barriers (Carr 1998, 1999a, 2000a, 2000b). Historic Native Americans of the Woodlands and Plains widely had a fear of ghosts and believed that water could repel a ghost (Fletcher and La Flesche 1911:591; Hewitt 1894:114–115; McClintock 1935; see Hall 1976). Hall (p. 362) suggested that the circular ditches that often surround Adena mounds collected water naturally and acted as water barriers that separated the souls of the dead from the living. In this way, the living would have thought themselves protected from illness, tricks, or vengence that ghosts of those buried in the mounds might cause. In addition, such water circles may have represented the world axis in cross section, as the circle did historically among Woodland and Plains Native Americans, and may have served to guide souls first upward or downward, rather than across territories of the living, in their journey to a land of the dead (Carr 1998, 1999a, 2000a, 2000b). The Adena practice of constructing water barriers appears to be evidenced in Ohio Hopewell burials and earthworks, but with material symbols of water having replaced water, itself, as the encircling barrier. Ohio Hopewell peoples surrounded the deceased and edged their graves at times with pearls, shells, mica, galena, and river-worn limestone and other light-colored cobbles.[15] All of these materials are like water, particularly its reflective surface, in being silvery or white in color and reflective or transparent; and some of the materials are derived from water. In addition, at a larger scale, Hopewell peoples from multiple communities joined together to construct water barriers around the charnel houses and mounds that held their dead. Mound construction typically began by stripping off the sod and top soil in a circle or oval and then, within the depression, laying down a pavement or building a wall of water-worn cobbles and/or gravel.[16] Collecting and transporting these building materials to these sites represented substantial labor investments by many people. These practices of Ohio Hopewell peoples are most easily fathomed within a conceptual–analytical framework that admits the essential place of cooperation, in addition to competition, in human-to-human relationships, and a wide social field

that includes the deceased as well as living persons.

These two potent illustrations of Hopewellian practices that required cooperation among many persons in response to a social field wider than living human communities occur in the context of a broad material record that suggests the overriding concern of Hopewellian peoples with the supernatural and their organization with respect to it—especially Ohio Hopewellian peoples. In particular, pervading Ohio Hopewellian material culture are artistic representations of shaman-like practitioners in trance; depictions of animal–human transformation; raw materials that, through their simultaneous light/shiny and dark/dull characteristics, embodied the shamanic theme of transformation; raw materials that, by their reflective, transparent, or translucent nature, suggest the shamanic theme of seeing; raw materials of distant origins that equate to the sacred or supernatural (Helms 1976:133, 136, 176); and an artistic style filled with figure–ground reversals and perceptual ambiguity that evoke a sense of transformation and that associate cross-culturally with shamanism and trancing (Cordy-Collins 1980; Roe 1995:68). Indeed, most identifiable leaders in Ohio Hopewell societies have a shaman-like cast to them (Carr and Case, Chapter 5; Carr et al., Chapter 13). The motivations and intentions of Hopewellian peoples appear from this record to have been focused primarily on relationships with spiritual beings more than on human-to-human competition and domination. In this cultural context, it makes little sense to try to understand the practices of Hopewellian people by examining human-to-human interaction, alone. Here, a broad, thick prehistory approach to understanding the past, which has a place for supernatural persons and beings in social fields of interaction and power, is more compatible with the cultural record than practice and agency approaches that universally ignore and trivialize perceived spiritual beings and their effects on human motivation, decision making, and action.

We agree with Geertz (1973,1975) that developing an understanding of a people and their culture depends on studying them from the

actor's point of view, to the extent feasible. As Ortner (1984:13) summarized, "This does not imply that we must get 'into people's heads. What it means, very simply, is that culture is a product of acting social beings trying to make sense of the world in which they find themselves, and if *we* are to make sense of a culture, we must situate ourselves in the position from which it was constructed" (emphasis in original). Thick, detailed descriptions of a people and their culture set the heuristic milieu for doing precisely that situating of the researcher, as the above sketches of Hopewellian rituals, material culture, and spiritual life begin to illustrate.

The Nature of Social Roles and the Utility of the Role Concept in Studies of Society

The thick prehistory viewpoint that we take in this book contrasts with the practice and agency approaches popular in archaeology today, and with the works of Bourdieu and Giddens, in particular, in a final, key way: in the reliance placed on social roles when making social reconstructions and interpretations, which in turn relates to how social roles are conceived. Practice and agency frameworks in archaeology attempt to create a dynamic and personalized past by focusing on the individual as an agent: one who exerts power through acting in one way rather than another (i.e., practice) and produces an effect, whether or not the specific outcome is intended (Giddens 1984:9). In contrast, thick prehistory brings dynamism and personalities to archaeological records by focusing primarily on social roles: informal or institutionalized cultural models that guide the actions and interactions of persons in particular positions within a social field by defining or suggesting the mutual rights, duties, actions, responses, and tasks of those persons in a given social context. The specific individual as an agent and as a perpetrator of social patterns and change, as well as the events produced by an individual, is of course of interest in a thick prehistory approach, but in almost all prehistoric settings, this is beyond the resolution of archaeological records. Even in the very rich and socially telling mortuary records of Hopewellian peoples in Ohio, where close to

a thousand individuals and the symbols of their social identities have been unearthed (Case and Carr n.d.), specific individuals cannot yet be tied to specific social outcomes. Thus, the thick prehistory approach moves the analytical unit up one level of generality, to the social role in a particular local cultural context. To the extent that multiple individuals who filled a role over time and across a local area are known, redundant patterning in the archaeological record can be used to an advantage to link a set of individuals to the role they filled and the effects they produced.

Role concepts in anthropology and sociology are very diverse (Turner 1991:410–471). At one end of the spectrum are structural roles, where individuals are envisioned as players in a theater and must conform to the duties and norms of behavior of their roles. Individual practice and human interaction from this viewpoint are highly structured by the script associated with the role, the scripts of the roles of other actors, and a responsive social audience (e.g., Linton 1936; Mead 1934; Nadel 1957:11, 21). At the other end are processual roles, where the individual is conceived to be a largely free player who consciously chooses various social strategies in acting and interacting. Roles from this view are very "general configurations of responses that people negotiate as they form social relationships" (e.g., Goffman 1959, 1969; Nadel 1957:26, 35, 41; J. Turner 1991:426; R. Turner 1962), and the impact of cultural institutions and structure on actions and interactions is minimized. Between these two extreme views, roles may be envisioned as "media" that facilitate creative social expression, action, and interaction through both their broad constraints/guidelines and the space for social experimentation and play that they offer. The analog, here, is artistic media and artistic expression and creativity through, yet constrained by, those media (Roe 1995:44). Additionally, roles and the actions of those who fill them can have a recursively developmental quality.

In the thick prehistory approach of this book, both the normative and the creative aspects of human actions linked to roles are acknowledged, admitting a theoretically unconstrained spectrum of variation in the character of roles.

Here, roles are commonly identified in the archaeological record by mortuary patterning: by artifact classes that repeatedly associate across multiple individuals and that were used to accomplish particular social tasks or outcomes (e.g., mica mirrors, galena, and quartz items used in divination). However, the associations are allowed to be loose, accommodating individual reinterpretations of roles synchronically, and to be changeable in content and breadth over time, to the extent that they are (e.g., Carr and Case, Chapter 5; Field et al., Chapter 9; Turff and Carr, Chapter 18). We do not agree with Giddens (1984:84), who tends to see roles in all of the above sociological frameworks to be of "given" character and scripted, and consequently suspect, or with Bourdieu (1977), who fully ignores the role concept as a bridge between the individual and the sociocultural structure.

Our focus here on "social roles" also complements the past four decades of literature on the archaeological analysis of mortuary remains, where "social identities" or, equivalently, "social positions," have been the unit of study (e.g., Akins 2001; Beck 1990, 1995a; Binford 1971:17; Braun 1979:67; J. A. Brown 1981:28; Hohmann 2001; Loendorf 2001). The distinction between role and identity is a significant one (Goodenough 1965) with regard to our concern to personalize archaeological records. A role is the suite of rights and duties—informal or institutionalized, negotiated or structurally constrained—that are attributable to the one or more social identities that a person has relative to another in a given social context (Goodenough 1965:324; Linton 1936:113–114). The rights and duties of a role define its domain of action and forms of action, and potentially lead to action (Goodenough 1965:312; Nadel 1957:28, 29) in either a normative or a negotiated manner, giving the role a close connection to the social action of an individual and a similarity to the concept of agency as a "capability" for action (Giddens 1984:219), but at a level of abstraction above the individual and more archaeologically resolvable. In addition, the roles that an individual performs, if they have longevity, become incorporated psychologically into that person's sense of self through the performance

process and, in this way, become a basis for the person's further action. Also, roles as suites of rights and duties that are negotiable are a potential locus of social organizational change over time. The role concept concerns social dynamics and performance (Goodenough 1965:312; Nadel 1957:29). In contrast, a social identity or social position is a social category, one of a set of "hats" that a person wears in a given social context relative to the social identities of others. A social identity or position is a structural and static concept, only indirectly related to social action through the rights and duties (i.e, roles) associated with it. It is possible to analyze the identities of the people in a society in a fully structural and impersonal way in order to measure social complexity, hierarchy, segmentation, connectivity, contradictions, and other structural qualities. This has been the approach popularly taken in those mortuary studies since the 1970s that have sought to determine whether a society was structured according to principles of ranking (e.g., Braun 1979; J. A. Brown 1981; Mitchell and Brunson-Hadley 2001; Tainter 1975a, 1978). Such studies lead to a typological categorization of a society's nature at large rather than a focus on individuals and their acts.[17] They are useful in providing a general understanding of the social context of individuals and their deeds, but an analysis of roles is necessary to personalize an archaeological record with individuals in action. In the thick approach to prehistory applied in this book, structural studies of Hopewellian societies (Chapters 6 and 7) are extended with role analyses (Chapters 5 through 11, 13, and 17 through 19) that reveal people, their actions, and their social, historical, and material effects.

Summary

In our belief that archaeology reaches its fullest potential when it is done at once as a humanity, a science, and a historical discipline, we attempt in this book to reach understandings of past Hopewellian societies through the approach we call thick prehistory. Thick prehistory aims most basically at making detailed and personalized descriptions of the past by identifying

individuals, groups, events, ideas, and their interrelationships within a local context—answers to the questions of who, what, when, and where. When answering how and why, thick prehistory is a very broad and flexible approach, open to and appreciative of the diversity of worldviews, beliefs, values, and ethos of different cultures to the extent knowable, including their different concepts of the self, personhood, and the social–cosmological field of relationships among beings. Thick prehistory respects this diversity by encompassing a wide range of theories with varying assumptions about humanness, society, and a people's beliefs and values, by exploring a detailed, constructed, sociological, cultural, and historical description of the past with these multiple interpretive vehicles, and by seeking ultimately a close fit between a particular interpretive framework, its assumptions, and the interpretation it suggests, on the one hand, and the thick description that has been made, on the other. In this way, thick prehistory encourages the understanding of a society and culture in terms of its own worldview, values, beliefs, and ethos. Additionally, a thick description of a past people and their culture helps to situate the researcher in their sociocultural milieu and to see it from their point of view, facilitating a faithful rendering and interpretation. Thus, thick prehistory as a personalizing approach to archaeological records differs considerably from the agency and practice frameworks popular in Anglo-American archaeology today, which make Western assumptions about the nature of the self, personhood, and society, and extend these uniformly to other peoples and societies. Thick prehistory also is interested in a much broader array of topics than the perennial sociological concern for how individuals relate to the collective and how social continuity and change occur in light of that relationship; thick prehistory addresses the social, biological, and psychological person. In addition, a thick approach to prehistory is practical, in emphasizing the analysis of social personalities, actions, and outcomes at the level of the role, which is usually more in line with the grain of archaeological records than is the specific individual as agent and the specific events produced by him or her. As a result, a thick approach to prehistory

is less susceptible to the error of laying a theoretical viewpoint onto archaeological data and a past society rather than deriving understanding from the data and the society. And it is that understanding, as free as possible from mirroring the researcher's own culture and personal beliefs, for which the academic hopes. Finally, it is in the context of these richly drawn descriptions and understandings of past local peoples that their intentions and motivations can be sought and their interrelations on broader geographic scales can be generated and understood. The issues of thick description, personalizing the past, sensitivity to a local culture when making sociological interpretations of it, and deriving global interaction from local processes—all of which are wrapped up in the concept of thick prehistory—are especially relevant to local Hopewellian records, which speak with rich material voices.

PLAN

The chapters of this book fall into five parts. Part I introduces the reader to the personalized, locally contextualized, and generative approach to Hopewell taken by the authors, and situates their studies in relation to a history of other recent research on Hopewell. Part II reconstructs the varying local social and political organizations of Hopewellian peoples in several culturally distinct units of the northern Woodlands: the Scioto valley, Miami valleys, and northeastern portion of Ohio; the Mann phase in southwestern Indiana; and the Havana tradition in the lower Illinois valley. The aspects of the societies in these regions that are investigated include the spatial organization of their ceremonial sites, habitations, and mortuary programs together as functioning communities; leadership and its development from classical shamanism; whether principles of ranking served to structure the societies; their animal-totemic clans; gender roles and relations; and mechanisms of intercommunity alliance. Part III documents the sizes and role compositions of social gatherings in ceremonial centers in the Scioto valley, Ohio, changes in these features of gatherings over time, and the long-distance cultural affiliations of the

participants in gatherings at the Tremper site in the Scioto valley and the Mann site in southwestern Indiana. These reconstructions continue the discussion of intercommunity alliances and alliance mechanisms begun in Part II. Part IV shifts attention from local expressions of "Hopewell" to its interregional face across the Eastern Woodlands. Specific, diverse social and religious forms of interregional travel, procurement, and interaction are inferred, helping to explain the wide distribution of Hopewellian ideas, practices, material styles, raw materials, and occasionally finished goods over eastern North America. In addition, the pan-Eastern and locally distinctive social and philosophical–religious meanings attributed to ceremonial paraphernalia and raw materials are described. The related issue of the openness of certain local traditions to extralocal ideas, practices, and raw materials is also addressed. These are the major divisions and the flow of this book by subject matter, although some chapters address topics from multiple sections and draw upon other chapters extensively in order to integrate our view of the Hopewell world (see chapter listings in Topical and Empirical Scope, above).

Each of the four parts of this book begins with an introductory essay (Chapters 2, 3, 12, and 16). These chapters provide historical summaries and discussions of previous archaeological studies and key concepts from anthropological theory, all of which serve as foundations for the chapters to come. The introductory essays also highlight some of the important findings of the chapters in this book and relate them to each other, to previous studies of Hopewell, and to basic anthropological frameworks. More detailed summaries of each chapter are given in their extended introductory and concluding sections.

Enjoy! We have.

NOTES

1. Panpipes and earspools occurred in 33 sites and 58 sites, respectively, in all eight of the regional traditions of the Eastern Woodlands, according to the tallies of Seeman (1979a:380–381). Panpipes and earspools are surpassed in site counts only by mica mirrors, conch shell vessels, and copper beads, which are recorded for 86, 84, and 76 sites, respectively, in all eight regions (Seeman, pp. 380–381). However, the latter classes are technologically and stylistically simple and, thus, sociologically less telling. Copper celts were found at 69 sites in five northern and midsouthern regional traditions, but not in the deep Southeast, by Seeman's (pp. 380–381) records. Raw and partially processed silver is known from 32 sites in seven regions. Six other kinds of Interaction Sphere items are fairly numerous and widespread, some of which are technologically and stylistically complex enough to warrant study in the future. They include platform pipes at 38 sites in five regions, crescent-shaped gorgets at 14 sites in five regions, bear canine ornaments at 57 sites in six regions, metallic awls at 34 sites in six regions, shell beads at 73 sites in seven regions, and pearl beads at 51 sites in seven regions. Terra cotta figurines are reported by Seeman (p. 373) to have been found at five sites in four regions, to which can be added the Mann site in a fifth region. Raw and partially processed copper and galena are each distributed among eight regions, at 167 and 63 sites, respectively (Seeman, pp. 304–305).
2. Major efforts at compilation and analysis that support those in this book but that do not pertain as directly to the topic of Hopewell society, ritual, and interaction include Dancey and Pacheco's (1997a; Dancey 1991; Pacheco 1989, 1993, 1996, 1997) excavations, surveys, and assembling of comparative data on the internal nature and regional densities and distributions of Ohio Hopewell habitation sites, which shed light on community organization. In addition, Carr and Haas (1996) have radiocarbon dated, and gathered old radiocarbon dates on, a large number of Woodland habitation sites in the Scioto Valley, providing a refined temporal sequence.
3. See a critique of Braun's viewpoint in Carr and Neitzel (1995b:441–447).
4. Emphasis on the individual in social theory crystallized in 18th and 19th-Century thought anchored in John

Locke's (1690) treatise on individual freedom and government; the concepts of economic freedom, free competition, laissez-faire, self interest, and the supply–demand relationship in the classical economics of Jeremy Bentham (1789), John Stuart Mill (1848, 1863), David Ricardo (1817), and Adam Smith (1776); and the utilitarian theory of Hume (1752), upon which classical economics was based. In sociology and anthropology, the individual has been core to the interactionist and phenomenological schools of Mead (1934) and Goffman (1959), Geertz's (1973, 1975) symbolic anthropology focusing on the actor's point of view, and recent approaches that motivate actors through self-interest (Ortner 1984:151). In contrast, the collective and structure are dominant in the works of Durkheim (1947a, 1947b), Levi-Strauss (1969–1981), Marx (1954), Parsons (1949), and Victor Turner (1969), and in general systems theory (e.g., Rappaport 1968, 1971, 1979). The intrinsic interweaving of the individual and the collective are the focus of works by Mauss (1985), Linton (1936:113), Bourdieu (1977, 1990), and Giddens (1984).

5. Dobres and Robb (2000a) describe this circumstance as "simply slapping agency onto the past like a fresh coat of paint" (Dobres and Robb, p. 4) and as "*ad hoc* appeals to the concept [of agency] to make sense of a particular problem or situation" (Dobres and Robb, p. 3). In fairness, we note that a similar situation arose in some systems interpretations that mechanically and loosely applied concepts such as positive and negative feedback, equilibrium, coevolution, and so on, to archaeological records several decades ago.

6. One of the key strengths of Bourdieu's and Giddens' agency frameworks is their integration of the psyche in the process of social action and reproduction. Giddens bases social action in part in unconscious, diffuse motives and pressures that are realized through a "practical consciousness"—a body of seldom discussed knowledge that one uses to interpret the actions of others and to respond. Responses are then "rationalized" relative to motives through a "discursive consciousness" (Dornan 2002:307; Turner 1991:531–532). Bourdieu bases social action and reproduction of the social order more simply in unconsciously acted daily routines, or *habitus*, that have been internalized from the social environment (Dornan 2002:306; Turner 1991:516). Unfortunately, these unconscious and semi-conscious kinds of psychological content and dynamics can seldom be identified and distinguished from each other archaeologically at the level of the individual. Occasionally, this is possible through detailed stylistic analysis (e.g., Pryor and Carr 1995; see also Carr 1995:11–14, 174–178, 438–439). More accessible archaeologically are the results of such psychological content and processes in the form of group behavioral patterning beyond the individual (e.g., Rosenthal 1995), which are the more fundamental, creative contributions of the theories.

7. This stream of 18th and 19th-Century thought was anchored in John Locke's (1690) treatise on individual freedom and government; the concepts of economic freedom, free competition, laissez-faire, self-interest, the supply–demand relationship in the classical economics of Jeremy Bentham (1789), John Stuart Mill (1848, 1863), David Ricardo (1817), and Adam Smith (1776); the utilitarian theory of Hume (1752) upon which classical economics was based; Darwin's (1859, 1871) concepts of selection and competition among individuals in biological evolution; and Mathus's (1798) theory of population growth and diminishing returns.

8. Speaking of Giddens's and Bourdieu's newer practice frameworks in contrast to earlier symbolic interactionism and transactionalism, Ortner (1984:147) writes, "Marxist influence is to be seen in the assumption that the most important forms of action or interaction for analytic purposes are those which take place in asymmetrical or dominated relations, that it is these forms of action or interaction that best explain the shape of any given system at any given time . . . the approach tends to highlight social asymmetry as the most important dimension of both action and structure." Bourdieu's and Giddens's focus on domination derived from their reading of Marx and Marxist anthropologists, though both Bourdieu and Giddens broke from Marx in other substantial ways (Giddens 1984; Mahar 1990:4–6).

9. Bourdieu's (1970:190) distinction between domination that is systemic, established, and reproduced largely unconsciously through the habitus and domination that is effected by the direct power of one person over another is paralleled by Wolf's (1990, 1999:5–6) contrast between "structural power" (his fourth kind of power) and "the power of an ego to impose its will on an alter" (his second kind of power).

10. Strathern (1981:168) notes that the individual is a "particular cultural type [of person] rather than a self-evident analytical category". See also Dornan (2002:315) and references therein.

11. "The Creek entities—'all my relations'—male, female, human and non-human, known and unknown, are all part of a continuum of energy [*boea fikcha*/*puyvfekcv*] that is at the heart of the universe" (Chaudhuri and Chaudhuri 2001:2). "*Ibofanga* is above us all and is the unifying principle in the entire energy field which is existence. The field includes links between various entities. . . . Very traditional Creeks will talk about *figi*/*feke*, the heart, which provided the terminal for exchange of *boea fikcha*/*puyvfekcv* energy in the field of energy that belongs to *thakko boea fikcha*, the grand energy or spirit, which is ultimately*Ibofanga*, which is the sacred name and not even mentioned. It is all-pervasive and invincible." (Chaudhuri and Chaudhuri, p. 24)

Even in the European tradition, during the Early Middle Ages, prior to the concept of a Last Judgment, the idea of the individual as an independent being was more muted (Ariès 1981; Despelder and Strickland 1983:58–63).

12. Closely related to, but conceptually distinct from, relational and continuous notions of the self is the ethos

of egalitarianism, in which others are seen on a par with oneself and a close extension of oneself through the ethic and demonstration of generalized reciprocity. In egalitarian societies, personal welfare is viewed in terms of group welfare. Generalized reciprocity, in turn, discourages interpersonal competition for personal gain, personal material accumulation, and self-aggrandizement. These ends are shunned and thwarted in societies with an egalitarian ethos through a variety of leveling mechanisms and cultural institutions (e.g., Boehm 1993; Flanagan 1989), and cooperation is instead emphasized. Wiessner (2002:251) summarizes that among the San and Hadza, children are enculturated to avoid competition and to be cooperative through the depreciation of competitive games (Konner 1972; Marshall 1976; Sbrezny 1976), and adult competition is suppressed through cultural institutions and leveling actions (Lee 1993; Marshall 1976). In other societies with egalitarian outlooks, such as the Enga of New Guinea, competition among individuals is permitted in certain restricted arenas but aligned with the goal of group welfare and channeled through it (Wiessner 2002:249, 250).

13. See also Lankford 1987:61–63 for the Cherokee myth, the Daughter of the Sun, in which two heros are selected from among humans to kill the personified Sun deity, who is causing humanity problems.

14. Historic Native Americans of the Upper Great Lakes believed in manitous—powerful heroic, tricky, or menacing spirits that transformed themselves into animals, plants, elements of the landscape, and humans to disguise themselves from each other and from humans. Manitous were equated with these physical forms but also attributed human characteristics. Through ritual offerings, they were treated as human trading partners, because they behaved like them—they were haughty, insatiable, and unpredictable (S. R. Martin 1999:200–201, 211).

15. Hundreds of pearl beads were used to encircle each of Burials 2, 3, 4, and 5 under Mound 1 at Seip (Shetrone and Greenman 1931:374–376, figures 12, 13), and several thousands were placed around Burial 7 under Mound 25 at the Hopewell site (Shetrone 1926:64). Mica mirrors were put below Burials 1A–1D under Mound 13 at Mound City, and around these burials a ridge of soil containing many galena cubes and pearl and shell beads was constructed and covered with mica mirrors (Mills 1922:448–452, figure 11). Huge mica sheets were placed on top of Burial 9 under Mound 7 at Mound City (Mills 1922:489–494, figures 31, 32). Seven conch shells were placed around the perimeter of Burial 13 under Mound 7 at Mound City. Light-colored stones were placed in a circle around the crematory basin, cremation remains, and obsidian deposit under Mound 11 at the Hopewell site (Shetrone 1926:39–43, figure 10) and around Burial 1 under Mound 20 at Hopewell (Shetrone 1926:52–53, figure 17). A minimum of 66 burials of 854 at 33 sites in Ohio had water barriers, most commonly made of light-colored stones (Case and Carr n.d.).

16. Water barriers of gravel and cobbles were a part of Mounds 1 and 2 at Seip (Greber 1979a:figures 1, 7), the Edwin Harness Mound at Liberty (Greber 1983:figure 1.1), and Mounds 1, 3 through 7, 9, 12, and 14 at the Turner site (Willoughby and Hooton 1922:31, 33, 36, 64, 77, 78, 81, 84, figures 13, 15, 17, 28, 36, 37, 39, 41).

17. Very few archaeological mortuary analyses have aimed at defining in detail the roles that a society encompasses—for example, various kinds of leadership in warfare, the hunt, ceremony, and other domains; curing; rainmaking; and such (but see Howell 1995). Instead, focus has historically been on measuring the relative prestige of individuals (e.g., McGuire 1988; Pearson 1999:78–79; Tainter 1978). Materially, emphasis has been on "symbols of status, rank, or authority" (e.g., J. A. Brown 1981; Binford 1971:23) rather than symbols of specific roles. The one area of significant exception is the search for gender roles (e.g., Howell 1995; Pearson 1999:95–110; Rothschild 1979).

Chapter **2**

Historical Insight into the Directions and Limitations of Recent Research on Hopewell

Christopher Carr

The nature of "Hopewell" has not easily been defined through archaeological study and discussion. The term, "Hopewell", has been used professionally in multiple ways over the last century, and this remains the case today, even as Americanist archaeology has become more systematic and sensitive in applying sociocultural anthropological concepts to archaeological patterns. Modern anthropological archaeologists have sought to identify and understand Hopewell in the wide sharing of certain material traits and cultural practices over eastern North America (e.g., Caldwell 1964; Seeman 1995; Struever 1964), in their local cultural manifestations (e.g., Greber 1976, 1997; Pacheco 1996), and in the local and interregional ecological–evolutionary foundations of Middle Woodland cultures (e.g., Braun 1986; Dancey 1996a; Ford 1974; Struever 1964:96–105; Wymer 1987a). The most basic issue of whether Hopewell was an interregional, a local, or a multiscalar phenomenon has yet to be settled, let alone its specific sociocultural features and the particular cultural, historical, and natural factors that led to it.

Although a consensus on what constitutes Hopewell remains at a distance, in recent decades, one professional view of it has become especially popular. In that view, Hopewell is seen as the practices, ideas, and material–symbolic representations, especially religious and social ones, that were shared widely among Middle Woodland societies of eastern North America. These widely distributed cultural forms are contrasted with more variable, local secular and domestic cultural traditions. The dichotomy is rooted historically in Caldwell's (1964) and Struever's (1964, 1965) definition of Hopewell as an interregional, religious or socioreligious phenomenon apart from local cultural ways, especially subsistence and settlement practices.

Significantly, by conceiving of Hopewell in interregional terms, and as different in kind from local culture, modern archaeologists have often inadvertently constrained the scope of Hopewellian research. Three trends are apparent. (1) There has been a tendency to *decontextualize* Hopewell—to take it out of its local contexts. (2) There has been a stronger trend to *impersonalize* Hopewell—to remove it from the social actors and roles that produced it at given locales. (3) As a consequence of both of the first two constraints, the ability of archaeologists to *generate*

panregional Hopewell from local dynamics, and to understand it in a bottom-up fashion, has been diminished.

This chapter has two goals. First is to provide a conceptually broad, historical review of what has been said about the nature of Hopewell in anthropological terms in recent decades. This review serves as a backdrop to the chapter's second goal: to delineate some research issues in Hopewell archaeology that remain largely unexplored and that seem fundamental today. Especially key here are topics that locally contextualize and personalize Hopewell and that generate its interregional manifestations from local scenes. Both discussions, of historical viewpoints and of current fundamental issues, provide a context for understanding why the studies presented in this book have been undertaken and their significance.

This chapter begins by expanding the currently popular definition of Hopewell to include not only interregional socioreligious practices, ideas, and material forms, but also their local socioreligious counterparts and variant expressions. An "interregional Hopewell" and a "local Hopewell" are defined, and significantly so as to overlap in their cultural characteristics rather than be qualitatively distinct. This inclusion of certain local socioreligious ways within the concept of Hopewell is reasonable when one realizes that the specific means by which Hopewellian practices, ideas, and symbols came to be disseminated across multiple traditions—possibly through pilgrimage, travel to buy ceremonial rites from distant peoples, and intermarriage, to name a few—by definition were aspects of local cultural practices as much as they were interregional forms of interaction, and involved persons who were motivated by local cultural ideas, practices, and natural conditions. A conceptual framework that acknowledges both the local and the interregional faces of Hopewellian ways also naturally encourages the investigation of local peoples originating, following, and/or modifying interregionally known practices and beliefs—the active generation of interregional Hopewellian patterns from local cultural contexts.

In light of this revised, locally sensitive conceptualization of Hopewell, previous understandings of it are then reviewed for whether they have been personalized with actors in roles, have contextualized Hopewell in local society, culture, and history, and have generated Hopewell in its interregional guise from local human needs and motives. The review shows that although some research over the last 40 years has contextualized Hopewell in local practices and ideas, rarely has it been personalized with social actors in known roles, relations, and numbers, and seldom have interregional cultural distributions been explained with reference to actors and motivations at the local level, other than generalized ecological matters like subsistence risk (Braun 1986; Ford 1974; Hall 1973) and surplus (Struever 1964). For example, absent or rare from the literature are attempts to empirically establish the particular roles of Hopewellian leaders in ceremonial and secular affairs; the gender, totemic group, community, or rank group affiliations of leaders; the social compositions of ceremonial gatherings; or the social, political, religious, and/or personal agendas of those individuals who, by one means or another, came to spread Hopewellian goods, practices, and ideas interregionally. Such omissions in the personalizing and generating of Hopewell cannot be attributed to a silent archaeological record, for Hopewellian mortuary, architectural, and artifactual stylistic data are ripe with sociological details. Instead, these kinds of lacunae can be shown to have originated in Caldwell's and Struever's influential definition of Hopewell as an interregional phenomenon separate from local culture.

At the same time, certain modern studies are found here to have given Hopewell local expression, and these help to identify key topics for further work through which a locally contextualized, personalized, and generated "Hopewell" can be explored. The studies include ones by Buikstra, Carr, Charles, Greber, Griffin, Pacheco, Prufer, Smith, and Wymer. The fruitful topics to which their works point are local community organization, local social organization, ceremonies and other activities that were performed within and around ceremonial centers, the nature of ceremonies in the daily domestic sphere and their relationships to those in the corporate sphere, the organizational diversity of Hopewellian societies

over the Eastern Woodlands, and the religious basis for the spread of Hopewellian ideas and practices across the Woodlands. An additional subject that is suggested here for future study is the worldviews and more specific religious beliefs of local Hopewellian traditions, and the elements of these that were or were not shared across the Woodlands. All of these topics are the focus of the remaining chapters of this book, where fine-grained reconstructions of local and interregional Hopewellian ways are assembled.

Let me be clear at the outset that the review provided here is not intended as a criticism of the agendas, fieldwork, and/or ideas of specific individuals or traditions of past archaeological research. It is a suite of observations, presented instead as a heuristic means for searching out topics of inquiry on Hopewell that are now wanting and through which the discipline can grow. Sciences typically move from one topic of active investigation to another, and seldom are holistic, integrative, and complete in their viewpoint at any single point in time. One would naturally expect that the anthropological archaeological exploration of Hopewell would follow this general pattern, and that varying topics would be emphasized or left unexplored during specific eras of research. This chapter is offered in the spirit that growth in an academic discipline is encouraged by its self-reflection and the bringing of its perspectives, their strengths, and their limitations to consciousness.

My observations on Joseph Caldwell's and Stuart Struever's concepts of Hopewell and the Hopewell Interaction Sphere, in particular, which are central to this chapter, are offered in this light. Midwestern archaeologists owe a special debt to Caldwell and Struever, whose thoughts about Hopewell have stimulated and guided a tremendous amount of work on the subject across Eastern North America for forty years.

A PERSPECTIVE ON DEFINITIONS OF HOPEWELL

"Interregional Hopewell" and "Local Hopewell" Defined

To understand the nature of Caldwell's and Struever's definition of Hopewell and its role in guiding recent research, it is first necessary to make a formal, heuristic distinction between, what I call here, interregional Hopewell and local Hopewell. *Interregional Hopewell* is defined here to have been comprised of the cultural practices (especially social and ritual), the ideas or meta-ideas (especially social and religious), and their material–symbolic representations that are generally similar and were shared among two or more Middle Woodland traditions across the midcontinent. In contrast, *local Hopewell* was the local counterpart or particular variant of expression of some of those widely spread cultural practices, ideas, and forms. In some cases, local Hopewellian practices, ideas, and forms were one and the same as those constituting interregional Hopewell. In most cases, however, as shall be shown in this book, they were local interpretations or expressions of practices, ideas, and forms obtained from other regional cultural traditions (see especially Chapters 10, 11, and 17 through 20). Commonly, local Hopewell was a reworking of only select elements of a set of practices, ideas, and/or forms from one or more other regional traditions into a local form; and the reworking was sometimes quite intensive, and the resulting practices, ideas, and/or forms were sometimes similar to their ancestral ones in only a surficial and most general way (e.g., Chapter 18).

In this view, which is empirically supported by the studies in this book and cited literature, interregional Hopewell was a composite of multiple, diverse kinds of practices, ideas, and symbols, which had their origins in multiple, differing regional traditions and were shared or operated at multiple, different supraregional scales (e.g., Seeman 1995). Interregional Hopewell was not a single, coherent entity (contra Caldwell 1964; Struever 1964; Struever and Houart 1972). In contrast, local Hopewellian practices, ideas, and symbols within a single regional tradition probably meshed together more closely. Although they may have had diverse culture historical origins, they were culturally selected relative to local culture and each other within an operating, local cultural system.

These two definitions have several important implications. First, notice that *both* interregional and local Hopewell are conceived of as

being similar in nature—social, religious, and symbolic—rather than qualitatively distinct. For example, interregional Hopewell included the ritual procurement or trade of various raw materials (Brose 1990; Seeman 1979), and may have involved the buying and selling of rites to ceremonies and paraphernalia among different peoples (Penney 1989), the practices of spirit adoption (Hall 1997), pilgrimage (Ruby and Shriner Chapter 15), and/or other mechanisms of interregional interaction. Yet each of these socioreligious interregional practices would also have had local socioreligious, (i.e., "local Hopewellian") manifestations, because they originated from or occurred within local social and ritual contexts. For example, the traveling of a person a great distance to buy and learn a ceremonial rite and how to make ceremonial paraphernalia in a prescribed style (e.g., Hopewell ware) from a member of another society would constitute "interregional Hopewell" in the sense of a process of socioreligious interaction of two distant parties as well as the resultant sharing of ceremony and paraphernalia by them. At the same time, the ceremonies and paraphernalia would have been used locally, within local sociocultural contexts, by both parties, constituting "local Hopewell". It would be illogical, then, to define a social, religious, and symbolic "Hopewell" at only the interregional scale, without local counterparts and qualitatively distinct from local culture. This conclusion is very relevant to, and in contrast with, how Caldwell (1964) and Struever (1964, 1965) defined Hopewell—as an interregional-scale phenomenon different in kind from and apart from local culture—as described below.

Second, local Hopewell is defined here as a local "variant" of an interregionally distributed practice/idea/form or as a "counterpart" of an interregional practice/idea/form. The concept of variants is easy to understand. For example, metal-jacketed panpipes are a widespread, interregional Hopewellian form, but they appear to have served somewhat different ceremonial roles in different Hopewellian traditions (Turff and Carr, Chapter 18). The concept of the counterpart is less obvious. It suggests that certain local practices are impossible to separate operationally from their interregional counterparts, and that the concept of local variants is ir-

relevant to them. For example, persons who may have traveled to far-off ceremonial centers on interregional pilgrimages—a potential form of interregional interaction that is recognized by archaeologists as "Hopewellian" from an interregional perspective—would have taken their pilgrimages in accord with local social and religious ideas about pilgrimage and as a part of local cultural practice. The practice of taking a pilgrimage interregionally *was* a local practice. For this and some other kinds of interregional interaction, it is not possible to isolate the interregional from the local—they are virtually the same activity. If the practice is termed "Hopewellian" from an interregional perspective, then a local Hopewell must also exist. As we will see, this equivalency of interregional and local Hopewell in some situations was not envisioned by Caldwell (1964) and Struever (1964, 1965) when they defined Hopewell from an interregional view.

Finally, in locating Hopewell both locally and interregionally, it is also essential to see various facets of it having had a place in both the local corporate ceremonial sphere and the local domestic domain. The occurrence of some standardly recognized interregional "Hopewell Interactions Sphere" items in both mortuary and domestic sites calls our attention to interregional Hopewellian concepts and ceremonies having had expression not only in local corporate–ceremonial centers, but also in local settlements. Examples of items found in both domains include mica, copper, obsidian, galena, bear canines, figurines, fancy pottery, and pipes in Illinois (Carr 1982a:229-236; Stafford and Sant 1985:175); mica, copper, galena, figurines, and fancy pottery in Indiana (Keller and Carr, Chapter 11; Kellar 1979:105–106); and mica, copper, ornaments of mica and copper, bear canines, figurines, and fancy pottery in Ohio (Dancey and Pacheco 1997b, esp. Kozarek 1997:138 therein; Prufer et al. 1965). Likewise, the finding of tobacco seeds at the Smiling Dan settlement in Illinois (Asch and Asch 1985a:384–386) and of smoking pipes in corporate ceremonial and mortuary contexts reinforces the view of Hopewellian ritual in the local domestic sphere. In this book, the roles of terra cotta figurines in both domestic rituals and corporate ceremonial ones are considered

(Keller and Carr, Chapter 11). One can ponder the degree to which other interregionally similar Hopewellian concepts, rituals, and symbols in corporate ceremonial contexts were played out in local domestic and "utilitarian" contexts: for example, as expressed in the isomorphism between copper celts placed in burials and mortuary caches of northern Hopewellian traditions, stone celts used in clearing forests to build earthwork or mound centers and their extensive wooden architecture, and stone celts used in clearing the swidden garden plots of dispersed Ohio Hopewell hamlets (Bernardini and Carr, Chapter 17). Native American philosophical–religious ideas and meta-ideas, some shared widely over broad parts of the continent (Gill 1982), historically were woven into the fabric of both corporate and domestic social, economic, political, and technological practices. It is reasonable to envision the same for Hopewellian life, particularly in light of archaeological evidence of the kinds just mentioned.

In sum, it seems appropriate conceptually and empirically to define both an interregional and a local Hopewell, and to define them so as to share cultural characteristics rather than being qualitatively distinct. By doing so, one can very naturally explore a local people originating, following, and/or modifying interregionally distributed and more or less similar practices and beliefs. In this way, interregional Hopewell can be contextualized, personalized, and generated in relation to local Hopewell.

Caldwell and Struever's Definitions of Hopewell

Historically, the characteristics of interregional Hopewell and local Hopewell as defined above were not made by Caldwell (1964:138) and Struever (1964:88, 1965:216–218) in their definition of a Hopewell Interaction Sphere. Both Caldwell and Struever defined the Hopewell Interaction Sphere at the interregional level *apart* from more local cultural traditions and practices. In particular, they separated "religious", "mortuary–ceremonial", and "logistical" or "exchange" practices that were shared interregionally among peoples from local "secular", "domestic", and societal matters (especially

subsistence and settlement) that differed among peoples:

> Having pondered some time the nature of the historical situation represented by Hopewellian materials, it seemed to me that the salient features were two: striking regional differences in the secular, domestic, and non-mortuary aspects of the widespread Hopewellian remains; and an interesting, if short, list of exact similarities in funerary usages and mortuary artifacts over great distances. Secular regional differences fitted the idea that there were a number of regional traditions (culture areas in depth) involved in the situation. . . . Exact similarities in mortuary materials which held a significant number of instances seemed to fit, on the other hand, a conception of various societies in interaction. The shared items, which indicate the interactions, are principally mortuary-ceremonial or 'religious.' Whatever the exact nature of the connections established among these societies, they were of a mortuary-ceremonial or religious kind. (Caldwell 1964:138)

> It has been noted that certain Middle Woodland complexes share what are termed Hopewellian items. . . . These distinctive artifacts appear to have functioned primarily in a social subsystem in which they were associated with high-status positions. Significantly, however, artifacts associated with subsistence activities often differ stylistically between these same regional expressions. . . . These riverine groups . . . participated in a system of exchange by means of which the diagnostic Hopewellian forms circulated among them. The term "Hopewellian interaction sphere" was coined to describe this phenomenon. (Struever 1965:216–218)

Thus, the definition of "Hopewell" offered by Caldwell and Struever contrasts distinctly from the definitions offered here. The concept of Hopewell as a religious, social, and material symbolic phenomenon was associated by Caldwell and Struever with the interregional scale, did not explicitly give a conceptual place to Hopewellian socioreligious ideas, practices, and symbols at the local level, and did not envision the equivalency of some interregional-scale practices with local cultural behavior (e.g., the pilgrimage case of "counterparts", above).

Caldwell's and Struever's characterizations of the formal organization of similarities and

differences among Middle Woodland archaeo-
logical records were influential because they
gave archaeologists a clear format for describ-
ing the record in its multidimensional and mul-
tiscalar complexity and for interpreting it. How-
ever, by defining an interregional Hopewell (re-
ligious or economic) that was different in *kind*
from local culture, they also inadvertently took
interregional Hopewell out of its local context
(i.e., decontextualized it) and removed it from
local social actors and roles (i.e., impersonalized
it). Their envisioning interregional Hopewell as
qualitatively distinct from local societies has also
made it logically difficult to generate interregi-
onal Hopewell from local dynamics, bottom-up.

Struever came closer than did Caldwell to
defining a locally contextualized Hopewell in
some places:

> It is clear from the evidence that considerable
> local reinterpretation of diagnostic Hopewell
> artifact forms and ideological concepts (as re-
> flected chiefly in the structure of burial) oc-
> curred. (Struever 1964:88)

And again,

> It tends to be overlooked that, while final dis-
> position of Hopewell items was usually in the
> graves of selected dead, this neither makes these
> specifically mortuary goods nor indicates that
> *the various local expressions* were part of any
> pan-regional burial complex or cult. There is
> ample evidence . . . that typical Hopewell fin-
> ished goods and raw materials were *kept and
> utilized in the community* where they were fre-
> quently lost. In short, the artifacts and materi-
> als circulated within the Hopewell Interaction
> Sphere were not mortuary items per se. It is
> better to conceive of them as status-specific ob-
> jects which *functioned in various ritual and so-
> cial contexts within community life*. (Struever
> 1964:88; emphases added)

In addition, Struever (1968a:307–308) recog-
nized the place of both "regional exchange cen-
ters" (e.g., Mound House site) and "mortuary
camps" for specialized, burial mound-focused
activities (e.g., Peisker site) within the Havana
subsistence-settlement system. He attempted to
articulate regional and local aspects of Hopewell
in this way. At the same time, however, the pri-

mary thrust of Struever's (1964, 1965) view was
that a Hopewell Interaction Sphere, at first unde-
fined in nature by him and then seen by him as an
exchange system, was distinct from and spanned
local cultures of markedly different social orga-
nization and social practices.

In their later work on the Hopewell Inter-
action Sphere, Struever and Houart (1972) gave
more attention to local Hopewell and to connect-
ing local Hopewellian practices and interaction
with interregional Hopewellian interaction. This
was done in two ways. First, they described dif-
ferences among local traditions in the kinds of
Interaction Sphere raw materials that were ac-
cumulated and worked in them (Struever and
Houart, p. 57, table 1). Within Ohio, they used
this kind of evidence to posit the specialized pro-
duction of artifacts made of different raw mate-
rials by different earthwork centers (Struever
and Houart, p. 68–73). Second, Struever and
Houart proposed a hierarchical network of raw
material exchange that ranged in scale from the
interregional through the interlocal to the intralo-
cal. Hypothetical regional transaction centers, lo-
cal transaction centers, and supporting local set-
tlements were identified (Struever and Houart,
p. 64). However, the point of these discussions
was not to detail local Hopewellian exchange and
cultural life (i.e., to place Hopewell in a local
context), but to suggest how interregional dis-
tributions of interaction sphere goods had come
to be. This emphasis of Struever and Houart's
on the interregional is evidenced in the framing,
introductory, and concluding statements of their
article and the bulk of attention given in it to
interregional-scale patterning.

Immediate Impacts of Caldwell's and Struever's Views

Caldwell's and Struever's interregional-focused
definition of Hopewell had a strong role in set-
ting the agenda of research on Hopewell there-
after. This can be seen in two broad, historical
trends. First is the great array of studies after
1964 that focused on interregional Hopewellian
"exchange" of raw materials (Brose 1990; Carr
and Sears 1985; Goad 1978, 1979; Hatch et al.
1990; Hughes 2000; Spence and Fryer 1990,

1996; Struever and Houart 1972; Walthall 1981; Walthall et al. 1979, 1980), as well as artifacts and ideas (Penney 1989; Smith 1979; Toth 1979). Considerable effort was dedicated in the benchmark conference on Hopewell at Chillicothe, Ohio, in 1978, to "external relationships", as evidenced in paper titles such as "The Hopewell Connection in Southwest Georgia" and "The Marksville Connection". Debate over the cultural nature of Caldwell's and Struever's interregional Hopewell Interaction Sphere (Griffin 1965; Hatch et al. 1900; Seeman 1979a; Struever and Houart 1972) was a dominant topic for more than fifteen years, and remains strong today (e.g., Hughes 2000; Stoltman 2000; Wiant n.d.). In all of these studies, emphasis was placed on linkages between speci fic, distant cultural complexes or the overall structure of the network of "interactions," rather than on the local practices and conditions that led to the wide distributions of cultural simi larities. That which was Hopewell was, to a considerable degree, decontextualized, imper sonalized, and not derived from within local societies.

The identification of "Hopewell" with the interregional scale, and specifically with interregional interaction, from 1964 onward, was well expressed by Seeman (1979a):

> The Hopewell phenomenon is seen currently by many archaeologists as a series of "interaction spheres. . . ." (Seeman, p. 237)

> ". . . There has been an increased tendency to view Hopewell sites and complexes as comprising a closely integrated system centering on interregional trade. The current picture is one of a highly complex trading system existing among cultural units with different adapatations, but roughly equivalent levels of cultural development. (Seeman, p. 247–248)

The influence of Caldwell's and Struever's interregional definition of Hopewell on the thrust of archaeological research can be seen in a second historical trend. Since 1964, and especially in Illinois, a subtle but significant shift occurred in the terminology and research orientation of archaeologists, from "Hopewell" at the local level to "Middle Woodland" at the local level. "Hopewell" was relegated to an interregional

phenomenon and removed from local culture: "a distinction exists between the Middle Woodland regional traditions and Hopewell" (Struever and Houart 1972:49). This change was not simply one of referring to local Hopewellian societies by time period rather than cultural affiliation, but a more fundamental, practical narrowing of research on local cultural systems from whole systems to subsistence and settlement. For example, whereas Deuel (1952) and colleagues investigated "Hopewellian communities" in Illinois, including many aspects of their culture in both the domestic and the mortuary realms (see also Griffin 1952b:358–361; Morgan 1952), Struever (1968a) came to focus more narrowly on [Middle] "Woodland subsistence-settlement systems" apart from religious, mortuary–ceremonial, and other aspects of local culture.[1] Subsequent archaeological research in the lower Illinois valley has largely followed suit (e.g., Farnsworth 1973; Farnsworth and Koski 1985; Parmalee et al. 1972; Stafford and Sant 1985; Styles 1981; Zawacki and Hausfater 1969; but see McGimsey and Wiant 1986 and the efforts of Buikstra and Charles discussed below). This change in research orientation derived directly from Caldwell and Struever's definition of Hopewell as an interregional phenomenon distinct from local culture and the equation of the latter with secular, domestic, and nonmortuary activity, especially subsistence and settlement. In this research trend, that which was Hopewell was not decontextualized and impersonalized as much as it was set aside paradigmatically. This book attempts, in part, to return Hopewell to local domestic contexts and communities.

For greater detail on the history of definitions and concepts of Hopewell by other, earlier researchers and a justification of the new terms, interregional Hopewell and local Hopewell, used here, see Note 2.

HOPEWELL ARCHAEOLOGY AFTER CALDWELL AND STRUEVER

Not all archaeologists of Hopewellian records were heavily influenced by Caldwell's and Struever's interregional definition and view of

Hopewell. In the remainder of this historical review, the conceptualization of Hopewell and the research topics of a number of archaeologists who have given Hopewell local expression are presented. These discussions will suggest avenues by which a contextualized, personalized, and generated "Hopewell" can be explored and will evoke some key topics for future work. The suggested topics are summarized at the end of the chapter.

Griffin and Smith

In his later years, Griffin (1967:183–186) clearly defined Hopewell as a local phenomenon, emphasizing local societies, cultural traditions, and their unique and shared ways. For example, Ohio and Illinois Hopewell were seen as "two regional developments [that] followed parallel but distinctive paths, with diffusion of ideas and practices between them" (Griffin 1967:184). Even early in his synthesizing career, he characterized various regional Middle Woodland traditions as Hopewellian or not based on the similarity of their material culture and cultural practices to those of the local Ohio Hopewell tradition (Griffin 1946:72, 1952b:358), not on their having traits that were widely distributed per se. Griffin did not embrace the construct of a Hopewell Interaction Sphere as a reified entity, or tie his definition of Hopewell to it. Griffin also saw the distribution of Hopewellian traits over the Woodlands as attributable to multiple processes that varied among regional traditions, not to a singular, pan-Woodland mechanism. For example, Hopewellian traits in northwestern Indiana and southwestern Michigan were thought to have resulted from a population expansion in the Illinois valley and movement into these areas, whereas Hopwellian traits in the Allegheny valley, New York, and Ontario were considered to reflect either population movements or influence. Exotic raw materials were seen as having been obtained by multiple regional traditions independently of one another, while some finished goods were thought to have been traded from Ohio to distant regional traditions (Griffin 1967:184, 186). In all these ways, Griffin kept Hopewell in its local context.

Two specific examples of Griffin's ideas show well how he saw Hopewell as a local phenomenon and interregional patterning as derived from local-level practices. First, he took a strong stance that fancy Hopewell ware was not a mortuary-specific ware used solely in mortuary–Interaction Sphere contexts. He repeatedly pointed out the use and deposition of Hopewell ware in domestic areas, as well as its placement in burial mounds with other Interaction Sphere artifact classes (e.g., Griffin 1952a:114–115, 1967:186). The logical correlate of this archaeological distribution is that ceremonies or other cultural practices with an identifiable Hopewellian element occurred locally in both domestic and mortuary–Interaction Sphere contexts—a situation that Griffin directly addressed:

> Since the 1840s when Squire and Davis dug in the famous Ohio Hopewell sites, this pottery [Hopewell ware] has been recognized as one of the finest products of the prehistoric potters of the eastern United States. As time went on and additional excavations were made in the Hopewelll mound groups, this style of pottery was regarded as *the* typical Hopewell [across the East], because it was associated with burials as part of the funerary deposit.... Village site and mound excavations and collections from Illinois in the past twenty years have helped to provide a more acceptable interpretation. As a result of this work, it is perfectly clear that for a period during the life of the Illinois Hopewell culture . . . this pottery style was made not only for use with burials, but also was extensively employed in non-burial facets of the culture. There can be no question but what these carefully made vessels were of more than ordinary significance. They were not, however, limited to a single role in community life. (Griffin 1952a:114–115)

Thus, Griffin linked the funerary with the domestic and bridged a marker of interregional Hopewell as defined here to local Hopewell. (See also Struever 1964:88, quoted above.)

Second, Griffin (1965, 1973) argued directly against Struever's idea that an interregional exchange system, distinct from local cultures and cultural practices, was responsible for the

occurrence of all kinds of exotic raw materials within Hopewellian mortuary centers. Griffin pointed out that the great majority of obsidian in the Midwest was found in one burial in Ohio, was not redistributed within or outside of Ohio in an exchange network to any significant extent, and more likely was obtained in one or a very few logistical canoe trips from Ohio to the Yellowstone region and back. In this way, the interregional distribution of obsidian away from its sources (interregional Hopewell) was attributed by Griffin to the ceremonial–social actions of individuals at the local level (i.e., local Hopewell) within Ohio. To some degree, Hopewell was contextualized and interregional Hopewell was generated from local Hopewell.

Bruce Smith followed his mentor, James B. Griffin, in retaining a place for Hopewell at the local level, in contextualizing it, and in attempting to derive it from local cultural practices; he also personalized it. Smith (1992) explicitly spoke of "Hopewell society" (Smith, p. 243) at the local level and provided a model of its organization. He divided Hopewellian societies into two spheres: a corporate–ceremonial sphere, represented by earthwork–mound complexes and their features, and a domestic sphere, constituted by small farming settlements around the earthwork–mound centers. Instead of associating the earthwork–mound complexes with an interregional Hopewell Interaction Sphere and the farming settlements with regional Middle Woodland traditions, Smith envisioned both earthworks and domestic sites a part of whole, local Hopewellian societies and called both "Hopewell." Thus, he spoke of "Hopewellian farming settlements" (Smith, p. 210, 240); "Hopewellian domestic life" (Smith, p. 213). "Hopewellian farming economies" (Smith, p. 215), and "Hopewellian farmers of Eastern North America" (Smith, p. 201). In these ways, Hopewell was contextualized. Smith (Smith, p. 210–211) also enumerated four kinds of ceremonial activities undertaken in local corporate–ceremonial spheres: mortuary programs, corporate labor, production of ceremonial items for burial and exchange, and redistribution/feasting. By focusing on local ceremonial activities, a more personalized view of Hopewell was presented. Finally, Smith (Smith, p. 211, 213) provided a linkage between the corporate–ceremonial and the domestic spheres of Hopewell societies and allowed the derivation of the corporate from the domestic. For example, he pointed out that the small, single-wall-post, circular building that is a part of the Big House under the Edwin Harness mound, as well as other simple corporate–ceremonial buildings, resemble domestic buildings outside of the earthworks in their general form and/or size.

Ohio Archaeologists and Archaeology

Another intellectual tradition that continued to explore local Hopewell, despite Caldwell's and Struever's guiding viewpoints, is comprised of many Ohio archaeologists from the 1960s to the present. In general, it has been easier for Ohio archaeologists than others to remain focused on local Hopewell and to keep the concept of Hopewell contextualized, in contrast to emphasizing the external, interregional side of Hopewell. This has been the case because the elaborate Ohio archaeological record has long served as a benchmark to which other local traditions were compared when classifying them as Hopewellian, rather than vice versa.

The emphasis of Ohio archaeologists on local Hopewell, and their contextual study of Hopewell, is well illustrated by the works of Olaf Prufer, who was writing at the same time as Struever and Caldwell. Prufer studied all aspects of Ohio Hopewell life as a cultural whole: material culture (artifacts, mounds, earthworks), subsistence, settlement, social organization, religion, various culture-specific practices (e.g., mortuary practices), and physical anthropology. Beginning in his dissertation with a broad comparative study of ceremonial–mortuary remains in Ohio (Prufer 1961a), Prufer (1967) went on to make ground surveys for settlement pattern information on domestic sites, excavated one domestic site, which resulted in a view of subsistence and site function (Prufer et al. 1965), and came full circle to describe the integration of the domestic and ceremonial spheres in what he called the "vacant ceremonial center–dispersed agricultural hamlet" pattern of settlement (Prufer 1964a,

1964b; Prufer et al.1965). External relationships to other Hopewellian phases and trade were a small part of his studies (Prufer 1961a:714–724, 744–747).

Prufer (1964b:93; Prufer et al. 1965:131) concluded, like Caldwell (1964) and Struever (1964), that interregionally shared mortuary practices and material culture during the Middle Woodland evidenced a "ceremonial idea system" or "cult" that "spread independently, or at least largely so, of other cultural elements." He went on to add that interregional exchange was a means by which the religion was spread and vitalized (Prufer 1964b:94, 98; Prufer et al. 1965:132). However, rather than contrasting an interregional Hopewell with local Middle Woodland subsistence-settlement practices, as had Caldwell and Struever, Prufer envisioned the interregionally shared religion operating *within* the local Ohio cultural system. He spoke of "the Ohio Hopewell people" (Prufer 1964b:95) and "Hopewell habitation sites" in Ohio (Prufer, p. 95). For Prufer (1961a:725–726, 1964a:55–59, 1964b:97; Prufer et al. 1965, 133; contra Griffin 1971:239), the local sociocultural system was composed of indigenous Ohio peoples as well as ceremonial and craft specialists of the Hopewell cult, who had probably migrated from Illinois, both groups of which were thought to have depended on each other.[3]

Prufer's integrated, contextually rich view of the local side of Hopewell has been carried on and refined by Paul Pacheco (1993, 1996; Pacheco and Dancey n.d.). Pacheco made a ground survey of one cluster or "community"of dispersed settlements around the small Granville earthworks in the central Muskingum valley, described two similar clusters with associated minor earthworks in the Dresden and Upper Jonathan Creek areas of the Muskingum, and integrated this information with excavation views of several settlements within these clusters and elsewhere (e.g., Dancey 1991; Morton and Carskadden 1987). The three communities occurred around the massive Newark earthworks, enabling Pacheco to propose a model Newark polity comprised of multiple dispersed communities and minor earthworks and comple-

mentary to other major earthwork centers in the Scioto valley, i.e., peer polities (Renfrew 1986). Pacheco (1993:45–53) further contextualized Hopewell in the local scene by relating the disperson of Ohio communities to spatial structuring of the natural Ohio environment and to their generalized niche as swidden horticulturalists–hunters–gathererers.

Pacheco (1993:40–45, 1996:22–24) made his view of local Ohio Hopewell dispersed communities more personal by suggesting their analogy to ethnographically described Mapuche (Dillehay 1990) and Chachi (DeBoer and Blitz 1991) dispersed communities. He noted that the Mapuche's local lineages were tied to defined territories and organized through marriage alliances, and pointed out the variety of social, economic, and religious activities (marriages, burials, other rites of passage, ancestor worship, feasting, dancing) that occur in Mapuche and/or Chachi centers and help to integrate the dispersed populations. In attempting to understand the kinds of activities that occurred at Hopewell ceremonial centers and their linkage to those who lived in surrounding, dispersed settlements, Pacheco's efforts to personalize and contextualize local Hopewell are similar to Bruce Smith's (1992; see above). Pacheco has not tried to link local Ohio Hopewell to interregional interaction as did Prufer.

William Dancey, the close colleague and mentor of Pacheco's, was the first to excavate the layout of an Ohio Hopewell settlement (Dancey 1991) and fruitfully oriented Pacheco toward a community organization approach to the Ohio record (Dancey and Pacheco 1997b). Unlike Pacheco's interests and efforts, however, Dancey's have focused almost completely on issues of domestic settlements and their change from a dispersed, Middle Woodland pattern to an aggregated, early Late Woodland pattern (Dancey 1988, 1992, 1996a). He has not published on the linkage between the corporate–ceremonial and the domestic spheres of local Hopewell or attempted to contextualize it in this way, as have Pacheco, Prufer, and Smith. Nor has Dancey personalized the local Ohio Hopewell record with ethnographic analogs or a consideration of social roles. Dancey's research

efforts and his approach to archaeology stem from his strongly neo-Darwinian viewpoint (e.g., Dancey 1996a; Pacheco and Dancey n.d.), which was championed by his mentor, Robert Dunnell (1980, 1989), coupled with classic settlement pattern and subsistence-settlement system methodology (Binford 1964a; Struever 1968a; Winters 1969). Neo-Darwinian approaches have no place for motivated social actors, nor does Dancey's. In his words, "Understanding the complexity of local culture histories does not require . . . creating ethnographic-like archaeological cultures" (Dancey 1996a:398).

DeeAnne Wymer, a close colleague of Pacheco's and a student of Dancey's, has focused on a line of research complementary to theirs, which has helped to contextualize Hopewell locally. Through detailed studies of the paleoethnobotanical records of five domestic Middle Woodland settlements and two domestic Early Late Woodland settlements in the Licking and Ohio River valleys, Wymer (1992, 1996, 1997) documented the largely stable pattern of use of plant foods over time in Ohio. In fact, contrary to the pattern in Illinois (Wymer 1992:199–205, 211–247), which has previously served to model subsistence change in the Midwest Riverine area (Ford 1974, 1979), usage of nut resources (nut shell density) in Ohio increased somewhat from the Middle to the Early Late Woodland, and reliance on seeds (seed density) decreased. Wymer (1992) used these data to argue that Hopewellian interaction at the local and interregional scales was not undertaken by local populations to buffer themselves from variability in subsistence resources but, instead, for other reasons, perhaps simply religious–ceremonial in nature.

Wymer's specific logic was as follows. Ford (1974, 1979:235–237) had posed that nuts were primary to the diet of Middle Archaic through Middle Woodland peoples because of the productivity of nuts in the environment and their relative ease of gathering; however, they also were unpredictable in their masts from year to year. As Archaic and Woodland peoples became more sedentary, as their populations grew for biological and social reasons, as their gathering territories shrank and they had fewer alternative nut groves within their lands, they were more impacted by annual variation in nut mast production. Trade of food for valuables among neighboring communities, as well as increased cultivation and domestication of seedy plants as a supplement to nut resources, obviated the problem. One result was the development of Late Archaic, down-the-line exchange networks, their elaboration into an interregional Hopewell Interaction Sphere in the Middle Woodland— which symbolically and politically supported local leaders who had a knack for facilitating local trade and subsistence scheduling (Braun 1986:121; Ford 1974). A second result was increasing reliance on more work-intensive but predictable starchy seeds, as evidenced in paleoethnobotanical remains in Illinois. Wymer's paleoethnobotanical data from Ohio do not fit Ford's model, which was based on the Illinois record. This caused her to look beyond subsistence and demography for an understanding of Hopewellian interaction and the nature of Hopewell, and to suggest the importance of religious–ceremonial factors. Thus, Wymer's studies have opened the door to exploring Hopewell in its social, ceremonial, symbolic, and religious ideological guises at the local level.

Among the most contextualized recent studies and interpretations of Hopewell in northern Midwestern societies are those of N'omi Greber and Christopher Carr on Ohio Hopewell and Jane Buikstra and Douglas Charles on Illinois Hopewell. Greber was a doctoral student of David Brose, who was mentored by Griffin. Trained in an approach to Hopewellian archaeology that emphasized the integrity of regional traditions, Greber has produced a series of contextually rich studies, starting with her dissertation. This she entitled *Within Ohio Hopewell* (Greber 1976) specifically so as to contrast with the archaeological emphasis at the time on external, interregional relationships among Hopewellian traditions and the Hopewell Interaction Sphere.

Three topics of research undertaken by Greber over the last 20 years exemplify her concern for contextualizing local Hopewell. First are her reconstructions of local Ohio Hopewellian social structures through mortuary analyses of burial mounds at four sites: Seip, Ater, and Turner (Greber 1976, 1979a) and Hopewell

(Greber and Ruhl 1989). These studies identified two or three fundamental, spatially definable social segments within each mound, and documented differences and/or similarities in the artifact classes, age groups, and sex ratios among the social segments within each mound. The tripartite intramound organization at Seip was seen to echo the tripartite embankment architecture of Seip and four neighboring earthworks, giving a contextualized sense of a local social organizational and ceremonial tradition. Greber gave some attention to buried individuals with extraordinary accompaniments but did not go so far as to define specific kinds of social identities and roles, their relative prestige, principles of recruitment to social identities, or connections with local Hopewellian ceremonialism— one of the thrusts of this book. Instead, in line with paradigmatic goals of the time (J. A. Brown 1971, 1979), Greber attempted to describe the overall social structure and complexity of Hopewellian societies. Her approach to describing Hopewellian society was static, structural, and group-focused (Greber 1979a:37), in the mold of British and American social structural studies of Evans-Pritchard (1940) and Murdock (1949a), rather than dynamic, organizational, and individual-oriented, like the more modern works of Firth (1951), Goffman (1959, 1969), Goodenough (1965), and Nadel (1957). Yet her work was clearly contextually rich. Greber's specific conclusions about whether Hopewellian societies were rank in structure, and their organizational diversity over space, are open to a number of criticisms and to debate (Carr, Chapter 7), but the topics that she addressed are in the range of the contextually sensitive ones considered in this book.

The second research topic of Greber's (1996) that has contextualized local Hopewell, and that also begins to personalize it, is the various kinds of deposits that recur in several earthwork–mound centers across Ohio, or that are unique. Considering the sizes, contents, and locations of the deposits led her to suggest their origin in rituals that were attended by varying numbers of people and scheduled with different periodicities within an overarching, cyclical ritual calendar. Importantly, the largest cycle was

thought by Greber to be evidenced in archaeological features (complementary pairings) that occur in the Miami, central Scioto, lower Muskingum, and Licking drainages, across Ohio, suggesting to her a coherent local and regionally distributed Ohio Hopewell worldview. Here one finds one of the most detailed yet also embracing reconstructions of local Hopewell yet assembled. Greber's qualitative, intuitive study is extended quantitatively, and with sociological information, in Chapter 13, by Carr, Goldstein, and Weets.

The final research topic of Greber's (1997) that has contextualized local Hopewell is her reconstruction of the history of domestic settlement and ceremonial building activities of apparently one local Hopewellian society, represented by the Seip and Baum earthworks. This study was also an explicit attempt by her to link the domestic and corporate–ceremonial spheres. Her arguments were made in four movements. First, she pointed out (Greber, p. 211–212), as did Griffin (see above), that a disjunction cannot be drawn simply between ceremonial and domestic artifacts. Some fancy artifacts such as bear canines, figurines, copper tools, fancy pottery, and cut mica are found in domestic debris in Ohio, as at the McGraw site (Prufer et al. 1965) and, we would add, in many other domestic contexts (see site reports in Dancey and Pacheco 1997b). In her words (Greber 1997, 211–212), "at least portions of the Hopewellian worldview [were] pervasive in the lives of the people." Obversely, prismatic blades, which may have been used to work mica, pipestone, and bone, also are known from use-wear studies to have been applied to many ordinary materials for utilitarian purposes. Clusters of these tools within earthworks like Seip may simply indicate, in Greber's view, secular work areas within the earthworks. Second, through a study of the distribution of middens and artifact-free earths within the Seip–Pricer mound and the embankments at Seip, as well as an instance of reversed stratigraphy, Greber (p. 213–214) argued for considerable domestic activities within the earthworks—on the order of 15 to 20 times those represented by the McGraw site.[4] She (Greber, p. 216) also speculated that once the circular embankment was built around the Seip–Pricer

mound, the enclosed area was no longer acceptable for settlement and domestic activities. Many clusters of domestic debris outside of the Seip enclosure were noted. Third, Greber (p. 215) proposed a 12 to 14-generation history of wooden and earthen construction and ceremony at Seip. She inferred variations through time in the numbers of extended families who were involved in these activities, making her reconstruction more personal. Finally, taking a broader geographic and temporal view, Greber (p. 216–220) speculated that the neighboring, similarly shaped, tripartite earthworks of Seip and Baum were the products of one society, which had domestic settlements throughout the area and moved its ceremonial center and corporate rituals from Seip to Baum, nine kilometers down Paint Creek valley.[5] The move was suggested by Greber (p. 219) to relate to a multigenerational, two-part calendrical cycle, which is also indicated in her eyes by the pairing of other, similarly shaped earthworks in the North Fork and Scioto valleys. Three pairings of earthworks, the calendrical cycle thought to be indicated by them, and the similar, tripartite shapes of five of them, suggested to Greber (p. 220) the existence of overarching design principles and, we would add, a shared worldview. In sum, the fabric that results from the different threads of evidence and argument brought forward by Greber (1997) richly contextualizes local Hopewell, links both its domestic and its corporate–ceremonial sides in terms of settlement and activities, and personalizes it with estimates of the changing numbers of extended families involved in the both the domestic and the ceremonial activites at Seip.

Two studies by Carr and colleagues (Carr and Komorowski 1995; Carr and Maslowski 1995; Hinkle 1984; Yeatts 1990) complement those of Greber in exploring ceremonial interrelations among Hopewellian communities locally in the Scioto drainage in Ohio. Both studies deal with the issues of exchange and alliance formation—one using ceramics from a domestic site, the other using fabrics from earthwork–mound centers. Carr's study of local community interrelations was a natural outgrowth of the similar interests of his mentor, Richard Ford (1974; see above).

Carr and Komorowski (1995) and Yeatts (1990) documented with electron microprobe and petrographic sourcing methods that a significant percentage (up to ca. 15%) of the coarse utilitarian ceramic vessels and finer, probably ceremonial vessels found at the McGraw settlement was exchanged into the site from other households, some in different valleys and as far as 25 kilometers away and clearly within different earthwork-centered communities. The similarities of both the tempers and the clays of some nonlocally produced, course and fine vessels, along with geological patterning, suggested that coarse and fine vessels were sometimes exchanged together and that local utilitarian and valuables exchange sometimes went hand-in-hand, rather than occurred separately in sacred corporate–ceremonial versus profane domestic spheres.

The second study of Carr's (Carr and Maslowski 1995; Hinkle 1984) examined similarities and differences in the styles of fabrics found in seven mound and/or earthwork sites in the adjacent Scioto, Paint Creek, and North Fork drainages in Ohio. The fabrics may have been part of burial shrouds or clothing, and some from one site (Seip) were part of the structure of a tomb. The analytical results suggest that although social/ethnic distinctions among mound/earthwork "communities" in different drainages were expressed stylistically, these distinctions were secondary in visibility and importance to the marking of regionally recognized distinctions within communities, probably different social strata. In particular, stylistic attributes indicating social/ethnic differences were less visible than those probably indicating social strata. This finding in turn suggests that competition among communities probably was not fierce and continuously negotiated by temporary behavioral strategies such as material exchange, political agreements among elite, and stylistic signaling during intraregional gatherings. Instead, it likely was dampened through more permanent and structural alliance mechanisms such as marriage exchange among communities or their burying their dead together in common cemeteries in a shared Hopewellian, ceremonial way. Also consistent empirically with this conclusion

is the occurrence of some fabrics of one community's style within the burial mounds of another community, for several pairings of sites. However, this pattern could also have resulted from simply intercommunity exchange of fabrics. Both of the studies by Carr and his colleagues attempted to richly contextualize ceremonial aspects of Hopewell at the local level.

Taking a broad look at the works by Prufer, Pacheco, Greber, Carr, and Wymer in Ohio, each has taken a different tack to exploring local Hopewell. Prufer contextualized it and integrated its domestic and corporate–ceremonial spheres by freely moving back and forth in his research among the many facets of the cultural and biological life of Ohio Hopewellian peoples. Pacheco contextualized and integrated the corporate–ceremonial and domestic spheres of local Hopewell from the vantage of domestic settlement patterns, and Greber has done so starting with the earthworks. Carr's works contextualized local Hopewell in both the corporate–ceremonial and the domestic domains but did not interrelate them, All four researchers have provided, in their own way, a closer understanding of local Hopewell. Greber's work has, in addition, gone farthest in personalizing local Hopewell. Only Wymer has argued directly from evidence on local Hopewellian practices to the functioning of interregional Hopewell.

Buikstra and Charles

Coming full circle to Illinois archaeology, Jane Buikstra and Douglas Charles did not conceptualize Hopewell in Caldwell's and Struever's terms, unlike many of their contemporaries. Rather, Buikstra and Charles have given Hopewell local expression and integrated its corporate–ceremonial and domestic spheres. These interpretive results were achieved through the eyes of burial mounds. Specifically, the intraregional-scale, multisite mortuary studies by Buikstra and Charles in the lower Illinois valley have documented local Hopewellian ritual practices and systematically placed them within the context of mobility and settlement patterns, regional population densities and histories of movement, and religious ideology.

Buikstra (1976) and Charles (1995; Buikstra and Charles 1999) noted, as had Struever (1968b; Struever and Houart 1972:61), that Middle Woodland populations in the lower Illinois valley built two kinds of burial places in two different locations. Clusters of conical mounds ($n = 11$) were built on bluff crests, separated from habitation sites. Habitations were often situated at the bluff base below the mounds. These cemeteries lack internal spatial organization. Equally common ($n = 12$) are mound groups on the flood plain, with habitation areas adjacent to them. Half of these mound groups ($n = 6$), however, are unique in being dominated by one or two large, loaf-shaped mounds. In addition, some of the latter groups were organized around a "plaza."[6]

Through her mortuary analyses of the bluff-crest Klunk and Gibson mound groups and the flood plain Peisker and Kamp mound groups, Buikstra (1976:41–44) contextualized Hopewell socially at the local scale. She concluded that mounds of both kinds were used by single societies, and that a limited number of prestigious, perhaps high-ranking individuals from a society were buried in a flood plain mound, while most of the society were buried in bluff-crest mounds. Rules of mortuary treatment; the degree of elaboration of the burials; the ages, sexes, and numbers of burials in the mounds; and biological differences supported her inference. Buikstra also entertained the possibility (Buikstra, p. 44) that those buried in flood plain mounds might have been persons influential in intercommunity relations and the Hopewell Interaction Sphere; she thereby related local Hopewell to regional Hopewell.

More recently, Buikstra and Charles (1999; Charles 1995) have interpreted the dichotomy in cemetery types in explicit ideological and ceremonial terms. Following Gluckman (1937) and Morris (1991), they distinguished two kinds of rituals: ancestor cults and mortuary rituals. Ancestor cults attempt to maintain continuity of the living with the deceased in an afterlife, are internal-group focused in that they emphasize lineage unity and shared property, and reaffirm existing social hierarchies and power relationships. Mortuary rituals, being rites of passage, separate the living from the dead, may involve

one or multiple groups and consequently do not necessarily emphasize group unity, and are the locus of disputes over power arrangements among the living. Both kinds of rituals may be intertwined in a mortuary context. Buikstra and Charles (1999:206–215) associated the Illinois bluff-crest cemeteries with single-group ancestor cults and the flood plain cemeteries with multiple-group mortuary rituals of competitive display "ostensibly dedicated to the ancestors but also deeply involved in negotiations for influence among the living" (Charles, p. 208). Unfortunately, these associations were made primarily on the basis of the Middle Woodland bluff-crest versus flood plain mounds having been analogous in location to Middle Archaic cemeteries (Charles, p. 207–209, 215) that do evidence ritual differences clearly in the content, amount, extralocal sources (Charles 1995:84–85), and caching patterns (Charles and Buikstra 1999:209) of their artifacts. More recently, Charles and Buikstra (2002:12) have pointed to the "continual construction and modification" of the flood plain Mound House site and the low numbers of persons generally buried in flood plain mounds as evidence that political activities of display took precedence over burial of lineage members and ancestor worship in these locations.

Charles (1995:87–89) placed this interpretation in a historical framework of population movement and changing density. From habitation and cemetery distributions, he reconstructed that the lower Illinois valley was settled in the Middle Woodland from north to south after having been largely abandoned in late Early Woodland times. As immigration continued and population densities and competition increased through time, mortuary programs at the bluff-crest cemeteries became more complex (two tracks versus one), possibly separating dominant, original immigrant lineages from subordinate, later-arriving lineages. The ultimate result of this process may have been the establishment of flood plain mound centers by dominant lineages for the burial of their elite and for hosting multicommunity earth renewal ceremonies (Buikstra and Charles 1999:215; Buikstra et al. 1998:88; Hall 1979) in which social dominance and competition was played out. In these terms, Hopewell was contextualized in social and historical processes at the local scale.

Although the studies by Greber and by Buikstra and Charles firmly contextualize Hopewell locally, these researchers focused on the corporate ceremonial sphere, to the near-exclusion of the domestic domain. Greber (1997) did emphasize the overlap between the two spheres (see above), but used domestic remains to reconstruct the architectural history of an earthwork and changing locations of apparent settlement relative to it (Greber, p. 213–214, 216) rather than to infer Hopewellian practices and ideas within settlements. Chapter 11, by Keller and Carr, also attempts to link ritual in the corporate–ceremonial and domestic domains, but with artifactual data.

A VISION FOR NEW DIRECTIONS IN RESEARCH ON HOPEWELL

The above examination of how Hopewell has been defined and consequently researched in recent decades reveals that a locally contextualized, actor-based, and generative approach to investigating it has not often been taken in full. Although local cultural ways have been explored to various degrees, local Hopewellian societies have not been personalized through the definition of social roles occupied by motivated social actors, nor have interregional travel, procurement, and interaction been understood through the eyes of local peoples motivated by local human needs and concerns. Yet a personalized, locally contextualized, and generative approach to Hopewellian material records is logically required if Hopewell is recognized to have been certain local cultural practices, ideas, and material–symbolic representations as much as it was their spread over the midcontinent. Moreover, the specific means by which Hopewellian practices, ideas, and symbols came to be disseminated across multiple traditions—possibly pilgrimage, travel to buy ceremonial rites from distant peoples, and intermarriage, for example—by definition were aspects of local cultural practices as much as they were interregional forms of interaction, and involved persons

who were motivated by local cultural ideas, ways, and natural conditions.

The rarer studies that have taken a locally contextualized approach to Hopewell, as reviewed above, provide leads on fruitful topics for future research on Hopewell. At least six topics can be identified, to be discussed, and each can be enriched in the study of local cultural ways with more personalized and generative viewpoints. While previous considerations of the six topics have, for the main, been fairly general in their anthropological reconstructions of Hopewellian life (but see Greber 1979a, 1996, 1997), finer-grained descriptions and understandings that approach the ethnographic and historical are feasible—what I call "thick prehistory" (Carr and Case, Chapter 1). It takes only a change in goals and the assembly of more comprehensive, relevant archaeological data sets to increase the resolution with which we see the past when a vibrant archaeological record is at hand, as the authors of this book demonstrate.

The first topic of inquiry suggested by previous studies of Hopewell is *local community organization*. Past works have considered the relationship of habitations to mound and/or earthwork ceremonial centers, the relationship of multiple ceremonial centers of the same community to each other historically, and the multisite burial programs of individual communities (Buikstra and Charles 1999; Carr and Maslowski 1995; Charles 1995; Greber 1997; Prufer 1964a, 1964b; B. D. Smith 1992). Such studies can be broadened to include the synchronic, functional differentiation of ceremonial centers within particular local communities, changes in the functions and functional diversity of ceremonial sites over time with changing sociopolitical and ritual organization, and the rise and fall of alliances among neighboring communities that met in each other's ceremonial centers and participated together in mortuary and/or other rituals, to name a few elaborations. These additional subjects are explored in Chapters 4, 7, 13, and 14.

The second area of study suggested by past work on Hopewell is *local social organization* and the groups that comprised local societies. This topic was initiated by Greber (1976, 1979a;

Greber and Ruhl 1989) for Ohio Hopewell societies and by Braun (1979), J.A. Brown (1981), Buikstra (1976), and Tainter (1975a, 1977) for the Illinois Havana tradition, largely in relation to the question of whether Hopewellian societies were organized by principles of rank. The topic can easily be expanded, given the detail of Hopewellian mortuary records, to encompass questions about the nature and power bases of leadership, clans and their organization, other sodalities and their organization, gender distinctions and roles, the issue of recruitment to leadership and sodality positions, the relation of recruitment success to social conditions such as wealth, prestige, and size of support network, and changes in any of these local social features with regional intersocietal political factors and other conditions. Many of these additional topics are addressed in Chapters 5 through 11 and 14.

The third subject for future study is the nature of the *ceremonies and other activities that were performed within and around ceremonial centers*, as initiated very generally by Bruce Smith (1992) and in some greater detail by Greber (1996) and Seeman (1979b). This subject can be widened to include the varying sizes of ceremonial gatherings, the spectrum of social roles of participants, the geographically local or distant social affiliations of the participants, the functions of such rituals in local cultural terms (e.g., a local calendar of ceremonies) and more broadly in terms of anthropological characterizations of rituals as social processes (e.g., Gluckman 1937; Morris 1991; Turner 1969; van Gennep 1960), and changes in any of these social conditions over time with other aspects of local culture. These matters are discussed in Chapters 12–15.

The fourth topic that is only broached by previous studies of Hopewell but is central to understanding it is the nature of *ceremonies in the daily domestic sphere* and their similarities to, differences from, and relationships to ceremonies in the corporate sphere. Greber (1997) and Griffin (1952a, 1967) both emphasized this bridging of the domestic and corporate worlds but spoke little beyond the artifact classes shared in both arenas. Headway on this topic, in terms of detailed contextual analyses and cultural interpretations, is

made in Chapter 11 for one artifact class—human figurines. The topic is clearly difficult, for the scarcity of telling evidence of rituals in habitation sites. In Ohio, studies of mica, which is the most common fancy raw material in habitation sites there (see site reports in Dancey and Pacheco 1997a, b) and which also is plentiful in mounds and earthwork interiors, may also turn out to be fruitful.

Turning to the broader regional and interregional scales, the fifth subject for future consideration is the *organizational diversity* of Hopewellian societies in the Eastern Woodlands. Systematic investigations of this issue were begun by Struever (1965), in his comparison of Havana and Ohio Hopewell, and by Greber (1979a), in her examination of Hopewell in the Scioto and Little Miami valleys of Ohio and, more locally, within the Scioto valley itself. Here, organizational diversity is reexamined for the Illinois and Ohio comparison in Chapters 6 and 7, within Ohio in Chapters 7, 8, and 10, and broadly, over the entire Woodlands, in Chapter 18.

The final subject of inquiry suggested by past research on Hopewell is the *religious basis* for the spread of Hopewellian ideas and practices across the Woodlands. This possibility was first proposed by Caldwell (1964) from the wide distribution of similar religious artifacts across Hopewellian traditions in the Woodlands, and reiterated with greater specificity by Prufer (1964a), who spoke of a "Hopewell cult." Later, the role of religion in the dispersal of Hopewell ideas and practices was concluded by Wymer (1992), who found little paleoethnobotanical evidence in the Ohio record for subsistence buffering and exchange as a foundation for such dispersal. In this book, the religious aspects of interregional Hopewell are spelled out more exactly, beginning with an enumeration of several kinds of socioreligious forms of interregional travel, procurement, and interaction that likely occurred across the East in the Middle Woodland period: power and vision quests, pilgrimages to a place in nature or a ceremonial center of spiritual learning, travels of medicine persons and patients, and long-distance buying and selling of religious prerogatives. A general anthropological discussion of these subjects is given in Chapter 16, and examples are presented in Chapters 17 through 20.

Beyond these six areas of fruitful research into which archaeologists have ventured to varying degrees is another—one that is critical and difficult, and has only very recently begun to be tackled. This subject is the *worldviews and more specific religious beliefs* of local Hopewellian traditions and the elements of these that were or were not shared across the Woodlands. Reconstruction of a Hopewellian ideology was first undertaken by Hall (1979), but his approach to the issue has generally been very broad, couched within the larger goal of weaving together the flow of religious ideas across the cultures of the North and Middle American continent and over the millennia. Hall also concerned himself with tracing broad suites of related myths over time and space, rather than verifying specific worldview propositions (e.g., how the four directions were conceived) for a given local tradition. More locally sensitive reconstructions, which have focused on the Ohio material record and specific worldview propositions, have been made by Carr (1996, 1998, 1999b, 2000a) but remain unpublished. In Chapters 17 through 19 of this book, specific worldview propositions of panregional scope are inferred for several artifact forms and raw materials, based on their nature and ethnohistoric information. In Chapter 20, regional variation in the meanings of one kind of raw material—silver—is inferred from the differing characteristics of its sources and the geographic distributions of silver from those sources.

In sum, Hopewellian material remains, in their richness, hold forth great promise for making finer-grained, personalized reconstructions of local societies and cultures, and for understanding how interregional similarities in Hopewellian ways were generated from local needs and motivations. Previous studies that have been sensitive to and focused on local context point toward many potentially fruitful topics for future research, a good number of which are explored in the chapters in this book. Thick prehistories of Hopewell societies are at hand, if only

we take the time to build topically well-focused, locally detailed, and regionally broad data sets and think about them as would an ethnographer and a historian as well as an archaeologist.

CONCLUSION

Archaeologists of the midcontinent have been guided yet also limited in their recent explorations of Hopewell by the way in which it was defined by Caldwell and Struever. By associating the ideological, ceremonial, and material–symbolic dimensions of Hopewell with its interregional guise but not its local expression, and by focusing locally on subsistence and settlement patterns, Caldwell and Struever inadvertently took Hopewell out of its local context, that is, decontextualized it, and removed it from the social actors in social roles who produced it, that is, impersonalized it. Local Hopewellian cultural life as a whole, including its ideological, ceremonial, and material–symbolic aspects in both the corporate and the domestic spheres, and the homologies between these spheres, was thereafter deemphasized in the research of some archaeological circles. Documenting lines of interregional interaction through the styles, chemical sourcing, and distribution of Hopewell Interaction Sphere goods became a central concern.

Some midcontinental archaeologists, most frequent in Ohio, have nevertheless continued to envision and explore local manifestations of Hopewell as a part of local cultural traditions. Very essential topics that they have addressed empirically, in more or less detail, include the organization of local earthwork–mound–settlement communities, local social organization, the activities that occurred within and around ceremonial centers, ceremonies in the domestic sphere, the organizational diversity of Hopewellian societies across the Woodlands, and religious bases for the spread of Hopewellian practices and ideas interregionally. Rarely, however, have such studies personalized local Hopewellian societies and interregional Hopewellian connections with motivated actors in social roles. Nor have interregional

Hopewellian travel, procurement, and interaction been derived from local needs and motivations. It is to the goal of bringing faces to the yet faceless concept of Hopewell that the chapters in this book are dedicated.

NOTES

1. For a similar point of view on Struever's focusing of efforts on subsistence-settlement and ecological issues, see Buikstra et al. (1998:10).
2. Caldwell and Struever's dichotomy between a religious or economic interregional Hopewell and secular, domestic, and subsistence-oriented local cultures was a fundamental conceptual break from how Hopewell had been envisioned in prior decades. From the 1930s through the 1950s, the term Hopewell was used in two manners. On the one hand, researchers spoke of "the Hopewell Culture," "Hopewell Culture," "the Hopewellian culture," or "Hopewellian culture" over the span of the Eastern Woodlands (Cole and Deuel 1937:33; Deuel 1952:253; Griffin 1946:60, 1952a:95, 1952b:358, 1967:183; McKern 1931; Morgan 1952:89), or "the Hopewellian" or simply "Hopewellian" as a noun (Bennett 1944:336; Cole and Deuel 1937:199; Griffin 1946:60, 63, 69). This monolithic concept focused on similarities found in archaeological remains across the Woodlands, sometimes using the Ohio record as the standard of comparison (Deuel 1935:430; Griffin 1946:72, 1952b:358; Griffin et al. 1970:5) and sometimes making comparisons more generally among Woodland traditions. On the other hand, distinct, localized, "Hopewellian cultures" or "tribal groups" were recognized, sometimes in their own right (Griffin 1946:60–63, 74; 1952a:95, 1952b:358, 360–361, 1967:181; MacNeish 1944; McKern 1945; Maxwell 1947:26; Morgan 1952:88, 92) and sometimes as "variants" of Ohio Hopewell culture (Deuel 1935; Maxwell 1947:25). These two manners of speaking of Hopewell were formalized by some archaeologists in the terminology of the Midwestern Taxonomic System (McKern 1934, 1939) respectively as a Woodland-wide "Hopewellian Phase" and as various, more localized "Hopewellian Aspects" or "Foci" (Cole and Deuel 1937:203–205; Greenman 1938:327; Griffin 1952b:358; McKern 1946:34; Morgan 1952:88, 92; Quimby 1941;

Ritchie 1937:183). (The McKern system was developed in part to avoid the ambiguous use of the term, *culture* at many different geographic scales [Griffin 1959:382]. The system instead offered the terms *focus, aspect, phase*, and *pattern*.)

Unlike Caldwell and Struever's concepts, these interregional and more local definitions of Hopewell all encompassed the breadth of culture, rather than a subset of it. For example, Griffin (1952b:358–361), in summarizing "the Hopewellian phase" across the Woodlands, discussed the earthworks, villages, houses, leadership, religious beliefs and practices, ceremonial paraphernalia, clothing, hairstyles, and utilitarian pottery and projectiles of Hopewell peoples, as well as their physical type and demography. Likewise, Richard Morgan (1952), reviewing the "Ohio Aspect of the Hopewellian Phase," described the earthworks, villages, utilitarian tools, weapons, personal and ceremonial ornamentation, clothing, hairstyles, weaving, clans, subsistence, and sense of identity of Hopewellian peoples there. Hopewell culture was not partitioned into interregional and local forms that differed in kind and that encompassed different parts of the cultural spectrum, as Caldwell and Struever went on to do.

At the same time, these early workings with the concept of Hopewell, in covering the breadth of culture, did not emphasize the specific, select kinds of ideas, practices, and material forms that were shared or not shared among different regional traditions; the varying geographic scales over which different ideas, practices, and material forms were shared; their varying geographic origins; and the varying degrees to which they were reworked in different regional traditions. Ultimately, most early concepts of Hopewell directly posited either a unitary, pan-Woodland "Hopewell culture" or "Hopewellian Phase" that pertained to a full spectrum of cultural phenomena, or a more localized "Hopewellian Aspect" or "Hopewellian Focus" that again encompassed a full spectrum of cultural phenomena and that sometimes was related to the pan-Woodland concept. For example, for Deuel (1952), "*the Hopewellian culture* is known from Western New York to Kansas and Iowa and from Northern Wisconsin to Mississippi and Louisiana. . . . It seems more probable that the territory was divided up into small sovereign areas" (emphasis added). Again, for Griffin (1952b:360),

> Ohio Hopewell was a very closely knit area culturally, with marked interchange of specific types made out of identical native or imported raw materials . . . it is possible to suggest that Ohio Hopewell people spoke a common language and probably constituted a tribal unit. . . . To the west . . . were closely related groups of *the Hopewellian culture*. . . . These groups, again, are so closely connected on the basis of their total cultural complex and have such marked distinctions in many of their materials from Ohio Hopewell that here too one might postulate that there was a sig-

nificant linguistic and tribal grouping. (emphasis added).

Thus, Hopewell at both the interregional and the local scales was culture in its totality, or to the extent observable archaeologically (but see Morgan 1946:74). In contrast, today it is clear that considering the specific and differing kinds of cultural traits that were shared or not shared by varying regional traditions, and the scale of distribution, origin, and reinterpretation of those cultural traits, is absolutely essential to a concept of Hopewell if the diverse behaviors and cultural processes that comprised it are to be unraveled and identified. These qualities are embraced in the concepts of interregional and local Hopewell defined above.

In this book, the fresh terms *interregional Hopewell* and *local Hopewell* are introduced and used in order to avoid the conceptual difficulties enmeshed in earlier definitions of Hopewell by Caldwell, Struever, and their prede cessors and to help us to personalize, contextualize, and generate it. Summarizing the arguments made in this note and in the text, the term interregional Hopewell is used instead of Hopewell Interaction Sphere for three reasons: (1) to avoid a misleading placement of religious concepts, practices, and material representations at the interregional level, in contrast to and apart from local subsistence, settlement, and society; (2) to discuss the interregional distributions of Hopewellian elements without a heavy association with interregional material exchange and trade, which are now known to have played a minor role in creating those distributions; and (3) to consider the direct procurement of exotic raw materials by local peoples in addition to interactive mechanisms of raw material procurement, both of which appear from current data to have been equally important. The older terms, Hopewell Culture, Hopewellian culture, the Hopewellian, and such, are not used because they neglect the varying kinds of ideas, practices, and material forms that were shared differentially among regional traditions, that were distributed over varying geographic expanses over the Woodlands, that had different geographic origins, and that were reinterpreted locally in distinct ways. The term local Hopewell is introduced for three reasons: (1) to make clear that broadly spread Hopewellian ideas, practices, and material forms had counterparts in local societies; (2) to help personalize and contextualize Hopewellian ideas, practices, and material forms in local scenes; and (3) in light of these two points, to encourage, in archaeological interpretation, the generation of interregional patterning in Hopewellian ideas, practices, and material forms from their local sources. Finally, our definition of Hopewell at two geographic scales—both the local and the interregional—rather than simply at the latter scale, aids in bridging local processes and patterning to interregional ones.

Our introduction of the terms, interregional Hopewell and local Hopewell, is not intended to solve the taxonomic problems posed by Hopewellian material records in

the everyday workings of Hopewellian archaeology but, instead, addresses conceptual issues at the interpretive level.

3. The cranial typological evidence on which Prufer based this interpretation has been questioned through cranial metric (Jamison 1971) and nonmetric (Reichs 1975) studies, but not firmly refuted.

4. Prufer et al. (1965) estimated very roughly that the McGraw site represented the products of 35 to 45 persons for one generation. About a quarter of this usage would be more in line with modal Hopewellian occupations across the East (Smith 1992:214, 240), provide better estimates where house patterns of the numbers of persons who lived at a site.

5. Greber did not consider an equally strong alternative view, that the Seip and Baum were used simultaneously and had different ceremonial functions. Seip includes burial mounds, whereas Baum does not. This kind of alternative is evaluated in Chapter 4 by Ruby et al. and in Chapter 7 by Carr in this book.

6. Qualifications to this dichotomy are given by Charles et al. (1988:234–238). However, their clarifications are not given weight in their subsequent summaries of findings and anthropological interpretations, which are reviewed here.

Social and Political Organizations of Northern Hopewellian Peoples

Chapter **3**

Salient Issues in the Social and Political Organizations of Northern Hopewellian Peoples

Contextualizing, Personalizing, and Generating Hopewell

CHRISTOPHER CARR

In the previous chapter, it was observed that the interregionally focused definitions of Hopewell given by Caldwell (1964) and Struever (1964, 1965) have tended to guide archaeological research on Hopewell away from local cultural practices and ideas. In particular, the roles played by Hopewellian people in local societies and the locally founded motivations of those individuals for their interregional exploits have received little systematic study. The chapters in Part II of this book move our understanding of Hopewell forward by offering richly detailed and humanized accounts of the local community, social, and political organizations and the histories of northern Hopewellian groups. The chapters document Hopewellian communities, leaders, shaman, clans, sodalities, gender relations, and sociopolitical alliances, and changes in these over time, sometimes approaching ethnographic or historical resolution.

This chapter provides a conceptual and empirical foundation for the studies in Part II that

follow. Focus is placed here on four main subjects that tie together the nine chapters: community and ceremonial site organization, leadership, social ranking, and gender. For each subject, anthropological concepts and theories that are necessary background to its study are reviewed, past works on Hopewell that pertain to the topic are summarized, and archaeological data that bear on it and evoke critical questions or possible interpretations are presented. In the course of these theoretical and empirical discussions, the analyses made in the chapters in Part II are summarized, placed in context, interrelated, and highlighted for their significance.

The chapter begins with the topic of community ceremonial–spatial organization in the Scioto, Mann, and Havana regions. Anthropological conceptions of the nature of communities, offered by Murdock (1949a), Mahoney (2000), and Charles (1995) are reviewed and ordered, leading to the development of a multiscalar and multidimensional concept that

embraces residential communities, broader demographically and economically sustainable communities, and conceived, symbolic communities of political, economic, religious, or other kind. In addition, the well-known viewpoint that social systems and mortuary programs may be regional and partitive in nature, rather than local and normative, is recalled. These basic anthropological concepts suggest the relevance of three most fundamental questions about the spatial organization of Hopewellian communities and ceremonial sites. First, were individual local, symbolic Hopewellian communities, which were comprised of multiple hamlets, each organized around a single ceremonial center, each of like kind in their range of ritual functions, or did local symbolic communities sometimes use multiple ceremonial centers that were differentiated in their ritual functions? Second, were all Hopewellian ceremonial centers built and used by a single, local symbolic community, or were some built and used by multiple, local symbolic communities to forge larger social networks? Third, were the members of a local, symbolic Hopewellian community usually buried together in a single ceremonial center, or were they sometimes segregated among multiple centers according to one or more social, philosophical–religious, circumstantial, or other criteria? The answers to these and other, related questions are explored for the Illinois and Ohio archaeological records, where researchers in the two areas have based their reconstructions on different assumptions about the nature of communities, social systems, and mortuary programs. Chapters 4 and 7, and parts of Chapter 8, are summarized here.

The second section of this chapter addresses the topic of leadership. It starts by identifying and defining for middle-range societies some key features of leadership roles that are important to reconstruct if the workings of a society are to be understood. These features are the range of roles played by leaders; the sacred, secular, or combined bases of power of leaders; the degree of centralization or segregation of leadership roles among persons; means for recruiting leaders; the degree to which leadership roles and positions were institutionalized; and the local or supralocal expanse of power of leaders. Next,

certain anthropological theories of the development of supralocal leadership are introduced. These theories range from material–economic (Sahlins 1972) to sociodemographic (Chagnon 1979) to systems–managerial (Flannery 1972) to socioreligious (Netting 1972; Winkelman 1989, 1990, 1992) in character. Contributions to the topic of leadership made in Chapter 5, and parts of Chapters 7, 8, 13, and 18, are then summarized, with emphasis on the following subjects: identifying the kinds of roles and the power bases that constituted leadership in terminal Archaic through Middle Woodland societies in the greater Ohio area, role bundling and its changes over time in the Ohio Middle Woodland, variation in leadership role bundling across regional traditions, and leadership recruitment and the social factors affecting it.

The third section of this chapter considers the perennial question of whether various Hopewellian societies were organized by principles of rank or were more egalitarian in nature. Recent, robust ethnological theories that accommodate the diverse range of systems of ranking and sociopolitical power found cross-culturally in middle-range societies (e.g., Helms 1976, 1993; Kirsch 1980; Knight 1990a; Lankford 1992; Rosman and Rubel 1971), and that extend the classic models of ranking posed by Service (1962) and Fried (1960, 1967), are summarized. Refined, middle-range archaeological theory that conceptually disaggregates the mortuary material correlates of social ranking, achieved leadership, ascribed leadership, wealth, and achieved prestige, as distinct vertical social dimensions, is introduced. These theoretical developments are the cornerstones for evaluations made in Chapters 6 and 7 of whether social ranking existed in Havana and Scioto Hopewell societies.

The final section of this chapter summarizes some contemporary developments in the anthropological and archaeological theory of gender (e.g., Claassen and Joyce 1997; Conkey and Spector 1984; Crown 2000; Hays-Gilpin and Whitley 1998; Lewis 1971; Nanda 2000; Sered 1994) and relates to them the studies of gender presented in Chapters 9, 10, 11, and 18, on Hopewellian societies. Three areas of

gender study, as modified from Claasen and Joyce (1997), are discussed in general and in reference to these chapters. The first, *womanism*, focuses on finding evidence of women in the archaeological record and challenges stereotypical views of the roles assumed by women and men. The second, which might be called *gender proper*, embraces the traditional topics of social organization applied to gender, including the social roles, rights, and duties of genders; relations of symmetry or asymmetry in prestige, power, and authority among genders; the cultural construction of gender categories through daily life and special events; the meanings (ideology) given to genders; their symbolic representation; and the ultimate causes of gender distinctions. The third area of gender studies, *feminism*, aims at empowering women today by revealing the implicit androcentrism of traditional anthropological research and by counterbalancing the view of women as typically subordinate to men socially. In this regard, clear examples of key social roles ordinarily reserved for women in Hopewellian societies are brought to light. Chapter 9, 10, 11, and 18 all counterbalance the generally accepted view of Hopewellian women as subordinate to men, which has arisen from mortuary analyses.

In total, these discussions offer a diversity of strategies for contextualizing Hopewellian cultural characteristics locally and for personalizing Hopewellian material remains with specific social roles.

COMMUNITY CEREMONIAL–SPATIAL ORGANIZATION

The Anthropology of Communities and Societies

Current models of the ceremonial–spatial organization of Hopewellian communities in Ohio, in Illinois, and more broadly over the Eastern Woodlands (e.g., Buikstra 1976; Buikstra and Charles 1999; Dancey and Pacheco 1997a; Prufer 1964a, 1964b; B. D. Smith 1992) are founded on varying, basic assumptions about the nature of communities, and social organization more generally. As a backdrop for examining and evaluat-

ing these assumptions and for broadening our understanding of Hopewellian communities, some current anthropological perspectives on communities and societies are first introduced.

Communities

Murdock's (1949a:79–80) classic definition of the community as a residential unit of frequently interacting persons has, in recent years, been refined and expanded in ways that are quite useful for understanding Hopewellian domestic and ritual landscapes. Three kinds of communities can be distinguished and defined by taking a multiscalar and multidimensional perspective on social interaction. First are *residential communities*. These are sets of households and people who live in close proximity and interact regularly on a face-to-face basis, whether they be clustered or dispersed over the landscape. They are a territorially based social formation, in that they combine both people and place (Mahoney 2000; Tringham 1972; Varien 1999:21), and typically have a sense of common identity by virtue of their ties to a place (Basso 1996). Kinship, race, dialect, other potential shared identities, and peculiarities of culture and lifeways may also be important in a community's self-definition or definition by outsiders, but are not universally essential. In northern Hopewellian societies, residential communities were very small hamlets of one to a few extended households or small clusters of several single or multiple-household hamlets (Ruby et al., Chapter 4).

Commonly at a broader geographic scale and larger than residential communities are demographically and economically *sustainable communities* (Mahoney 2000). These are usually regional social networks within which mates, labor, food, and other material resources are regularly exchanged, offsetting and buffering against local demographic variations (e.g., in birth and death rates, sex ratios) and the ups and downs of local subsistence productivity (e.g., Braun and Plog 1982; Moore and Moseley 2001; Wobst 1974), and thereby ensuring long-term viability. The boundaries and membership of a sustainable community can shift dynamically with changes in the spatial structure of demographic and subsistence variability. Sustainable communities

may or may not be self-recognizing units with a self-given name, a sense of identity, or even an outside-given name and identity (e.g., Fried 1968). In these regards, sustainablecommunities may or may not be capable of united decision making.[1] Hopewellian examples of sustainable communities include those who gathered from afar at large and/or elaborate ceremonial centers of limited numbers: the flood plain ceremonial sites in the lower Illinois valley, the Mann earthwork and the GE mound in southwestern Indiana, and certain key earthworks in the Scioto–Paint Creek area, including Tremper, Mound City, Seip, Baum, Hopewell, Frankfort, Liberty, and East Works, at least (Ruby et al., Chapter 4; Carr, Chapter 7). Most of these sites in all three geographic regions are characterized by having had one or more large, loaf-shaped mounds.

Another kind of social unit that is broader than the residential community is the *symbolic community* (Charles 1995). It is an encompassing concept that most basically can be defined as a set of residential communities, or segments of them, that have joined together to form a larger, self-identifying social unit through the active construction and negotiation of affiliation to that unit and the creation of a sense of common purpose. A symbolic community's goals may be political, economic, religious, or some combination of these, such as warfare, regulation of irrigation (Abbott 2000; Rice 1998), and maintenance of the order of the cosmos (Rappaport 1968, 1971). A symbolic community is capable of united decision making and action relative to its goals and, in this sense, is corporate (Befu and Plotnicov 1962). Like sustainable communities, symbolic ones can be fluid in their boundaries and membership in response to a changing landscape of social, political, economic, or other risks and opportunities. Typically, although not necessarily, the members of a symbolic community derive from a limited geographic area, which helps in maintaining the community's coherency. Examples include a group of households that share an interest in a common irrigation canal or in participating in a local festival or religious cult, or that temporarily organize around a charismatic leader. In the northern Hopewellian societies examined in this book, symbolic communities are

localized, and we use the special term, *local symbolic community*, to render this characteristic. Examples of such local symbolic communities are the hamlets and kinship groups from a locale who gathered at bluff-top cemeteries in the lower Illinois valley, at the Martin cemetery in southwestern Indiana, and at the earthwork–cemetery ceremonial centers in the Scioto–Paint Creek area to bury their dead. All of these sites in these three regions include multiple conical to low circular mounds in which persons from different hamlets and kinship groups were buried (Ruby et al., Chapter 4).

A symbolic community, or a local symbolic community, may or may not have as its goal the ownership and protection of a territory. For this reason, symbolic communities can sometimes be difficult to track on the ground archaeologically. Finally, a symbolic community may be coterminous with a sustainable one. The sense of identity and common purpose forged by symbolic community can be the means by which a sustainable community is practically bound together.

The Partitive Perspective on Culture and Society

A well-known distinction in Americanist archaeology is that between the *normative* and the *partitive* views of culture and society. The distinction was first drawn by the ethnologist, Fredrick Gearing (1958), who proposed that a society has not one "social organization," as British structural–functionalists (e.g., Evans-Pritchard 1940; Fortes 1945; Radcliffe-Brown 1952b; Radcliffe-Brown and Forde 1950; see also Eggan 1955; Murdock 1949a:226–259) had conceived, but multiple such organizations. In Gearing's view, the members of a society may divide and organize for action in different ways according to varying criteria (e.g., age, sex, village, clan) and along the lines of different social roles and identities (e.g., subsistence tasks groups, war grades, villages, feuding clans), which appear and disappear with the society's calendar, the seasons, situational events, and the needs of the time. In this regard, culture is partitive rather than holistic, and individuals "participate in" only certain aspects of a culture through the roles they take on, rather

than expressing all of a culture and sharing it with all others in the society in a normative manner.

The partitive view of culture, society, and the place of the individual in them was later applied by Binford (1964a:426, 1972:264) to interpret archaeological landscapes, leading to his concept of the subsistence-settlement system. In this "behavioralist" viewpoint, the result of a society partitioning along different lines for varying purposes is that the sites of activity produced by one society over a landscape will vary in the roles played out at them, in the number, age, and gender of persons who use them, and, consequently, in their size, form, material content, and structure. In contrast, a normative, traditionalist view of culture and society leads to the expectation that all of the archaeological sites produced by a society will be similar in their content and structure because culture is shared and norms are followed.

Binford's application of the partitive view of culture and society to define and interpret past subsistence-settlement systems has at least two important analogs in the study of landscapes of ritual sites, such as those of Hopewellian societies. First, the partitive view suggests that a single society can produce many and diverse kinds of ritual sites that vary in their function, in the segments of society that use them, in the roles played out at them, and thus, in their size, form, content, and structure. Single societies need not have singular ceremonial centers, or multiple centers of one kind, which would follow from the normative perspective on society and culture. Second, focusing more particularly on mortuary ritual, the partitive view of society and culture implies that a single society may use multiple cemeteries of diverse kinds for burying different subsets of its members who held different social roles, died in different ways, were bound for different afterlives, or were distinguished by any of a variety of other social, philosophical–religious, circumstantial, or physical criteria. The resulting cemeteries will accordingly vary in their size, form, content, and/or structure. Single societies need not be associated with singular burial grounds, or multiple burial grounds of one nature, as the normative view of culture would hold. Ethnography supports this point. The use of loca-

tionally and functionally distinct mortuary sites by a single society is common across cultures— not only in complex societies with rich role differentiation, but also in middle-range and simpler societies on a par with Hopewellian ones (Carr 1995b:162–163, 183–185; see also Ucko 1969:267, 268, 271). A minimum of one-third of the 31 societies surveyed by Carr with the Human Relations Area Files used multiple locales to dispose of different segments of their populations. Cross-culturally common criteria for partitioning the dead of a society were found to include the vertical social position and age of the deceased, the social classification of the deceased's circumstances of death, and a great variety of kinds of religious beliefs. The idea that one society might produce a differentiated array of cemeteries for burial of its different components was first formalized in archaeology by Peebles (1974; see also Peebles and Kus 1977) for complex societies and by Buikstra (1976; see also Buikstra and Charles 1999; Charles 1995; Charles and Buikstra 1983:134–140) for simpler ones, but was not carried forth as a major theme of Beck's (1995:xiii) compilation of regional approaches to mortuary analysis.

Communities and the Partitive View Meet

Recognizing that at least three distinct kinds of communities of varying natures and geographic scales may operate over a landscape, as well as the potential for functional differentiation of ritual sites within a community, leads to complex possibilities as to how people and their ritual activities may be organized across space. Three situations are most essential to the Hopewell cases considered in this book. First, ritual sites over a landscape may be differentiated into those that service a local symbolic community comprised of several neighboring residential communities and those that are the meeting grounds of the multiple symbolic communities within a broader sustainable community. An example is the respective distinction between bluff-top conical mound cemeteries and flood plain cemeteries with loaf-shaped mounds in the lower Illinois valley (see below). Second, a single ritual site may simultaneously function as a ceremonial center for a local symbolic community and a ceremonial center

for a broader, sustainable community. The Tremper mound in the Scioto valley of Ohio is a clear example (see below). Third, focusing specifically on mortuary ritual, different social segments of a local symbolic community may be buried in different cemeteries, one or more that are dedicated to members of the local symbolic community, but also one or more that serve a broader sustainable community of which the local symbolic community is a part. Cemeteries that served a sustainable community, and that each held members from several different local symbolic communities, are exemplified in the Scioto–Paint Creek area of Ohio by the multiroom charnel houses under the Seip–Pricer, Seip–Conjoined, Edwin Harness, Hopewell 25, and Ater mounds (see below). Finally, note that none of these organizational situations involve ritual sites for a single, residential community. Among northern Hopewellian peoples, single hamlets or hamlet clusters by themselves did not normally build mounds (see also Clay 1987, 1991 for the Adena case).

Each of these manners of organization of communities and their rituals over a landscape has characteristic material consequences. As a basic example, consider the material differences between a ritual site that is used by a single, local symbolic community versus one used by a broader sustainable community comprised of several local symbolic communities. These different kinds of sites will vary minimally in the size of their public space and layout, and likely in their artifact assemblages and facilities, because the two kinds of communities differ in their sizes, their degree of internal social heterogeneity, the social distance among their members, and the rituals relevant to them.

Cemeteries that are used as particular kinds of ritual sites by a local symbolic community, versus a sustainable community constituted by multiple local symbolic communities, provide a case in point. These two categories of cemeteries can vary substantially in their material nature because of the different kinds of mortuary rituals, with different goals, that are relevant to a local symbolic community versus a sustainable one and that are played out in their cemeteries. Particularly pertinent is the distinction between *ancestor cults* and *mortuary ceremonies*, as they

have been called (Buikstra and Charles 1999; Gluckman 1937; Morris 1991). Ancestor cults aim at maintaining continuity of the living with the dead in an afterlife—commonly those persons within a unilineal group—and emphasize group unity and shared property. An ancestor cult has a clear purpose in the context of a local symbolic community that is bound together by kinship, and where such cults occur, they are associated with local symbolic communties. In contrast, mortuary ceremonies are rites of passage (van Gennep 1960) and, as such, focus on separating the living from the dead. Not emphasizing group unity through descent, they can serve as vehicles for expressing competition, defining power differentials, and working out power arrangements among different social groups. Commonly this is done through competitive material displays or gifting. These ritual enactments may or may not be relevant to a local symbolic community tied together by kinship, depending on its size, but are more likely on the meeting grounds of a sustainable community comprised of multiple local groups. In turn, the ancestor cults of a local symbolic community and the mortuary ceremonies of a sustainable community can produce cemeteries of quite different material features. The size and layout of public space, for small versus large and socially homogeneous versus heterogeneous gatherings, are obvious distinguishing material correlates. More specific differences also pertain. For example, ancestor cults of a local symbolic community based on kinship, in focusing on continuity, may involve tomb forms that provide repeated access to skeletons and grave accompaniments for their manipulation and for relating to and manipulating the souls of the deceased (e.g., Block 1971). Such facilities can be irrelevant to mortuary ceremonies of a sustainable community that are focused specifically on the separation of the dead from the living (e.g., Trigger 1969:106–112). Also, competitive mortuary ceremonies of a sustainable community can lead to the production of deposits of decommissioned and/or destroyed ceremonial paraphernalia and items of wealth used and displayed during the ceremony. These symbolic gestures and material deposits have little logic in ancestor cult rituals that are choreographed for expressing the

unity of a local symbolic community. (For quali-fication of the applicability of these archaeologi-cal correlates of local symbolic communities and sustainable communities to the Ohio case, par-ticularly with regard to competition and cooper-ation, all Carr Chapters 1, 7, and 12.)

Reconsidering Hopewellian Communities, Ritual Landscapes, and Mortuary Programs

In this section, previous models of Hopewellian communities and ritual landscapes are briefly re-viewed for the Ohio and lower Illinois valley regions. Potential areas of refinement of these models are offered, drawing upon the anthropo-logical concepts introduced above and providing a broad context for the analyses of communities and mortuary programs presented in Chapter 4 by Ruby et al. and Chapter 7 by Carr. Seven topics of inquiry are considered, as follows.

Concerning ceremonies and ceremonial centers in general:

(1) Were Hopewell ceremonial centers differ-entiated in their ritual functions?
(2) Was a local symbolic Hopewellian commu-nity, which was comprised of multiple ham-lets, organized around a single ceremonial center, either generalized or specialized in kind, or around multiple, functionally dif-ferentiated ceremonial centers?
(3) Were Hopewellian ceremonial centers dif-ferentiated into ones that served local sym-bolic communities and others that served larger sustainable communities?
(4) Did some Hopewellian ceremonial centers simultaneously serve one principal local symbolic community and multiple, other, local symbolic communities that were a part of a broad sustainable community?

Concerning mortuary ceremonies, specifi-cally:

(5) Were all members of a local symbolic Hopewellian community buried in one cemetery, or were its different social seg-ments buried in multiple, specialized ceme-teries, in each case restricted to that com-munity?

(6) Were the members of multiple local sym-bolic Hopewellian communities within a broader sustainable community ever buried together in one cemetery, were cemeteries ever used by only members of one local symbolic community, or did both situations occur?
(7) If the first alternative in Question 6 was the case, were all members of each local sym-bolic community buried together, or only certain segments of each community?

Previous Models of Hopewellian Communities, Ritual Landscapes, and Mortuary Programs

Current understanding of Ohio Hopewell com-munity organization is a synthesis of three state-ments: (1) Prufer's (1964a:71, 1964b, Prufer et al. 1965:137) vacant ceremonial center–dispersed agricultural hamlet model; (2) Bruce Smith's (1992) elaboration of it, which speci-fies in greater detail the typical number of fam-ily units per hamlet and the nature of some ac-tivities in the corporate–ceremonial domain; and (3) Dancey and Pacheco's (1997a) reiteration of Prufer's model, the former of which emphasizes the full-year, residentially sedentary nature of do-mestic units, qualifies the degree of "vacancy" of ceremonial centers, and reaffirms the non-tropical nature of the agricultural complex that supported Hopewellian communities. In essence, these models pose that Ohio Hopewellian peo-ples lived in dispersed settlements of one to a few households rather than villages, and that the scattered hamlets around a single earthwork were organized as a community of an unspecified type that, in part or as a whole, met within the earth-work at various times to hold ceremonies of sev-eral kinds. Settlement dispersion is held to have resulted from the swidden agricultural focus of Ohio Hopewellian subsistence, while ceremonial gatherings at a central earthwork are thought to have helped integrate otherwise isolated kin and community members. In the theoretical terms defined above, an earthwork–hamlet community would have been a local symbolic community of persons who did not have daily, face-to-face contacts but did foster and maintain a sense of

identity through their periodic meetings for ceremonies within the earthwork.

It is fair to say, from the statements of their models and the thrusts of their long-term research programs (e.g., Dancey 1991; Prufer 1967), that Prufer, Smith, and Dancey and Pacheco emphasized the domestic side of community organization, in response to concern then and earlier over the lack of documented habitations for the builders of the earthworks. In their focus on the domestic sphere, the authors did not dwell on the ceremonial organization of Hopewellian communities.[2] Specifically not considered by these researchers were the issues of possible functional differentiation of ceremonial centers and burial grounds, the use of multiple ceremonial centers and burial grounds by a single local symbolic community, and the use of a single ceremonial center and burial ground by multiple local symbolic communities within a sustainable community, per the six questions listed above. Prufer's, Smith's, and Dancey and Pacheco's models all posed one ceremonial center and burial ground per local symbolic community, and a lack of functional differentiation of ceremonial centers. The obvious difference between hilltop and flood plain enclosures in Ohio was taken by Prufer (1964a:49, 66–70, 1964b) to represent a change in settlement pattern over time. The view of one ceremonial center per local symbolic community was continued as an unstated assumption in Greber's (1997) attempt to explain certain geographic pairings of earthworks in the Scioto–Paint Creek area that have similar morphologies, such as neighboring Seip and Baum. Greber interpreted this pairing as the product of the sequential use of the two earthworks over time by a single local symbolic community. She did not consider or assess the alternative, that they had different functions and were used synchronically by a single local symbolic community, in spite of the fact that Seip contains burial mounds while Baum apparently has none at all.

In contrast to the Ohio situation, the Hopewellian ritual landscape in the lower Illinois valley was modeled more complexly by Struever (1968a; Struever and Houart 1972:60–64). He proposed that there were three kinds of functionally differentiated ceremonial sites in the valley. (1) Eleven bluff-top mound ceremonial centers were taken each to be the cemetery of a local community that inhabited a settlement below it. The bluff-top centers are characterized by smaller, conical-shaped mounds and the lack of midden deposits around them. (2) Six flood plain mound ceremonial centers—Merrigan, Kamp, Mound House, Naples–Chambers, Hilderbrand, and Baehr—were thought to have functioned as "local transaction centers", as points of interaction among members of multiple local, bluff-base settlements. Each of the six sites is characterized by one or more distinctively large and loaf-shaped burial mounds, sometimes arranged around a plaza, and by midden accumulations around the mounds. (3) A square-shaped earthwork at the mouth of the Illinois river—the Golden Eagle site—was said to have functioned as a regional transaction center that articulated the six social groups that were centered on flood plain ceremonial sites in the lower Illinois valley with each other, and then with groups from other regions in the Midwest. This site would have served a broad, interregional social network as well as the intraregional social groups that were focused on flood plain ceremonial centers. Thus, Struever saw a differentiated ritual landscape in the lower Illinois valley, with several functional categories of ceremonial sites, the use of multiple, functionally different ceremonial sites by members of a single local community, and the gathering of multiple local communities at a single ceremonial center.[3]

The simplicity of the settlement pattern and community organization that Prufer, Dancey, Pacheco, and Greber have envisioned for Ohio Hopewell peoples, in contrast to the multiscalar social organization that Struever had posed for the Illinois Hopewell, was reiterated in interpretations made of the burial programs for the two regions. Greber (1976, 1979a, 1979b, 1983; Greber and Ruhl 1989:46–64) took the large, loaf-shaped mounds of Seip–Pricer, Seip–Conjoined, Edwin Harness, and Hopewell Mound 25 within the Seip, Liberty, and Hopewell earthworks, as well as the Ater mound, each to have been a cemetery for a single local community of unspecified kind at some one point in its

history. She analyzed the burials from each of these mounds in order to reconstruct the social structure of individual, local Ohio Hopewellian communities under this assumption. When social differences were found among closely neighboring sites (Seip, Hopewell, Ater), the variations were taken to indicate differences in the structure of distinct societies, without considering functional alternatives, such as whether the sites differed in which social segments had access to burial in them and in the numbers of local communities that might have used them. Greber's theoretical viewpoint followed directly from Prufer's earlier vacant ceremonial center—dispersed agricultural hamlet model, in which one large cemetery equated with one local community.

Several aspects of Greber's (1976, 1979a; Greber and Ruhl 1983) mortuary analyses of the Seip–Pricer and Ater mounds and Hopewell Mound 25, beyond her conclusion that Scioto Hopewellian societies varied substantially from each other in their organization, indicate her implicit assumption that single mounds equated to individual local communities. First, her studies did not begin with or include a description of the regional landscape of mounds that occurred in the vicinity of the Seip–Pricer, Ater, and Hopewell Mound 25, and a consideration of whether these mounds might together have had complementary mortuary functions and burial populations. The Seip earthwork contained 17 other mounds within and outside of it besides Seip–Pricer, and the Hopewell earthwork had at least 38 other mounds within and immediately around it besides Hopewell Mound 25. Mound 23, in particular, had a burial assemblage complementary in several ways to that in Mound 25. Second, Greber did not test any of the three mounds for the one-to-one sex ratio or age distribution expectable for cemeteries of single communities of nonwestern, middle-range societies (Weiss 1973). Third, although she reported that the male-to-female ratio at Seip–Pricer was two-to-one, she did so incidentally (Greber 1979a:45), and was not moved by the statistic to question whether the mound might have been used to bury only a portion of a community. Instead, Greber held to her implicit mound-equals-local community assumption by

explaining the ratio as perhaps due to "marriage patterns with half of the females of the society marrying outside the local unit and not being returned for burial, while outside females, marrying into the society, were not eligible for burial within (the) given group's space" (45). This post hoc accommodative argument is ethnologically unreasonable because it imposes an asymmetry on burial rules among neighboring, closely related societies that were supposedly intermarrying considerably (50%). Had Greber considered the possibility that a single local community might dispose of its dead in multiple mounds or other ways, a variety of other, ethnographically common burial practices of segregation of social segments could have been suggested and tested. Finally, Greber's (1979a:57) conclusion that closely neighboring Hopewellian peoples in the Scioto drainage lived in societies of markedly different structure is very unlikely, given ethnohistorical patterns of social homogeneity within regions of the Eastern Woodlands, as well as the extensive sharing among neighboring Scioto Hopewell local groups of socially sensitive material symbols and mortuary practices, social roles, and socially correlated worldview themes.[4] The one mound–one local community equation does not produce a reasonable sociological reconstruction for the Scioto region.

In contrast, Buikstra (1972, 1976:29–44) built on Struever's model of a functionally differentiated Illinois Hopewellian ritual landscape when making her mortuary analyses of cemeteries in the lower Illinois valley and reconstructing Hopewellian social organization there. Buikstra held that one social unit used both small, conical mounds in a bluff-crest cemetery and larger, loaf-shaped mounds in a flood plain cemetery. Prestigious individuals, perhaps of high rank, and possibly those who were influential in intercommunity relations and in the Hopewell Interaction Sphere, were concluded to have been buried in the flood plain cemeteries, while the bulk of the population was buried in the bluff-crest cemeteries. Buikstra supported her position with information on differences between the two kinds of mounds in the degrees of elaboration of their burials, the number of burials, the age and sex distributions of the burials, the

rules of mortuary treatment, and biological differences. Thus, Buikstra's reconstruction for Illinois Hopewell, in contrast to Greber's for Ohio Hopewell, involve multiple ritual sites per social unit, functionally differentiated ritual sites, and the burial of different segments of a social unit in different cemeteries.

Buikstra's (1976:44) initial model of Illinois Hopewellian spatial–ceremonial organization differed somewhat from Struever's (Struever and Houart 1972:61) in the interplay of local bluff-centered communities and broader, flood plain-centered social groups. Struever envisioned multiple local communities, each in the form of a bluff-crest cemetery and a habitation below it, as having been integrated through a shared, flood plain cemetery–ceremonial center, defining a broader social group. Buikstra envisioned a single local community, marked by a bluff-base habitation site, as having encompassed both a bluff-crest cemetery and a flood plain cemetery, and did not discuss the function of flood plain cemeteries as places of assembly of multiple local, bluff-based communities. She posed the functional differentiation of mortuary sites *within* the scope of a single local community.

Buikstra (1981, 1983) continued this line of thought in her study of Middle Archaic mortuary practices in the lower Illinois valley. In this case, she interpreted the Gibson bluff-top cemetery and the Koster Horizon 6 bluff-base settlement with burials in its midden as cemeteries of two different kinds that would have been used by a single Middle Archaic society. She founded her conclusion on the complementary age distributions and health conditions of those buried in the two cemeteries. The bluff-crest cemetery was dominated by healthy, middle-aged and young adults, while the bluff-base settlement midden contained primarily young or old persons or those in poor health. The idea that multiple, local, bluff-based communities gathered together at flood plain ceremonial and burial sites, defining a broader social group, entered into Buikstra's social interpretations only later, for both the Middle Archaic and the Middle Woodland Illinois valley landscapes (Buikstra and Charles 1999; Charles 1995).

The basis for the simpler ritual landscape, community organization, and mortuary program that Prufer, Dancey, Pacheco, and Greber posed for Ohio Hopewell peoples, compared to what Struever, Buikstra, and Charles inferred for Havana Hopewell peoples, is not to be found in the empirical archaeological records of the two regions. Ohio Hopewell ritual landscapes appear to have been more diversified, and Ohio Hopewell community organization and mortuary programs seem to have been more complex, than their counterparts in the lower Illinois valley. This revision is introduced below and documented in detail in Chapter 4 by Ruby et al., and Chapter 7 by Carr. Instead, the simpler ritual landscape, community organization, and mortuary program inferred by archaeologists for Ohio Hopewellian peoples compared to those in Illinois derives from the different histories of intellectual connections had by the researchers who worked in the two regions.

Specifically, Struever studied under Binford in the course of his doctoral work at the University of Chicago, from 1962 to 1964, while he was in the midst of surveying the lower Illinois valley for Havana Hopewellian mortuary and habitation sites and excavating them. It was during those years that Binford (1964a) developed and published his seminal piece on the partitive nature of culture and society, and his concept of the subsistence-settlement system as a landscape of functionally diversified sites. Struever (1968a; Struever and Houart 1972) found the concept useful in trying to understand the distributions of Havana Hopewell domestic and ritual sites he was finding, and went on to describe their organization within the partitive and subsistence-settlement framework that Binford had proposed. The groundwork for this productive meeting of data and theory had been laid in 1960 to 1961 by Joseph Caldwell, who had encouraged Struever then to think about Hopewell in regional and broader terms rather than from the single-site, normative perspective that had dominated his Masters' work (Struever 1960) on the Kamp mound group in the lower Illinois valley (S. Struever, personal communication, 2003; see Dedication to Stuart Struever).[5] Buikstra also received her degree from Chicago,

and worked in conjunction with Struever in the lower Illinois valley, especially during the late 1960s and early 1970s, when he was actively writing about a functionally differentiated Havana Hopewellian cultural landscape. Buikstra (1976:44) used Struever's model as a foundation for her own regional, multisite analysis of the Havana Hopewell mortuary program and what it indicated about Havana social organization.

In contrast, Prufer received his doctoral training at Harvard, apart from and a few years earlier than the intellectual developments that occurred in Illinois. Prufer completed his doctoral dissertation in 1961, under Stephen Williams, within the normative approach. His dissertation reviewed the material culture of Ohio Hopewell in detail, with interpretation focused on chronology, extra-Ohio Hopewellian connections, and relations to Mesoamerica, Adena, the Mississippian Southern Cult, and historic tribes. Prufer's vacant ceremonial center–dispersed agricultural hamlet model was not an aspect of his dissertation. The model was published (Prufer 1964) in the same year as Binford's ideas on partitive culture and subsistence-settlement systems, which historically did not give Prufer the opportunity to work through his model in these terms. Thereafter, Greber, Dancey, and Pacheco each followed Prufer's lead. They did not use or cite the ideas in Binford's (1964a), Buikstra's (1976), or Struever's (1968a, 1972), publications or revisit Prufer's normative assumption of a functionally undifferentiated, Ohio Hopewellian ritual landscape.

A New Model of Scioto Hopewellian Communities, Ritual Landscapes, and Mortuary Programs

Building on the anthropological theory and previous ideas about Ohio Hopewell just summarized, Ruby et al. (Chapter 4) and Carr (Chapter 7) reanalyze the Hopewellian archaeological record in the Scioto valley–Paint Creek area of Ohio and, together, present a new picture of the organization of communities in that region, their ritual landscapes, and their mortuary programs. The authors' reconstruction answers the seven questions raised at the beginning of this section.

(1) Scioto Hopewell earthwork–mound ceremonial centers were differentiated into no fewer than four kinds that had different ritual functions, at least most of which were used in a single time plane in some areas. (2) Multiple kinds of earthwork and mound centers were used by a single local symbolic community. (3) Some ceremonial centers in the Scioto area clearly served a large, sustainable community comprised of multiple local symbolic communities, while other centers may have served single local symbolic communities, alone. (4) At least one ceremonial center, and perhaps others, simultaneously served primarily one local symbolic community and multiple, other local symbolic communities that were a part of a broader sustainable community. (5) Different segments of a local symbolic community were buried in different, specialized cemeteries. (6) Members of multiple, local symbolic communities within a broader sustainable community were buried together in one to several cemeteries, depending on the time plane. (7) Not all members of such jointly burying, local symbolic communities were interred together. The evidence for each of these propositions is presented in detail in Chapter 4 or 7, and is summarized and brought together here.

Functional Differentiation of Earthworks and Mounds

This section addresses the most basic issue of whether Hopewellian ritual landscapes were differentiated as far as where various ritual activities occurred. Of the seven questions raised earlier, focus is placed primarily on whether ceremonial centers were differentiated in their ritual functions (Question 1), whether centers were differentiated into ones that served local symbolic communities and others that served larger sustainable communities (Question 3), and whether different social segments of a local symbolic community were buried in different, specialized cemeteries (Question 5). The issue of whether single, local symbolic communities used multiple kinds of earthworks at a time (Question 2) is interwoven in the discussions presented here but explicitly evaluated empirically in the next section.

No fewer than eight lines of evidence indicate that Hopewellian mounds and earthworks in the Scioto–Paint Creek area were of varied functions. Each form of evidence is now reviewed.

Formal and Locational Diversity. The differentiation of earthworks and mounds in their ritual functions is indicated directly by the great diversity of mound and earthwork forms, sizes, and locations. These kinds of variations could imply differences in the layout and purposes of rituals, the numbers of individuals who built and gathered at these sites, and their social roles and group affiliations. The variations include: small conical mounds, larger loaf-shaped mounds, and platform mounds, each occurring within and away from enclosures; effigy mounds; mounds and earthworks in valley trenches and upland settings; earthwork enclosures with and without burial mounds; and geometric earthworks with one, two, and three parts. This formal diversity is much greater than the three categories of ritual Hopewellian sites found in Illinois, which have clearly been documented to have varied in function, and suggests at least some functional differentiation of Scioto Hopewell ritual sites.

The formal and locational diversity of Scioto Hopewellian earthen constructions might be attributed to differences in the ritual and other functions of sites within and among local symbolic communities, or to variation in functions or earthen architectural style through time. For example, in the past, Prufer (1961a, 1964a:49, 66–70, 1964b:97–102) held that all hilltop enclosures were very late in time and served as defensive refuges during a period of unrest at the end of the Middle Woodland period, in contrast to lowland earthworks that were used in earlier, more peaceful times. Now it is known chronometrically that hilltop and lowland earthworks were sometimes coeval and that some hilltop enclosures probably varied between ceremonial and defensive functions over their life history (Riordan 1995, 1996, 1998).

At least two examples of contemporaneous variation in the forms and functions of earthen constructions that neighbor each other and probably fell within a single, local symbolic community can be cited for the Scioto–Paint Creek area. One is the contrast between the Mound City and the Hopeton earthworks. These were coeval, as new radiocarbon dates show (Ruby et al., Chapter 4), and adjacent to each other, on opposite sides of the Scioto river. Mound City is a one-part, subrectangular earthwork that was tightly packed with 24 conical or elongated burial mounds. Hopeton is a two-part, square-and-circle earthwork with a long causeway to the Scioto river flood plain. The work is almost completely void of construction within it, save two modestly sized, oval-shape mounds and one or two very small ones within the square (Squire and Davis 1848:52).[6] The pairing of these two sites and the contrasts between them suggest a differentiated ritual system that had mortuary and nonmortuary elements and that involved two different ceremonial grounds within a single, local symbolic community.[7]

The pattern of neighboring earthworks that varied ritually in whether or not they emphasized burial is repeated in the three earthworks of Seip, Baum, and Spruce Hill, all within a few kilometers of each other in Paint Creek. Seip is a lowland tripartite earthwork with 2 large loaf-shaped mounds that covered charnel houses and 16 smaller mounds, at least some of which were for burial. Baum is also a lowland, tripartite earthwork, but contained no burial mounds, only architectural mounds at the gate openings of its square enclosure. Spruce Hill is a very large embankment on a precipitous hilltop that overlooks Paint Creek, and has revealed no evidence of human remains, mounded or unmounded, and only low densities of Hopewellian diagnostics restricted to its gateways. Like numerous other Ohio Hopewellian hilltop enclosures, it is characterized by much burned, fused, or glazed rock and vitrified soils, which occur along its walls and would have required temperatures in excess of 1,100°C to produce (Ruby 1997b; Ruby et al., Chapter 4: Specialized Activity Areas). Evidence of such intense burning along the walls of lowland earthworks is unknown, save occasional burned soil and wood charcoal deposits, as at the sites of Hopeton (Ruby 1997b) and Hopewell (Pederson and Burks 2000), and suggests the distinctive function of Spruce Hill.

Although the contemporaneity of all three earthworks cannot be demonstrated chronometrically, the simultaneous use of at least Seip and Baum is strongly implied by the occurrence of two other pairings of functionally differentiated earthworks in the region that are also tripartite in form or have tripartite conjoined mounds. The additional pairs are Liberty and Works East in the Scioto valley, and Frankfort (Old Town) and Hopewell in the North Fork of Paint Creek. Liberty and Works East specifically reproduce the pattern at Seip and Baum in having, respectively, a major burial mound and only architectural, gatekeeping mounds. The similarities among the three pairs of sites are most easily explained as the product of a ritual system that involved spatially distinct ceremonial sites and that was practiced at once in three different valleys. Further, contemporaneity among various members of these three pairs of sites is documented. The charnel house floors under Seip's Pricer mound and Liberty's Edwin Harness mound are reasonably well demonstrated to have been coeval by suites of radiocarbon dates from the mounds (Greber 1983, 2003). Contemporaneity of the charnel house under Seip–Pricer and the charnel floor of Hopewell's Mound 25 is less well established chronometrically but is strongly implied by the occurrence of a rare, elite artifact class (copper nostril inserts), a rare mortuary practice (pearl-lined graves), and an extraordinarily large and similarly sized copper celt at both the sites (Carr Chapter 7). These and a variety of other kinds of evidence are used by Carr, (Chapter 7) to argue that all six earthworks were interrelated in the same time plane: each pair of earthworks as functionally differentiated ritual sites of a single local symbolic community, and all of the pairs of sites and their local symbolic communities through a three-way alliance that involved the communities burying their dead together in certain mounds. Thus, earthworks that were differentiated in their ritual function on a single time plane are evident.

When the requirement of demonstrated site contemporaneity is loosened, three kinds of earthworks that functionally complemented ones that held burial mounds can be cited for the Scioto–Paint Creek area: hilltop enclosures with open interiors (e.g., Spruce Hill), lowland enclosures lacking mounds or having few of them (e.g., Baum, Works East, Hopeton), and lowland enclosures with flat-topped mounds that appear to have served as stages for performance. The latter are exemplified by the Cedar Banks site, a singular square earthwork with one flat-topped mound inside it. Cedar Banks is only 2.5 kilometers upstream from the Mound City enclosure, which was full of burial mounds, and the Hopeton enclosure, which was not, and may represent another kind of ritual site used by the local symbolic community that gathered at Mound City and Hopeton. Between Hopeton and Cedar Banks is another flat-topped mound that may have been a part of this complex of sites: the Ginther mound. It was not enclosed, but was accompanied by a nearby, empty embankment-and-ditch circle. Ginther was fully excavated and found to contain no burials or artifact deposits.

In sum, Scioto Hopewell earthwork–mound ceremonial centers were differentiated into no fewer than four kinds that varied in ritual function: lowland earthen enclosures with burial mounds, lowland enclosures with flat-topped mounds, lowland enclosures with only or primarily open space, and a hilltop fort with open space. It is likely that at least some, single, local symbolic communities in the Scioto–Paint Creek area minimally used three or four of these different kinds of ritual sites at once. Isolated burial mounds or clusters of burial mounds without enclosures and an isolated flat-topped mound are variants that possibly reflect simply the shorter life history of these sites, for which surrounding embankments were not built. The minimally three or four-part spatial ceremonial organization of Hopewellian local symbolic communities in the Scioto–Paint Creek area is more complex than the dichotomous, bluff-crest and flood plain organization of Hopewellian local symbolic communities in the lower Illinois valley. This finding is not unreasonable, given the total picture of differences between the Havana and the Scioto Hopewell material records in their scale and complexity (e.g.,. J. A. Brown 1981; Struever 1965).

Earthwork Orientation. Differences in the ritual functions of earthworks in the Scioto–Paint

Creek area are evident in differences in their orientation as well as their form and location. Among Native Americans of the historic Woodlands, public community rituals, smaller client-oriented rituals performed by medicine persons, and magical rites used by individuals to control events in everyday life were each commonly choreographed spatially and expressed symbolically by reference to directions (Eagle Feather 1978:87–92; Hudson 1976:229, 318–319, 342, 346, 353; Mails 1978:98–99, 1979:57–58, 80, 97–98, 120, 127–130, 1991:48, 52–54, 58–60; Nabokov and Easton 1989:40; Swanton 1931:11). Cardinal, semicardinal, solstice, equinox, other astronomical, and geographically determined directions are among those that were used. Different directions were associated with different meanings and thereby useful in different rituals that varied in goal. The significance of the cardinal and semicardinal directions in Ohio Hopewell and earlier Adena cosmologies has been well demonstrated with evidence from artifacts and the internal layout of mortuary sites (Carr 1998, 1999b, 2000a; Carr and Case 1996). In the context of these historic and Woodland Period beliefs and practices, patterned differences in the orientations of earthworks in the Scioto–Paint Creek area, as places of ritual performance, would not be unexpected, and would suggest that they were differentiated in the kinds of rituals and the goals of the rituals enacted at them.

Romain (Appendix 3.1; 2000, 2004) has recently compiled the most complete suite of information on the orientation of various geometric earthwork features in the Scioto–Paint Creek area using state-of-the-art surveying equipment, a full array of aerial photographs, records of previous surveys, and statistical evaluation procedures. The empirical results of his work are provided in this book as yet another example of recently compiled, large data sets that, through their breadth and depth, are shifting our perspectives and understandings of Hopewellian material records.

Romain's survey information reveals several robustly defined patterns in the orientation of earthworks in the Scioto drainage. (1) Most frequent, and found within a limited geographic area around the confluence of Paint Creek and the Scioto river, is the orientation of one of the diagonals of the square element of certain earthworks to either of two similar, though distinguishable, directions: the summer solstice sunset or winter solstice sunrise. This I call Pattern 1. Summer solstice sunset alignment is found at Mound City and Hopeton near the confluence of Paint Creek and the Scioto river, and at Anderson in the North Fork of Paint Creek valley. Winter solstice sunrise alignment occurs at Hopewell in the North Fork of Paint Creek valley and at Seip in the main Paint Creek valley. The orientation of one of the diagonals of the Cedar Banks Work, just north of Mound City and Hopeton, falls within two to six degrees of the orientations of the previous five sites, depending on the site,[8] which may be culturally significant.

Both the orientation and the aspect of earthwork geometry employed in orientation tie all of these earthworks together nicely. (2) In contrast, within this same area, the orientations of the diagonals of the squares of Liberty, Baum, and apparently Frankfort and Works East, are each distinct from Pattern 1 and from each other. The diagonal of Liberty's square aligns to the equinox. That of Baum is certainly different from Pattern 1 as well as from the equinox. Romain concludes that the major axis of the square through its sides, rather than an orientation involving a diagonal, orients to winter solstice sunset. His data also show that the diagonal is almost as close in alignment to the summer solstice sunrise as it is to winter solstice sunset. These two orientations are a mirror to Pattern 1. The alignments of the squares at Frankfort and Works East cannot be specifically determined at this time, for lack of evidence of them on the ground. However, Squire and Davis's (1848) maps of the two works show that the diagonals of their squares are oriented very differently from each other and from the summer solstice sunset/winter solstice sunrise alignments found at Mound City, Hopeton, Hopewell, Anderson, and Seip, the approximation of this at Cedar Banks, the mirror orientation of Baum, and the equinox orientation of Liberty.[9] The High Bank squarish "octagon" is oriented yet differently. One of its diagonals falls about 8 degrees from the direction of a diagonal of Baum's square, according to Romain's maps. In addition, Romain finds

the minor axis of the octagon through its sides to align to the moon's maximum north rise—an orientation otherwise unknown in the central Scioto valley. (3) The Circleville work, north of the Scioto–Paint Creek confluence by about 37 kilometers, is shown by Squire and Davis (1848) to have one of the diagonals of its square oriented within several degrees of the major axis of the square of Baum through its sides and the parallel walls at Hopeton. Both of the latter are oriented to the winter solstice sunset. (4) Geographically peripheral to the earthworks around the Scioto–Paint Creek confluence, to the north and south of them, are two that have a diamond or subdiamond shape: Dunlap and Tremper, respectively. Their orientations from side to side, as well as the elongated zoomorphic mound within the Tremper work, are within a degree or so of each other according to the maps of Squire and Davis (1848) and Mills (1916), and their major axes from corner to corner fall within about 7 degrees of each other. Both sets of alignments differ from any of the above ones.

In all, repetition in the above-listed orientations imply an intentionality on the part of those who constructed the earthworks, while differences among repetitions possibly suggest the different symbolic loadings of the earthworks and the varying ritual functions they served. In particular, earthworks of differing orientation might have differed in their seasons of use (summer, winter, fall–spring) and the kinds of ceremonies tied to the cycles of nature and farming, as well as in their association with light (sunrise, summer) or darkness (sunset, winter). The duality of light and darkness is a fundamental theme in Hopewellian art generally (Carr 1998; Carr and Case 1996; Greber and Ruhl 1989:275–284).

The observed variability in earthwork orientation can be ordered within a tentative temporal and community perspective. In this framework, ritual differentiation of earthworks within local symbolic communities in the Scioto–Paint Creek area began with formal distinctions, alone, and proceeded to include contrasts in orientation. Specifically, Mound City and Hopeton belong to an early Hopewellian time plane and were coeval. The two earthworks are adjacent to each other and most likely fell within a single, local symbolic community in the Scioto valley (see above). Both share in the orientation of their square embankments and were functionally differentiated only in their form: Mound City having one part and being subsquare in shape and Hopeton having two parts, including a square. The single-square Anderson earthwork in the North Fork of Paint Creek has an alignment like that of Mound City and Hopeton, is very similar in size to the single-subsquare Mound City, and possibly dates to a similar, early time.[10] In the Scioto–Paint Creek area, the ancestral orientation established with Mound City and Hopeton, and perhaps Anderson, was continued later in time during a middle era when the two-part Hopewell earthwork was built, and yet later in time when the three-part Seip earthwork was constructed. However, within each of three local symbolic communities that seem to have existed during this later time plane—in Paint Creek, its North Fork, and adjacent sections of the Scioto valley (see Carr, Chapter 7)—were also built other tripartite earthworks that had squares with different orientations and that served as functional complements to earthworks built in the more ancient tradition of orientation in those valleys. Specifically, Frankfort was built and complemented Hopewell in the North Fork of Paint Creek, Baum was built and complemented Seip in main Paint Creek, and Liberty and Works East in the adjacent Scioto valley were each constructed in new directions different from the traditional and from each other. Thus, each of the three local symbolic communities in the three valleys came to have within it a pairs of earthworks that was differentiated ritually, which was expressed in both their orientation and their formal qualities (see above). This complex, late pattern contrasted with the simpler, ancestral one in which earthworks were distinguished functionally only by form. In addition, Frankfort, Baum, Liberty, and Works East each differ in orientation from one another, as best as can be told, which gave each of the three local symbolic communities their own ritual specializations. The ritual complementarity of the three communities' earthworks could have been a means for creating interdependence among them and integrating them in alliance (see Carr, Chapter 7).

Elsewhere along the Scioto valley, this developmental sequence did not occur. Earthworks were constructed with other orientations, and local symbolic communities were marked by only one earthwork rather than two complementary works. The Tremper earthwork, which was probably the earliest of Hopewellian enclosures in the Scioto valley (Carr et al., Chapter 13; Greber 2003; Prufer 1961, 1964a; Ruhl 1996; Ruhl and Seeman 1998) and far south of the Scioto–Paint Creek area, was an isolated earthwork and was aligned differently from any of the earthworks in the Scioto–Paint Creek area. The Dunlap work, which lay at the north end of the cluster of earthworks around the Scioto–Paint Creek confluence, also was aligned differently from any in that area. Its one-part morphology and its alignment, which are similar to Tremper's, may place it on a very early time plane like Tremper. The nature of these two works suggests a somewhat different and simpler ritual system than that which originated and evolved in the immediate Scioto–Paint Creek area, and perhaps one that was ancestral to it.

In sum, data on the orientation of earthworks in the Scioto drainage minimally suggest differences among them in their ritual functions. Changes in ritual function over time certainly account for some of the noted variation in orientation. Functional differentiation of earthworks within local symbolic communities and among them are also very likely causes of alignment variation.

Adena Roots.   A third line of evidence suggesting the ritual differentiation of earthworks in the Scioto–Paint Creek area is the precedence for this pattern found in earlier Adena societies of Ohio and Kentucky. Adena ritual landscapes had at least five ritual architectural elements: (1) small circular earthen enclosures, usually with interior ditches, i.e., "sacred circles"; (2) large, free-form to oval earthen enclosures with exterior ditches; (3) burial mounds; (4) circular wooden charnel houses; and (5) circular wooden screens. The two kinds of earthen enclosures were segregated spatially from each other, while the small enclosures, mounds, screens, and charnel houses were built in various combinations, yielding in total a minimum of three kinds

of ritual sites in the Ohio–Kentucky area (Clay 1987). The large oval enclosures are interpreted by Clay as having been used for acquiring raw materials within and surrounding them (clay and galena in the case of Peter village), whereas sacred circles, burial mounds, charnel houses, and screens served mortuary or nonmortuary ceremonial functions, or both.

To the extent that Adena ritual landscapes were functionally differentiated, one would suspect that later and partially derivative Scioto Hopewellian ones might be as well. The diverse forms, locations, and orientations of Scioto Hopewellian earthworks corroborate this suspicion.

At least two specific forms of site differentiation within Adena ritual landscapes may have provided foundations for site differentiation in later Scioto Hopewellian ritual land use. First is the Adena construction of earthen enclosures with and without burial mounds, evident in small circles that sometimes have a burial mound within them and sometimes do not, and in large oval enclosures without burial mounds and small circles within them. All three kinds of sites occur in the Scioto–Paint Creek area and neighboring areas (e.g., Clay 1987:48; Webb and Snow 1974:16). This ritual program seems to have had continuity in the very early, paired Scioto Hopewell earthworks of Mound City and Hopeton, and is found in the later Middle Woodland earthwork pairs of Seip and Baum and of Liberty and Works East. These paired Hopewellian earthworks have and lack mounds, respectively.

The second kind of differentiation within Adena ritual landscapes that extends into Hopewellian ones in the Scioto–Paint Creek area is the distinction between ceremonial centers that served small populations and those that served larger ones. Adena sacred circles vary in diameter from a few tens of feet to over 500 feet, or 4.5 acres (Webb and Snow 1974:31), and have the potential to have held ceremonial gatherings of very different sizes. The contrast between large oval enclosures and smaller circular ones is greater in these regards. The Shriver earthwork just south of Mound City and attributed Adena affiliation by Clay (1987:48) is 28 acres.

The Peter earthwork in Kentucky contains 25 acres. In addition, some Adena mounds and/or sacred circles occur in isolation or groups of a few, whereas other mounds and/or sacred circles occur in large clusters (e.g., the Junction group of 4 sacred circles, 3 crescents, 2 squares, and 4 mounds and the Chillicothe Northwest group of 12+ mounds and 2 sacred circle [Greber 1997:7; Squire and Davis 1848:plate XXII]). It is reasonable to infer that these site size variations represent social units that ranged from a single residential community to one local symbolic community or perhaps multiple ones that comprised a sustainable community.[11] The infrequency and widely spaced distribution over the Ohio–Kentucky area of large oval earthworks and large clusters of mounds and/or sacred circles (Clay 1987:48) compared to the commonality of small circles isolated or in small numbers support this conclusion. The differentiation of Adena ritual sites into those used by small portions of a local symbolic community and those used by a whole one or a larger, sustainable community is repeated in distinctions among Hopewellian ceremonial centers in the Scioto–Paint Creek area. Hopewellian centers range widely in size, number of mounds, and total burial populations, and in best estimates of the numbers of persons who gathered at them and made offerings to the deceased or who contributed to ceremonial deposits (see below and Carr et al., Chapter 13). In light of the various forms of differentiation of Adena ritual sites and the apparent continuities found between them and Hopewellian ceremonial centers in the Scioto–Paint Creek area, the functional differentiation of Hopewellian centers seems a very reasonable conclusion.

Age and Sex Distributions of Individuals Buried in Mounds. The questions of whether Scioto-Hopewellian earthworks and mounds differed in the social segments interred in them, and whether some were used to bury single, local symbolic communities, whereas others were used to bury broader, sustainable communities are answered by five kinds of evidence presented in Chapter 7 by Carr and Chapter 13 by Carr et al. The data include the age and sex distributions of burial populations, the treatment of corpses in mounds, the spectra of social roles represented in burial populations, the sizes of burial populations, and the intrasite spatial patterning among burials.

Information on age and sex distributions of persons buried in the Hopewell and Seip earthworks suggests that these ceremonial centers were distinct in function. The Hopewell burial population is highly biased toward adult males. The large Mounds 25 and 23 have very low percentages (2%) of subadults, and 11 of 15 smaller excavated mounds completely lack subadults. This compares to the 25% to 50% subadult population that might be expected in a horticultural–hunting–gathering society (Weiss 1973). Males outnumber females 12 to 8 in Mound 25, 6 to 4 in Mound 23, and 8 to 6 in five smaller mounds with sex information. In contrast, the age distribution of burials in the Seip–Pricer mound—the only one within the Seip earthwork for which data are available—largely corresponds to expectation, with 29% subadults. An exception is the underrepresentation of infants, which is common crossculturally. The sex distribution of individuals buried in Seip–Pricer is not significantly different from a balanced one (Konigsberg 1985).

When this demographic information is combined with the facts that the Hopewell site stands out relative to all other Scioto valley ceremonial centers in its total mound volume, the total amounts and diversity of fancy finished artifacts and exotic materials, the quality of certain kinds of crafted items, and the percentages of burials with artifacts indicating leadership or other prestigious roles of all kinds, it is clear that Hopewell was a special burial place reserved largely for those of importance: persons who had lived long enough to accumulate prestige or to demonstrate their inherited prestige. The male bias at Hopewell accords with the ethnohistoric Algonkian pattern for males to have occupied most positions of leadership. Seip–Pricer, on the other hand, demonstrates a much broader social spectrum, though still one biased toward persons who held leadership or other important roles (see below). In a regional perspective, Carr (Chapter 7) concludes that Hopewell was a specialized, largely elite burial site used by three allied, local symbolic communities in three neighboring

valleys, and stood in contrast to other earthworks (Seip, Liberty, Frankfort) in these valleys where proportionally more commoners were interred.

Treatment of Corpses Buried in Mounds. The specialization of the Hopewell site as a burial ground for primarily leaders and other important persons, relative to other earthworks of a similar time plane in the Scioto–Paint Creek area, is also seen in the kinds of treatment given to corpses in these sites. In the Scioto–Paint Creek area, from the middle to later Middle Woodland, as represented by the Hopewell, Seip, and Ater sites, individuals who were inhumed usually had higher prestige and more commonly were leaders of a kind than individuals who were cremated (Carr, Chapter 7; Greber 1979a:44, 51), by several material criteria. Significantly, the proportion of individuals who were inhumed rather than cremated in the Hopewell site far outweighs the proportions at Seip and Liberty, suggesting the more elite orientation of the cemeteries at Hopewell, and the functional differentiation of Hopewell from Seip and Liberty. At Hopewell 75% of the persons buried under Mound 25 were inhumed and in Mound 23, over 90% were, while at Seip, only 9% and 10% were inhumed, respectively, under the Pricer and Conjoined Mounds, and at Liberty, only 6% were inhumed under the Edwin Harness Mound.

Social Roles of Individuals Buried in Mounds. Further evidence of the differentiation of Scioto Hopewellian cemeteries in the social segments interred in them is found in the social roles of buried individuals. In Chapter 7, Carr reconstructs from a variety of kinds of evidence that copper headplates signified leadership over a local symbolic community or other large social unit. At the Hopewell site, 6% of all reported burials had headplates, and 8% of the burials in Mound 25 had them. In contrast, only 0.8% of the burials in the Seip–Pricer mound had headplates and none in the Edwin Harness mound had them. These differences reinforce the conclusion that Hopewell was a preferred place of burial for leaders.

Metallic breastplates and earspools are inferred by Carr to have marked membership or achievement within prestigious sodalities that spanned multiple, local symbolic communities. These were found in both Hopewell Mound 25 and the Seip–Pricer mound in about 35% of their burials—a much larger proportion of prestigious sodality members than one would expect if each mound had been the burial ground of a complete, local symbolic community. The result implies that a good proportion of common persons from the communities who used these mounds were buried or disposed of elsewhere, that is, that Scioto Hopewellian mortuary areas were differentiated in the social segments processed at them. Prufer (1964a:74) came to a similar conclusion.[12]

Sizes of Burial Populations. Scioto Hopewellian mounds and earthworks were functionally differentiated not only in the social segments buried in them, but also in whether they were the burial places for members of a single residential community, for representatives of a local symbolic community, or for representatives of a broader, sustainable community. This contrast is evident in large variations in the size of burial populations among sites, and in best estimates of the numbers of persons who gathered at them and made offerings to the deceased or who contributed to ceremonial deposits. Both kinds of information are assembled in Chapter 13 (Tables 13.1 and 13.11). Focusing on the immediate Scioto–Paint Creek area and a middle to late Hopewell time plane (Prufer 1964a:49; Ruhl, Chapter 19, 1992, 1996) reveals large earthworks with large loaf-shaped mounds that covered big charnel houses, each with approximately 100 to 200 individuals, and much smaller, isolated mounds that contained 1 to 12 individuals. The minimum numbers of persons who gathered at the large charnel houses, which can be determined from the number of gifts given to the deceased or placed in ceremonial deposits, fall in the 160 to 600 range. In contrast, gatherings at the small, isolated mounds were much smaller, in the 4 to 17-person range.[13] The numbers of people who were buried in and/or gathered at the large, loaf-shaped mounds are great enough to have constituted a local symbolic community or a wider, sustainable

community. The smaller, isolated mounds appear to represent very small local groups—a minor segment of a local symbolic community or perhaps a residential community (hamlet). Additionally, those buried in the small mounds seem to have commonly been higher-prestige representatives of such local groups, given their burial by inhumation, association at times with copper celts, breastplates, or earspools, and the occurrence of burials with these artifacts in frequencies similar to those found in the larger, loaf-shaped mounds (see Note 12).

Intrasite Spatial Patterning among Burials. The identification of those buried in the big charnel houses as the deceased from local symbolic communities or large sustainable communities, based on charnel house population sizes, agrees with a more particular interpretation made by Carr in Chapter 7. There, he argues that those buried in each of the charnel houses under the Hopewell 25, Seip–Pricer, and Edwin Harness mounds were representatives from three allied, local symbolic communities in three adjacent river valleys, i.e., a sustainable community. The reconstruction of the alliance rests on the observation that within each of these charnel houses are three clusters of burials that each have the mortuary signatures of a local symbolic community rather than other sociocultural units. In particular, at Hopewell and Seip–Pricer, where information on the spatial distributions of artifacts is available, each cluster had persons of a range of prestige levels and roles, as one would expect in a cross section of a community, including leaders of one to several kinds, as well as persons without grave goods. Each cluster also had sodality members marked by breastplates and/or earspools. At Seip–Pricer, where adequate age–sex information is available, two of the burial clusters had normal age distributions and all three had adults, subadults, and both sexes. In addition, at both mounds, the frequency of indicators of prestige in the burial clusters correlated with the number of burials in clusters. This inverse pyramidal distribution of prestige is what one would expect of a set of local symbolic communities: larger communities with bigger labor pools for organizing public efforts,

acquiring material resources, and developing prestige were able to achieve more prestige. Further, the spatial segregation of the burial clusters, yet their unification under a single mound, would have been a natural and easily visualized symbol of communities separated in space over a region, but within a circle of cooperation. Finally, the concept of different local symbolic communities burying their dead within one charnel house fits well within a widespread, historic Eastern Woodland metaphor between domestic dwellings, on the one hand, and villages, tribal segments, ceremonial buildings, and/or mounds, on the other. These equivalences were used ethnohistorically to foster the familylike ties and cooperation one would find in a household at a broader social scale. In the case of each of Hopewell Mound 25 and the Seip–Pricer and Edwin Harness mounds, the burial of dead from three different local symbolic communities together within a charnel house and under a single mound would have symbolized a three-way alliance among the communities. Thus, there is ample evidence in the wide range of sizes of burial populations in large and small mounds, and in the spatial organization of burials and their attributes within the large mounds, that mounds in the Scioto–Paint Creek area were functionally differentiated between those that were burial places for representatives of a single residential community or a small segment of a local symbolic community, and those that were cemeteries for representatives of multiple local symbolic communities within a broader, sustainable community.[14]

In conclusion, corroborating data of a diversity of kinds and spatial scales indicate that, in the Scioto–Paint Creek area, ceremonial centers were differentiated in their ritual functions, in whether they served a single local symbolic community or a larger sustainable community. They also were distinguished in the particular social segments that were buried at them and in whether they were burial places for representatives of a small social unit like a single residential community or a portion of a local symbolic community, or cemeteries for representatives of multiple local symbolic communities within a wider sustainable community.

Multiple Ceremonial Centers within Single Local Symbolic Communities

In the above discussion of how Scioto Hopewellian earthworks and mounds were differentiated in their ritual functions, the very basic issue of whether local symbolic communities were organized around a single ceremonial center of a generalized nature or around multiple, functionally differentiated ceremonial centers (Question 2) was broached but not evaluated explicitly. This section summarizes several lines of evidence and argumentation that some Scioto Hopewellian local symbolic communities did use multiple, functionally differentiated ceremonial centers. Most of these modes of evaluation are laid out by Ruby et al. in Chapter 4.

Ceremonial Centers Are Too Close. The strongest argument that local symbolic communities in the Scioto–Paint Creek area used multiple earthwork ceremonial centers is that contemporaneous earthworks there are simply too close to each other to have each served as the focus of its own local symbolic community. Ruby et al. show this by comparing, in several ways, the distances between Scioto Hopewellian earthwork centers known or likely to have been contemporaneous to the catchment sizes of local symbolic communities that are expectable from both cross-cultural studies and some well documented Hopewellian communities elsewhere in Ohio. First, cross-cultural studies of recent swidden agriculturalists, who would be good economic analogs to Scioto Hopewell peoples (Wymer 1996, 1997), show that their exploitation catchments regularly are three to five kilometers in radius, with a maximum travel of seven to eight kilometers from a residential center. Agreeably, two well-surveyed Hopewellian local symbolic communities in the central Muskingum (Pacheco 1989, 1993, 1996) were found to have had radii of 3 and 5.5 kilometers. In these Muskingum cases, if an earthwork stood near the center of a local symbolic community, the earthworks of adjacent communities of replicated sizes would lie at least 6 to 11 kilometers apart. In contrast to these expectable catchments and distances among the centers of local symbolic communities, the neighboring and functionally differentiated

Mound City and Hopeton earthworks, which are well dated and were contemporaneous (see above), are less than 2.5 kilometers apart, have catchment radii of less than 1.2 kilometers, and are less than an hour's walk from each other. This short distance, as well as their similar orientation and complementary mortuary and primarily nonmortuary functions (see above), suggests that the two earthworks were a complementary pair within a single, local symbolic community.

Second, Ruby et al. measure the nth-order nearest neighbor distances among 10 Hopewellian earthworks in the Scioto–Paint Creek area that are reasonably inferred to have been at least partially contemporaneous by multiple criteria (Carr, Chapter 7; Greber 1983, 2003; Prufer 1961, 1964a; Ruhl 1966; Ruhl and Seeman 1998). Three distance modes are found. One mode, at two to four kilometers (one to two kilometer catchment radius), again suggests multiple earthworks within single, local symbolic communities. A second mode, at 8 to 10 kilometers (4 to 5 kilometer radius), suggests the distances between local symbolic communities by comparison to the ethnographic and archaeological analogs, while a third, at 16 to 18 kilometers (8 to 9 kilometer radius), seems to indicate the distances between broader, sustainable communities.

Third, the majority of the 10 earthworks are less than 4.5 kilometers, or an hour's walk, apart. When 5-km radius circular catchments of the estimated size of a local symbolic community are drawn around the sites, the catchments overlap extensively, implying multiple earthworks within single, local symbolic communities. The same holds true when the earthworks selected for scrutiny are limited to six in the Scioto-Paint Creek area that have tripartite symbolism (earthwork, mound, and/or charnel house forms) and that Carr (Chapter 7) reconstructs to have been the contemporaneous ritual sites of three neighboring local symbolic communities. In this rigorous case, the Seip and Baum earthworks in main Paint Creek valley, which differ in their orientations and mortuary versus nonmortuary functions, have overlapping catchments as one would expect of complementary sites within the same local symbolic community. The same is the case for the Liberty

and East Works in the Scioto valley, which differ in their orientations and mortuary versus non-mortuary functions. Likewise, in the North Fork valley, the Frankfort and Hopewell earthworks, which vary in their orientations and perhaps the social segments buried at them (see sections on Age and Sex Distributions, Treatment of Corpses, and Social Roles, above), have overlapping catchments as would be found for complementary sites within a single, local symbolic community. In addition, the three pairs of sites in the three river valleys are distant enough from each other that their catchments do not overlap. The total picture suggests three independent, local symbolic communities, each in its own valley and each having two, functionally differentiated ritual centers.

Supporting Areas.   When a Thiessen polygon is constructed around each of the 10 likely contemporaneous earthworks, the territories allocated to the sites are highly variable: between 54 and 205 square kilometers. This variation in the supporting areas around the sites is not what one would expect for closely packed, independent, local symbolic communities, each with a single, central ceremonial site.

Labor Pools.   Ruby et al. summarize a labor pool analysis by Bernardini (1999; see also refinements in Bernardini 2004), which complements their catchment studies. The analysis focuses on five of the six at least partially contemporaneous earthworks in the Scioto–Paint Creek area that have tripartite symbolism: Seip, Baum, Liberty, Works East, and Frankfort, but not Hopewell (see Carr, Chapter 7, for a summary of chronological evidence). The study estimates the minimum distances from these sites that persons would have had to have come to build them, assuming a reasonable population density of one person per square kilometer, maximum yearly work efforts, and the amount of work required to build each earthwork. The analysis robustly concludes that the labor pools required to build the earthworks would have overlapped extensively in space, implying that persons within a local area would have helped to build multiple earthworks during their lifetimes. Labor pools for the func-

tionally complementary sites of Seip and Baum in main Paint Creek overlap almost completely, as do those of the functionally complementary sites of Liberty and East Works in the Scioto valley. The labor pools for the probably complementary sites of Frankfort and Hopewell in the North Fork valley also would have overlapped greatly, but Bernardini did not explicitly calculate the labor pool for Hopewell. In contrast, the labor pools for the sites in different valleys overlap mildly, approximately 15% to 25%. Together, these results suggest that a local symbolic community occupied each of the three river valleys (extensive labor-pool overlap within a valley), that each community had two, functionally differentiated ritual centers, and that the three communities cooperated to some extent with each other in the building of each other's earthworks (mild labor-pool overlap between valleys). The intervalley cooperative pattern, based on regional information, accords with Carr's (Chapter 7) conclusion, based on intrasite burial patterns, that the local symbolic communities in the three valleys were allied and comprised a wider sustainable community.

In summary, the very close distances between a good number of contemporaneous earthworks, variation in their surrounding support areas, and extensive overlap in their labor pools each suggest that some Scioto Hopewellian local symbolic communities were organized around multiple ceremonial centers.

Fabric Styles.   Each of the above lines of evidence relates to major earthworks and the occurrence of multiple ones within single local symbolic communities. Some major earthwork centers also appear to have been complemented by smaller mound group ceremonial complexes, all within a single local symbolic community. An arguable example of this complementarity is the Seip earthwork and a neighboring complex of four burial mounds—the Rockhold site—within seven kilometers of each other in main Paint Creek valley. Whereas Seip had two large channel houses, with 102 and 43 deceased persons under large, loaf-shaped mounds, and evidenced ceremonial gatherings of over 200 persons, the mounds at Rockhold had only 5 individuals

and evidenced ceremonial gatherings of only about 13 persons (Carr, Chapter 7; Carr et al., Chapter 13), probably from a small local group within the broader Seip community. The charnel houses at Seip and the mounds at Rockhold were roughly coeval by several chronological indicators (Greber 2000:92; Prufer 1964a:49; Ruhl 1992, 1996:91). Significantly, an analysis of the stylistic attributes of fabrics preserved in a number of sites in the Scioto–Paint Creek area (Maslowski and Carr 1995:328–339) showed Seip and Rockhold in main Paint Creek valley to share a local fabric style that was, in turn, distinctive from a second in the North Fork of Paint Creek and a third in the main Scioto valley. The three style zones in the three valleys correspond to three local symbolic communities defined with independent mortuary data (Carr, Chapter 7) and imply the use of multiple ceremonial centers—the large Seip earthwork with burial mounds and the much smaller Rockhold burial mound complex—by a single local symbolic community in main Paint Creek valley.

Ceremonial Centers That Served Multiple, Local Symbolic Communities

The question of whether multiple local symbolic communities gathered at single ceremonial centers, which is an aspect of Question 3, above, has been both explicitly and implicitly answered in the course of exploring the issues of functional differentiation of earthworks and multiple earthworks within single, local symbolic communities. These arguments are now assembled, along with a few additional ones specific to this question, as follows. First, intrasite spatial patterning of individuals and burial goods within the large charnel houses under the Seip–Pricer, Seip–Conjoined, Edwin Harness, and Hopewell 25 mounds indicate that three communities joined to bury representatives of their dead together within each of these charnel houses. Multiple lines of evidence triangulate on this conclusion (see above).

Second, the labor pools for building earthworks within three recognized local, symbolic communities in main Paint Creek valley (Seip, Baum), the North Fork of Paint Creek (Frankfort, Hopewell), and the adjacent Scioto valley (Liberty, Works East) were found to overlap somewhat. This indicates that individuals from multiple, local symbolic communities helped to build, and presumably used, each other's earthworks.

Third, burial population sizes of Hopewellian cemeteries in the Scioto–Paint Creek area, as well as estimates of the numbers of individuals who gathered and gave gifts to the deceased at these sites, vary widely. Small to medium-sized burial populations and gatherings are common, while large ones are rare. Both small local groups and much larger but rarer aggregations of multiple, small local groups are suggested by this variation. Specifically, in the cases of Tremper, Edwin Harness, Seip–Pricer, and Hopewell 25, burial population sizes and the sizes of the living social units that would have generated them fall within the lower to midranges of the minimal size of sustainable breeding populations (175–475 individuals [Konigsberg 1985; Wobst 1974]). These numbers could indicate use of the sites by multiple local symbolic communities that comprised a broader, sustainable breeding population and sustainable community. At Hopewell, Mound City, and Tremper, minimal estimates of the numbers of persons who gathered at a time and gave gifts to the deceased fall within the minimal size of sustainable breeding populations in six instances of ceremonial gatherings, and at Hopewell 25, one ceremony exceeded this range (Carr et al., Chapter 13, Table 13.14). Because these estimates of gathering sizes are conservative minima, they probably do indicate gatherings of multiple, local symbolic communities at single sites.

Fourth, the wide variation found among Hopewellian ceremonial centers in their burial populations and gathering sizes is preceded temporally by a parallel variation from very small but common to very large but rare Adena ceremonial sites in the vicinity of southern Ohio. Especially telling is the contrast between ceremonial sites comprised of one or a few mounds or sacred circles and sites comprised of large numbers of these. This contrast suggests the integration of Adena peoples into local symbolic communities and wider, sustainable communities. Hopewellian community organization appears to have grown out of this foundation.

Fifth, the Hopewell site has a very high percentage of burials of leaders, and ceremonial gatherings there involved a very high percentage of persons who were leaders and gave gifts for burial (Carr et al., Chapter 13, Table 13.17). Because leaders in a local symbolic community would have been small in number and proportion, their high percentages at Hopewell suggest that multiple, local symbolic communities must have contributed to the burial population and to gift-giving there. The situation is similar, but somewhat less extreme, for the Seip–Pricer mound.

Sixth, Hopewellian earthworks in the Scioto–Paint Creek area that have tripartite symbolism and that arguably were built and used about the same time (Carr, Chapter 7), including Seip, Baum, Frankfort, Hopewell, Liberty, and East Works, differ almost fully from each other in their directional orientations. This is not what one would expect if each earthwork in the region was used by a single, local symbolic community, granting two reasonable assumptions: that such communities in the central Scioto area embraced one worldview and cosmology, which seems likely from their art (Carr 2000), and that earthwork orientation pertained to cosmological principles and ritual function (see above; also Romain 2000). Under these assumptions, earthworks of all the communities within the region should align alike, reflecting their similar beliefs and ceremonies. On the other hand, if multiple, local symbolic communities together built, oriented, and used multiple neighboring earthworks in order to represent different cosmological principles and to express them through varying kinds of ceremony, then the earthworks in the area might be aligned to different orientations. This is what is found, empirically. One would not expect the differently oriented earthworks in the Scioto–Paint Creek area to have each been built and used by only one local symbolic community that specialized in one set of ceremonies pertinent to only one portion of the regionally shared cosmology. Such hypothetical communities would have been cosmologically and spiritually incomplete and vulnerable.

The final, corroborating argument that multiple, local symbolic communities gathered at single ceremonial centers is the contrast in the Scioto–Paint Creek area between the clustered distribution of Hopewell mounds and mound groups and the dispersed distribution of earlier Adena mounds and mound groups (Seeman and Branch n.d.). Adena mounds and mound groups abound north and south of the Scioto–Paint Creek confluence, in small tributaries, along the main valley trenches on higher ground, and on the open till plain north of the confluence. Their dispersion can be taken as a model of the distribution of a suite of small, local residential groups who, individually or several together, built a mound or mound complex within the approximate vicinity of the territory or territories they exploited for subsistence (Clay 1991, 1992). In contrast, Hopewell mounds are very clustered, primarily within and immediately around a few earthwork centers near the Scioto–Paint Creek confluence. Compared to the dispersion of Adena mound sites, clustered Hopewell mounds and earthworks are too close together to each represent the lands of individual or a few local, residential groups. The pattern suggests, instead, use of the centers by multiple local groups from a broad area, if Hopewell mounds can be taken as equivalent to Adena mounds in the kinds and sizes of social groups they represent. This last assumption appears to be correct. Adena and Hopewell mounds have similar size ranges, and the largest of Hopewell mounds are on a par in their size with the largest of Adena mounds, implying similar labor efforts and sizes of the social groups that built them. In addition, Hopewell mounds are less numerous than Adena ones. For example, of mounds that are large by a size threshold and that occur in the Scioto–Paint Creek area, Seeman and Branch find that 51 are Adena and 11 are Hopewell. Both the spatial and the frequency information suggests a focusing of Hopewellian ritual in a smaller area and on a more select set of burial structures than Adena ritual and, thus, the use of Hopewellian mounds and ceremonial centers by multiple local social groups and more local social groups than in the Adena case. Also significant is a shift from the Adena peoples' building of predominantly mounds, which could symbolize local social units through the burial of their deceased in them, to Hopewellian peoples' more common building of earthen enclosures,

which in their impersonal nature had potential for symbolizing multiple, local social groups.

In all, both intrasite and regional archaeological data suggest that multiple local symbolic communities built and used the large ceremonial centers in the Scioto–Paint Creek area.

Ceremonial Centers That Served Both a Local Symbolic Community and a Broader Sustainable Community

Of the seven questions about community organization asked near the beginning of this section, all have been answered except whether some ceremonial centers simultaneously served one principal local symbolic community and multiple others that, with it, formed a sustainable community (Question 4). Good evidence for this situation is found at the Tremper site (Weets et al. Chapter 14). The charnel house under the Tremper mound had a very large burial population (375+ individuals) that could easily represent multiple, local symbolic communities and a demographically sustainable community. The cremated individuals were divided among four crematories. One held three-fourths of the cremated individuals, was at one end of the charnel building, and possibly represents persons from the local symbolic community centered on Tremper. The other three crematories held the remaining quarter of the individuals, were at the other end of the charnel building, and possibly were comprised of persons from three outlying, local symbolic communities. Smoking pipes within a ceremonial cache under the mound were chemically found to be traceable to four or more social groups that used geographically dispersed sources of pipestone or that had access to these through different social networks, probably indicating four or more local symbolic communities.

Three other earthworks that also may have served a principle, local symbolic community and others are Hopewell, Seip, and Liberty. Charnel houses under the large, loaf-shaped mounds at these sites each contained individuals from three local symbolic communities from three different valleys. Individuals from the different communities were separated from each other on the charnel house floors (Carr, Chapter 7), seemingly analogous to the situation at Tremper. In addition, at least the earthworks of Hopewell and Seip were both located midway up their respective valleys and probably near the center of the local symbolic communities in those valleys, rather than between communities. This situation suggests that the sites functioned to serve as a burial place primarily for the local symbolic community in which they were centered and secondarily for other local symbolic communities elsewhere. The burial clusters on each of the charnel house floors at these sites are quite unequal in the numbers of persons that they contain, but do not always indicate a primary local symbolic community and secondary ones as clearly as in the Tremper case.[15]

Conclusion

The vacant ceremonial center–dispersed agricultural hamlet model of Scioto Hopewellian community organization constructed by Prufer, and Dancey and Pacheco, over the past 40 years has served the Ohio archaeological community well in guiding fieldwork aimed at recovering habitation sites and subsistence remains and in documenting the domestic side of local Hopewellian societies (e.g., Dancey 1991; Pacheco 1996, 1997; Prufer et al. 1965; Wymer 1996, 1997). However, consideration of both regional and intrasite kinds of Scioto Hopewellian data in light of recent anthropological perspectives on community organization, the partitive nature of culture and societies, and insights into geographically differentiated burial programs suggests the need for a substantial revision of our picture of Scioto Hopewellian communities and ritual landscapes. The two most basic changes that are empirically required are these: (1) Multiple earthworks of differing functions were sometimes used by and were part of the same single, dispersed, local symbolic community. (2) Some singular earthworks were constructed and used by multiple local symbolic communities, in particular to bury their dead together and to hold joint ceremonies that fostered intercommunity cooperation and forged wider, sustainable communities.

These features of community organization contrast with the vacant ceremonial center–dispersed agricultural hamlet model, which envisions each local symbolic community as having used only one earthwork center, and each center as having been built and used by only one local symbolic community.

Within these broadest of revisions, seven features of Scioto Hopewellian communities can be specified, in response to the seven questions asked near the beginning of this section. First, Scioto Hopewellian ceremonial centers were differentiated in their ritual functions into multiple kinds: lowland earthen enclosures with burial mounds for primarily leaders and other persons of importance (e.g., Mound City, Hopewell), lowland earthen enclosures with burial mounds for a broader but still prestigious spectrum of persons (e.g., Seip, Liberty), a lowland enclosure with flat-topped mounds (Cedar Banks), lowland enclosures with only or primarily open space (e.g., Hopeton, Baum, Works East), a hilltop fort with open space (Spruce Hill), and small, isolated mounds or mound clusters without enclosures (e.g., Bourneville, McKenzie, Rockhold, Shilder, West).

Second, some local symbolic communities used no fewer than three of these kinds of ceremonial sites at once. The use of the Seip, Baum, Hopewell, and Liberty earthworks (and possibly Spruce Hill) by one local symbolic community in main Paint Creek valley, the use of Liberty, Works East, Hopewell, and Seip by another local symbolic community in the Scioto valley, and the use of Hopewell, Frankfort, Seip, and Liberty by another local symbolic community in the North Fork of Paint Creek valley are likely examples, considering the many lines of evidence presented by Ruby et al. (Chapter 4) and Carr (Chapter 7). It is probable that other, smaller, isolated mounds for the burial of important persons were also used by local segments of these communities—for example, Bourneville and Rockhold in main Paint Creek valley, which are approximately coeval with Seip there (Prufer 1964a:49; Ruhl 1992,1996:91).

Third, Scioto Hopewellian ceremonial centers were differentiated into ones that served only a single, local symbolic community, or a portion of it, and ones that served multiple local symbolic communities within a sustainable community. This contrast is evident in the great differences in burial populations and in sizes of ceremonial gatherings witnessed in earthworks with large, loaf-shaped burial mounds and big charnel houses compared to isolated, small mounds.

Fourth, some Scioto Hopewellian ceremonial centers simultaneously served one principal local symbolic community and multiple other local symbolic communities that, with it, formed a sustainable community. This circumstance is most easily recognized at the Tremper earthwork, where a large number of individuals were interred, where one spatial group of individuals was very large and three were considerably smaller, and where an artifact sourcing study suggests the use of the site by at least four different groups who directly or indirectly obtained pipestone from geographically dispersed localities. Other single earthworks that were used primarily by one local symbolic community and secondarily by others may also include Hopewell, Seip, and Liberty, each of which contained charnel houses with three segregated clusters of burials that appear to have represented discrete, local symbolic communities and that varied in their numbers of burials.

Fifth, some Scioto Hopewellian local symbolic communities buried different social segments in different cemeteries. One example is the specialization of the Hopewell site as a burial grounds for primarily leaders and other important persons, but not all persons, from local symbolic communities in main Paint Creek valley, North Fork valley, and the Scioto valley. A second example is the underrepresentation of persons of low prestige among those buried at the Seip earthworks and the burial of those persons elsewhere.

Sixth, multiple local symbolic communities within a wider sustainable community sometimes buried their dead together. The charnel houses within the Tremper, Hopewell, Seip, and Liberty earthworks each document this practice (Carr, Chapter 7; Weets et al., Chapter 14).

Seventh, not all members of such jointly burying, local symbolic communities were interred together. This situation is evident in the greatly imbalanced representation of local symbolic communities among the deceased at Tremper (see above), the small sizes of some of the burial clusters that represent local symbolic communities in the charnel houses under the Hopewell 25, Seip–Pricer, and Seip–Conjoined mounds (see Note 15), and the specialized function of the Hopewell site for the burial of elite from three local symbolic communities in main Paint Creek valley, North Fork valley, and the central Scioto valley.

Recognizing these complexities in the organization of Scioto Hopewellian local symbolic communities and their interrelationships, and bringing them into archaeological thinking, is absolutely essential if archaeologists are to proceed with accuracy in investigating more subtle anthropological topics, such as the social and political organizations of Scioto Hopewellian peoples and peer–polity interactions. For instance, knowing whether members of a local symbolic community (society) were buried together within single or multiple earthworks is necessary to archaeologically measure internal social complexity, intrasocietal and intersocietal biological diversity, community and society size, and intercommunity material exchange, genetic exchange, and stylistic interaction, and to reconstruct religious beliefs based on earthwork formal variation. If, for example, a single society used several different earthworks for burying their dead, and buried persons of different prestige in different earthworks, then assuming that each earthwork represented a whole and distinct society would erroneously give a picture of internal societal homogeneity and differences among societies in wealth and reputation. Seeing, alternatively, that the multiple earthworks were used by one society would give a picture of an internally complex society with social personae who differed in prestige, wealth, and/or rank. Linking rich burials at the Hopewell site to less spectacular ones at Seip and Liberty, rather than seeing these burial populations as representing three distinct communities, as they have been (e.g., Greber 1979; Greber

and Ruhl 1989; Pacheco and Dancey n.d.), is a case in point.

A Scioto Valley Example of Hopewellian Communities

A richly detailed reconstruction of Scioto Hopewellian communities at multiple geographic scales and on one particular time plane is presented in Chapter 7 by Carr. The example illustrates the many and complex ways in which Scioto Hopewellian communities were organized internally and interrelated to each other within a ritual landscape, as enumerated in more general terms immediately above and in Chapter 4. Specific cultural mechanisms and metaphors for community integration, and the issue of built social identity, are discussed, bringing anthropological depth to the general model of Scioto Hopewellian communities.

Through mortuary analyses of five charnel houses spread across the Scioto–Paint Creek area, Carr identifies three, coeval, local symbolic communities in three interconnecting river valleys—main Paint Creek, the North Fork of Paint Creek, and the adjacent Scioto—and reveals that they buried some of their dead together in charnel houses in each other's homelands (see Intrasite Spatial Patterning among Burials, above, for the evidence). Each local symbolic community also is found to have encompassed at least two earthworks that were functionally complementary. In each of main Paint Creek valley and the Scioto valley, one earthwork had burial mounds and served minimally to hold mortuary rituals, while the second lacked burial mounds and was used for other, unknown purposes. In the North Fork valley, both earthworks had burial mounds and served as places for mortuary rituals, but one earthwork was predominated by or restricted to social leaders or other prestigious persons from each of the three local symbolic communities. The earthworks of each pair are too close to each other to have comprised the central ceremonial precincts of separate local symbolic communities (Ruby et al., Chapter 4), given the sizes of catchments of communities of swidden farmers crossculturally, estimates of Hopewellian community sizes in better surveyed

parts of Ohio (Pacheco 1989, 1993, 1996), and an analysis of the geographic size of labor pools necessary to build the earthworks (Bernardini 1999).

The analysis clearly illustrates six of the seven characteristics of Hopewellian local symbolic communities enumerated at the beginning of this section: their ceremonial centers were functionally differentiated; multiple centers of differing function were used by single local symbolic communities; some centers were used and probably built by multiple local symbolic communities; different segments of a local symbolic community were sometimes buried in different, specialized cemeteries; members of multiple local symbolic communities were sometimes buried together, in one to several cemeteries; and not all members of such jointly burying communities were interred together. The analysis does not examine whether the earthworks with charnel houses primarily served one local symbolic community and secondarily contained representatives of the other two communities, although this situation is possible (see Note 15), and is documented for one Scioto valley ceremonial center from an earlier time by Carr et al. in Chapter 14.

At the same time, the study goes deeper anthropologically than these generalizations, in several ways. First, it reveals a probable, explicit, cultural metaphor by which local symbolic communities, in general, can be interlinked. Through burying some of their dead together, the three communities wedded together their ancestors in an essentially permanent afterlife existence and, by implication, gave strong reason for the living members of those communities to uphold the principle of social unity they were attempting to construct. This metaphor was also used historically by Algonkian and Huron tribes to bind their localized social units together through their Feasts of the Dead (Heidenreich 1978:374–375; Hickerson 1960; Trigger 1969:106–112).

Second, the study indicates that the three, interlinked, local symbolic communities probably did not conceive of themselves as one integrated "society" or "tribe." The earthwork in which primarily leaders and prestigious persons from the three communities were buried was not located at the center of the space covered by the three communities, at the meeting point of their lands, which would have neatly symbolized the unity of the three. Instead, it was built in one of the river valleys of one of the communities— that which various evidence suggests was probably the wealthiest and demographically largest of the communities. The three communities appear to have been tied together through a negotiated alliance, rather than by social tradition. That this was the case is corroborated by a suite of data that indicate that the alliance broke apart after only a few generations; only the two wealthiest and largest of the local symbolic communities continued to bury there dead together afterward.

Similarly, the asymmetric positioning of the cemetery for primarily leaders and prestigious persons does not support the notion that the three local symbolic communities were structurally integrated through one or more strong, centralized leadership positions with multicommunity domains of power, instead of by negotiated alliance. Cross-culturally, in incipient kingdoms and chiefdoms, elite residences and/or burial grounds may be placed centrally within the polity and associated with the center of the cosmos, symbolizing the political and/or religious power of the polity's leader and the identity of the leader with the polity and its well-being. (Huntington and Metcalf 1979:123).

Third, in the context of interpretive theory, the study indicates that the alliance among the three, local symbolic communities was a mature one, of the kinds that immediately precede the crystallization of a tribal sociopolitical unit bound together by pan-residential sodalities. Ecological–evolutionary theory (Slobodkin and Rappaport 1974) applied to the issue of alliance networks with cross-cultural corroboration (Carr 1992a) suggests that stable alliances generally develop in a regular way. They proceed from reversible, energy-expensive, short-term economic transactions and political mechanisms to less reversible, energy-efficient, longer-term, social–structural, political, and economic commitments via intermarriage, and eventually may culminate in binding sacred agreements, such as burial of the dead from multiple communities in a

common cemetery. Pan-residential sodalities, which are essentially permanent structures, and a common sense of social identity, that is, ethnicity, clinch the solidification of tribal organization. The fact that the three, local symbolic communities in the Scioto–Paint Creek area buried their dead together for several generations indicates a mature alliance among them. So, too, does a long-term view of the escalating kinds of alliance mechanisms used by peoples of the upper Ohio valley area from the Late Archaic period through the Middle Woodland period. Archaeological data on these developments are summarized by Carr in Chapter 7.

Fourth, the chapter infers that at least two sodalities operated within the Scioto–Paint Creek area and were marked, respectively, by copper breastplates and earspools. The frequencies, age–sex distributions, and artifactual associations of each of these kinds of items suggest that they symbolized either membership, or an attained level of achievement, in a sodality Likewise, Ruhl (Chapter 19) notes the corporate quality to earspools that is witnessed in their ceremonial decommissioning and deposition in large numbers in altars and other proveniences without human remains at Hopewell, Liberty, Old Town (the Porter Mound), and other sites. The cooperation indicated by these deposits was accentuated in at least one case (Hopewell Mound 25, Altar 1) where some earspools were bound together, forming a group offering.

The sodalities marked by breastplates and earspools were present in each of the three local symbolic communities that participated in the tripartite alliance. However, it is unclear whether this distribution reflects two sodality organizations that drew members pan-regionally from all three communities and that were essential structural aspects of the tripartite alliance or, instead, whether the distribution indicates two kinds of sodalities that were repeated in each of the three communities and that drew their members from only within communities. Either way, the two sodalities would have been important to integrating dispersed Hopwellian households. In addition, it is known through grave associations that sodality membership was not tied to clan, in contrast to many historic Algonkian organizations

(Callender 1962), and that a person could belong to one or both of the sodalities.

Finally, it is likely that the tripartite alliance was facilitated in part through the dispersion of some clans with the same animal totemic eponyms among multiple communities. Chapter 8, by Thomas et al., documents that the artifactual markers of the Canine, Feline, and Raptor clans were each found in multiple burial clusters under Hopewell Mound 25, indicating their presence in multiple local symbolic communities. The same pattern holds for artifact markers of the Feline clan under the Seip–Pricer mound, also indicating that its members lived in multiple local symbolic communities. Some other clans may have been localized within one local symbolic community, suggesting the utility of the joint mortuary ceremonies of the tripartite alliance, beyond clanship, in bridging communities.

Interregional Comparisons of Hopewellian Communities and Ritual Landscapes

The organization of Hopewellian communities and ritual landscapes elucidated in the above several sections for the Scioto area is compared to that of the Mound House Hopewellian phase in the lower Illinois valley and the Mann Hopewellian phase in the lower Ohio–Wabash area in Chapter 4, by Ruby et al. The authors apply the concepts of the residential community, local symbolic community, and sustainable community to the archaeological records in all three areas and find both key similarities and substantial differences in community organization among the areas, for both the domestic and the ceremonial spheres of Hopewellian life. In turn, many of the differences turn out to be relatable to environmental distinctions among the regions, which the chapter summarizes. The insights developed in this chapter are made possible by much new information from the Mann and Scioto areas, which is reviewed and evaluated along with data from previously published reports.

For the domestic sphere, the authors document that Middle Woodland peoples in all three areas lived in small households comprised of a

nuclear or extended family. Households typically were isolated from each other or occurred in clusters of one to a few, in response to their extensive agricultural and collecting practices. In no region did village life exist. However, the degree of household aggregation did vary among regions. In the Scioto area, no hamlets of more than two or three possibly contemporaneous households are known. In the lower Illinois valley, some bluff-base settlements were certainly larger, but by how much is unknown. In the lower Ohio–Wabash area, dispersed households over much of the landscape were complemented by a substantial residential area within the Mann site. It covered over 40 hectares and contained a 100 square meter by 1 meter deep trash midden, other discrete midden patches indicating distinct households, and large pit features for food processing and storage. Occupational remains of this magnitude are not known from any other site in the northern Hopewellian world. Household sedentism was probably greater in the lower Illinois valley than the Scioto area. Ceramic counts per unit area at even a small, Illinois hamlet (Smiling Dan) are 3 and 200 times greater than at two typical hamlets in Ohio (McGraw and Murphy, respectively). Chert debitage density is five to seven times higher in the Illinois case. These contrasts would be much greater considering larger Illinois hamlets.

These differences in household aggregation and sedentism across regions neatly reflect environmental distinctions. Natural food productivity and agricultural potential related to climate are both greatest in the Mann region, where the growing season is two to four weeks longer, an extensive slough and backwater lake system exists, and duck and geese migration densities are high. These conditions would have supported larger, longer, and more aggregated occupations there. The lower Illinois valley and central Scioto valley are not as optimal in climate, and the Scioto further lacks backwater lakes and has impoverished duck and geese migrations. In addition, the greater circumscription, linearity, and patchiness of productive lands and waters in the Illinois valley than the Scioto valley would have restricted mobility and encouraged aggregation more so in Illinois.

For the ceremonial sphere, all three areas had diverse kinds of ceremonial centers that varied in their size, layout, and ceremonial functions, and in the size and composition of social units that assembled at them. Some centers were the gathering places of single local symbolic communities, or portions of them, for burial of the deceased. In each region, these sites are marked by conical burial mounds. At other sites, larger, sustainable communities comprised of multiple local symbolic communities assembled for a broader spectrum of rituals that emphasized religious and sociopolitical matters in addition to burial. In each region, these sites were usually marked by large, loaf-shaped mounds. Some ceremonial centers in Indiana and Ohio were also functionally distinctive in having had platform mounds, and in Ohio, others were largely or fully empty, enclosed ritual spaces. In all three regions, at least some local symbolic communities had multiple, functionally differentiated ceremonial centers within them. However, there were also critical differences among the three regions in the organization of their ritual landscapes. In the lower Illinois valley, ceremonial centers that served a local symbolic community for burial were spatially segregated from those used by a sustainable community for largely nonmortuary rituals. In the lower Ohio–Wabash and Scioto–Paint Creek valleys, sometimes these two kinds of sacred precincts were joined in the same site; other times they were segregated over the landscape in different sites. Further, local symbolic communities focused on conical mound groups in the lower Illinois valley were likely territorial, given their fairly regular spacing down the valley, their placement with bluff-base habitations at critical food patches, and the demographic profiles of their burial populations, which are representative of a community. Their territoriality is expectable, given the circumscribed, linear, and patchy distribution of natural food resources in the lower Illinois valley. In contrast, ceremonial centers in the Scioto–Paint Creek area are too close to each other to have marked the distinct territories of local symbolic communities, and suggest places where, instead, multiple local symbolic communities gathered together. Finally, the probable territoriality of local symbolic

communities in the lower Illinois valley implies their relatively fixed social composition, whereas such communities in the Ohio case could have been fairly fluid in their membership. There, community membership could have been readily negotiated and redefined when multiple local symbolic communities met in ceremonial centers.

The variations in Hopewellian community organization revealed among the three study regions, as well as their multiscalar complexity and linkage to differences in natural environmental conditions, mark a significant advance in our understanding of Hopewellian domestic and ceremonial life. Smith's (1992) model of Hopewellian community organization, based upon Prufer's (1964b) earlier statement, was monolithically applied to the entire Eastern Woodlands and masked over interregional differences. The model posed only one, unspecified kind of community rather than three at different geographic scales, held each community to have had only one ceremonial center rather than possibly multiple ones, did not admit the functional differentiation of ceremonial centers within and among communities, did not recognize the use of single centers by multiple communities, and implied each community to be territorial and fairly fixed in membership rather than variable in these regards. In overcoming these characterizations, the new models of Hopewellian communities presented in Chapter 4 describe a much more dynamic landscape of intracommunity and intercommunity interaction than does Smith's model.

LEADERSHIP

In social anthropology, the topic of leadership is one aspect of the broader matter of vertical social differentiation, which also includes social ranking, differential prestige, and differential wealth. All of these forms of vertical distinction, as well as other, horizontal ones, are essential to characterizing a society's organization and describing changes in sociopolitical complexity over time (Fried 1967). However, in mainstream American mortuary archaeology, theory for reconstructing and analyzing the nature of leadership, and investigations of leadership in particular prehistoric

societies, have largely been neglected. Instead, efforts have been focused primarily on social ranking, its origins, and determining whether or not particular past societies fit to Fried's (1967) models of egalitarian or rank-organized societies. James Brown's (1981) essay entitled "The Search for Rank in Prehistoric Burials" epitomized and engrained the agenda. This focus has also been true of mortuary analyses of Hopewellian cemeteries (e.g., Braun 1977, 1979; Buikstra 1976; Cole 1981; Goad 1980; Greber 1976, 1979; Mainfort 1988a; Tainter 1975a, 1977). A noble exception to the norm is Howell's (1996) mortuary study of how Zuni leadership positions, filled equally by men and women in the late prehistoric, became male-dominant in the historic period in response to the influx of Athapaskan and Spanish peoples in the region.

The anthropological topic of leadership has many facets that archaeologists might investigate. Among those that, in my experience, appear archaeologically tractable for the Hopewellian record are (1) the range of *roles* had by leaders, i.e., the duties, tasks, and domains of action of leaders, such as heading military ventures or managing subsistence operations and schedules; (2) the nature of the *power bases* of leaders, including ties to the sacred, and secular power bases such as kinship ties, military achievement, and material wealth; (3) the means of *recruitment* of leaders, including achievement in some domain, or ascription by kinship, residence, or sodality; (4) the degree to which leadership roles were *centralized or segregated* among persons; (5) the degree to which leadership roles were *institutionalized*, i.e., standardized in their constellation of duties, tasks, domains of action, and symbology; and (6) the *geographic expanse* of the domain of power of leaders, including the "local" hamlet or village, the "supralocal" neighborhood or community, or some larger, "regional" unit of identity or consolidation. Beyond these descriptive issues lies (7) the critical question of how, in societies of middle-range complexity, supralocal, institutionalized leadership *arises* and solidifies.

In ethnology, four distinct kinds of theories about the development of supralocal, institutionalized leadership have been offered. Three

of them are material–secular in nature, and one is socioreligious. In the realm of the material–secular is Sahlins's (1968, 1972) political–economic argument. He posed that substantial leadership and social hierarchy arise when a person of strong character, physical strength, and/or talent—a potential Big Man—manipulates the labor and resources of his kinsmen to accrue valuables and/or staples that he can then give away to others in need, in order to draw them into debt to him and in support of him. The Big Man's "calculated generosity" commonly involves helping others with bridewealth, blood money, war reparations, feasts and giveaways at rites of passage, and other social obligations. With time, the resources that the Big Man gathers to give away may come not only from local kin, but also from networks of regional ceremonial exchange, in which the Big Man acts as a spokesperson for his local group (Braun 1986; Wiessner and Tumu 1998, 1999).

The second, material–secular theory of the rise of supralocal leadership and social hierarchy was offered by Chagnon (1979). Disagreeing with Sahlins's political economic interpretation, he posed a demographic one. In his view, supralocal leadership and social hierarchy in middle-range societies derive from the greater or lesser reproductive success of potential leaders and lineages, which make for larger or smaller pools of labor, women for marriage exchange, and material resources. These demographic and material differentials equate to differences in social power, prestige, and leadership potential.

The third material–secular theory was presented by Flannery (1972). It is political in character. Flannery held that supralocal leadership and social hierarchy have their origins in the expansion of the domains of power of war leaders, irrigation managers, or other organizationally important figures during periods of chronic stress. Initially temporary, the broader scope of power of these persons becomes regularized as the stress continues, and then is not given up when normal conditions return. Flannery called this process "promotion."

In contrast and complementary to these three material–secular models are several socioreligious ones that dovetail into one framework. Netting (1972) argued from multiple ethnographic cases that becoming a leader of groups beyond one's own kin and community involves the fundamental problem of developing a supralocal identity independent of kin and residential affiliations, which have divisive effects. He, and Peebles and Kus (1977:424–427), noted that establishing and demonstrating ties to a spiritual world in which multiple communities believe is effective in overcoming this problem. A spiritual leader may convince others over a large region of his or her ability to secure well-being for them by evoking the supernatural to heal, to ensure good crops or hunting, to help settle internal disputes, to keep peace in public places and among communities, to facilitate material exchange, to help in external warfare, and/or to maintain good relations with spiritual ancestors and the recently deceased. In so doing, such a leader may actually come to symbolize the spiritual and material well-being of the multiple communities as a whole society (e.g., Metcalf and Huntington 1991:133–188).

The pathway to sociopolitical complexity that is implied by the ethnographic cases of supralocal religious leadership described by Netting, Peebles and Kus, and Huntington and Metcalf has been modeled in greater detail, and is given substantially more empirical support, by Winkelman (1989, 1990, 1992). Using the Human Relations Area Files and a sample of 47 societies of varying complexity, Winkelman found that with a progression from small-scale hunting-and-gathering and horticultural societies to larger-scale horticultural and agricultural ones, classic shaman as generalized leaders with multiple functions are replaced by multiple, more specialized magicoreligious practitioners. Publicly oriented, religious–political leaders who serve multiple communities as priest–chiefs, and individual client-oriented, religious practitioners who do healing, divination, and such at the local level, become differentiated from each other as societal size increases. Thus, the origins of supralocal, institutionalized leadership was found by Winkelman to go hand in hand with socioreligious developments.

The six facets of leadership and four theories of the rise of supralocal, institutionalized

leadership just summarized are explored in the context of Ohio Hopewell and related societies in Chapters 5, 7, 8, and 18 of the book. In each of these chapters, the approach taken goes beyond the standard, contemporary one of interpreting socially significant artifacts simply as "status symbols" or as symbols of static "social positions" or "social identities" (e.g., Binford 1962:219; 1971:17; Braun 1979:67; Brown 1981:29; Hohmann 2001; Loendorf 2001; Peebles and Kus 1977:431; Struever 1964:88; Struever and Houart 1972:49). Instead, the chapters' authors focus analysis on specific and dynamic social roles: the rights and duties of positions relative to others that define their domains and forms of action in given social contexts (Goodenough 1965:312; Nadel 1957:28, 29; see Carr, Chapter 1, for details; for similar critiques see Bayman 2002:70, 74; Pearson 1999:84). This vantage not only personalizes Hopewellian archaeological records, as called for by Carr (Chapter 1), but also opens investigation more easily to several of the above named, dynamic dimensions leadership–especially the power bases of leaders, their means of recruitment, and the degree of centralization and institutionalizing of their roles–as well as the pathways to supralocal leadership.

In Chapter 5, Carr and Case identify the six facets of leadership and evaluate the relevance of the four theories about leadership development, as summarized above, for Ohio Hopewellian societies, especially those in the Scioto drainage. The data they use for these purposes are diverse and mutually corroborating: artistic representations of elite, ceremonial costumery and paraphernalia from mortuary contexts, patterns of grave association and dissassociation among artifactual markers of specific kinds of leadership roles, and the particular artistic style and raw materials with which leadership markers were manufactured.

The authors make a critical distinction among three kinds of social personae: (1) classic shaman, who are generalized magicoreligious practitioners who employ soul flight and the powers of nature to perform a diversity of community and client-oriented tasks (Eliade 1972; Harner 1980; Wallace 1966); (2) shaman-like practitioners who perform a more specialized subset of shamanic tasks and arise in larger societies, per Winkelman's (1989, 1990, 1992) survey; and (3) the broader community, which may follow religious beliefs and practices that have a shamanic tone and within which the orthodox, esoteric beliefs and practices of classic shaman or shaman-like practitioners exist (Eliade 1972). The authors find that shamanic features of one kind or another run pervasively through Ohio Hopewell and earlier Adena and Glacial Kame material culture. These characteristics include a great variety of equipment for performing particular shamanic tasks (e.g., mirrors and cones for divination, sucking tubes for healing); smoking pipes carved with apparently personal power animals with which the smoker communicated and/or merged in trance; transparent, translucent, and reflective raw materials that are metaphorical for extrasensory shamanic "seeing"; materials that are at once shiny and dark, such as obsidian, which evokes the idea of shamanic seeing into darkness and the hidden; metals that can vary from dull to shiny and back again as they cyclically are polished and oxidize, which recall the shamanic theme of transformation; and the Hopewellian art style, which is built on figure–ground reversal and, again, implies the idea of transformation. At the same time, the authors find only a few pieces of evidence of the classic shaman: a couple of Ohio Hopewell and five Adena artistic depictions of individuals in trance or soul flight and using the powers of nature. Much more frequent are signs of specialized, shaman-like practitioners and other kinds of non-shamanic leaders. These include Ohio Hopewell, Adena, and Glacial Kame animal masks and animal headdresses, which indicate animal impersonation and the practice of "becoming" one's power animal but not soul flight; depictions of elite in headgear lacking animal referents and that headgear itself; artistic representations of important persons with elaborate facial tatooing or painting but lacking shamanic features, which recall historic warriors of the Woodlands; and real and effigy trophies of warfare that apparently marked military achievements and lack shamanic character. A broad public that subscribed to the essentials of shamanic concepts, symbology, and practice without implying the commonality of

the classic shaman is indicated by the visual and transformative qualities of Hopewellian raw materials and artistic style, which are widespread in Ohio archaeological records. In sum, Carr and Case conclude that the deep shamanic quality to Ohio Hopewell material assemblages reflects societies with differentiated, specialized shamanic practitioners who operated within a broader shamanic cultural worldview, rather than societies with classic shaman.

The commonality in the Ohio Hopewell material record of depictions of leaders, paraphernalia, raw materials, and styles that have sacred qualities leads Carr and Case to conclude that the power bases of Ohio Hopewellian leaders were primarily, though not exclusively, socioreligious in nature. Netting's, Peeble and Kus's, and Winkelman's socioreligious theory of the origins of institutionalized, supralocal leadership, perhaps supplemented by Flannery's idea of promotion of war leaders, seems applicable to the case.

The authors go on to quantitatively test the applicability of Winkelman's more particular model of the rise of supralocal leadership through segregation of the roles of the classic shaman, and to characterize Ohio Hopewellian leadership in relation to the five dimensions of leadership summarized above. Carr and Case examine patterns of association and dissociaton of artifactual markers of leadership and other important positions among 767 burials in 15 Ohio Hopewell ceremonial centers to make their studies. They find a very large number of sets (21) of associated artifact classes that correspond to the roles, or bundles of roles, of leaders and other persons of importance. The roles included shaman-like and apparently non-shaman-like leaders of public ceremony, war or hunt diviners, other kinds of diviners, body processors/psychopomps, healers, high achievers in warfare, high achievers in sodality organizations, and several unknown kinds of roles. The roles turn out to be highly segregated from each other rather than centralized: 91% of the burials with markers had evidence of only one or two roles. In addition, the roles appear to have been institutionalized to only a moderate degree: the average strength of association of artifact classes within a same

set/role is moderate. The shamanic nature of most of the roles, their great number and segregation, and their moderately institutionalized quality all fit well with Winkelman's model of leadership development—specifically, the segregation of the classic shaman's many roles among multiple, specialized shaman-like practitioners.

The authors then track in detail the partitioning of critical social roles over the course of the Ohio Middle Woodland by examining the changing patterns of association and dissociation among artifact markers of leadership and importance over a sequence of three major cemeteries. Of the burials having such markers, the percentage of burials with evidence of only one or two roles is found to have steadily increased, from 73% to 100%, over the Middle Woodland, defining a trend for increasing segregation of critical roles, in line with Winkelman's model. In addition, the authors show that the endpoint of Winkelman's transformational model, where a public chief–priest and an array of individual, client-oriented religious practitioners have segregated and formalized, had not been reached by the last of the Middle Woodland period. However, moving toward this end point, two roles of public ceremonial leadership had by then become fully segregated from other roles and appear to have had multicommunity domains of power, although shared with other localized kinds of leaders. The multicommunity scope of power of the two roles is evidenced by their geographic distributions within and across ceremonial centers. In sum, Ohio Hopewell societies were clearly in transition sociopolitically, and leadership roles were being actively redefined, as in the midstages of Winkelman's transformational model.

The applicability of Winkelman's model to Ohio Hopewell societies is also shown in Chapter 13, by Carr et al. The authors estimate the sizes and social compositions of ceremonial gatherings at 22 Ohio Hopewell ceremonial centers from the counts of redundant artifacts found in graves and nongrave ceremonial deposits. Redundant artifacts—those that normally would have been owned one per person in life because they normally occur one per deceased person but, instead, are found in multiples in a given burial (e.g., 94 breastplates instead of 1 in a

burial)—are interpreted as gifts by others to the deceased. The number of such redundant artifacts is seen as an indication of the number of gift givers who gathered. All redundant artifacts in a ceremonial deposit are used to figure the number of gift givers who gathered. Employing this procedure, Carr et al. find that over the course of the Middle Woodland, over a sequence of large ceremonial centers in the Scioto valley, the proportion of classic shaman or shaman-like leaders to nonshamanic, religious, and/or secular leaders who gave gifts decreased steadily. This trend implies a shift in the nature of community leadership, from the more idiosyncratic ceremonial ways and leadership styles that characterize classic shaman and shaman-like practitioners cross-culturally to more institutionalized leadership styles approaching those embodied in priests and chief-priests, as modeled by Winkelman. Significantly, this trend is paralleled by increases over time in the size and complexity of the earthwork ceremonial centers, the number of communities that can be documented to have gathered at them, and the sizes of gatherings. These changes would have created a need for more effective communication of the intentions of leaders at multicommunity ceremonies, which appears to have been achieved through the standardizing and making predictable of leadership behaviors and rituals.

The issue of recruitment into roles of leadership and importance in Ohio Hopewell societies is taken up in Chapter 8, by Thomas et al. The authors assess which Ohio Hopewell clans had more and less success in attaining positions of leadership and importance. Analytically, this is done by examining the degree of association of artifactual markers of clan membership with markers of leadership roles and other roles of importance in 85 clan-marked burials from 16 sites. The clan markers are identified by ethnohistoric and archaeological criteria for a total of 9 or 10 clans. The key social roles that are considered include seven segregated shaman-like roles, three apparently nonshamanic roles, two community-wide leadership roles, and two roles in important sodalities. The authors find that, in total, roles of leadership and importance were distributed widely across clans rather than concentrated

in the hands of a few. However, different clans were more or less successful in gaining access to different key roles. Often, these clan–role associations make sense in terms of the qualities of the clan totem animal and the nature of the role; and in a fair number of cases, the same clan–role associations were found ethnohistorically in the Woodlands. For example, war or hunt diviners were frequently recruited from the Canine, Raptor, Raccoon, and Beaver clans. Wolves and raptors are predatory, as is war, and the Wolf clan led war parties among the historic Shawnee and the Hawk clan did so among the historic Winnebago. The association of the raccoon with death is expectable, given its nocturnal nature, and apparently was associated with warfare in later, Mississippian shell iconography. As another example, other kinds of divination activities using mica mirrors and such were performed most commonly by the Raccoon clan. The raccoon's ability to see through the night would logically associate it with divination. As a final example, trancing and other ceremonial equipment were significantly associated with Raptor clan markers. The association recalls the close relationship between the trance experience of soul flight and the experience of becoming a bird in flight.

Thomas et al. (Chapter 8) go on to assess whether a clan's success in filling social roles of leadership and importance correlated with the clan's size, its wealth, and the degree of social networking of it through sodalities and sodality achievement. The factor of clan size pertains to Chagnon's demographic theory of the foundations of social power, while the factor of clan wealth relates to Sahlins's political–economic theory of the bases of social power. The authors find that a clan's size relative to the size of others, to the best it can be estimated, did not influence the clan's success in filling leadership and other important social roles. In contrast, clan wealth and clan networking were found to be highly correlated with access to key social roles. However, most clans were fairly similarly privileged in wealth and social networking, so in the end, a wide variety of clans filled most key social roles. The results show that Chagnon's demographic theory of social power is not important for

the Ohio Hopewell case. The applicability of Sahlins's political–economic theory is more ambiguous. Specifically, the correlation analysis does not distinguish whether clan success in filling key social roles followed from clan wealth or whether clan wealth followed from clan access to key roles, in turn based on more fundamental clan characteristics—such as the capturing of a broad, religious identity, as argued by Netting. It is also possible that religious and economic factors stood in combination as root causes of the mild sociopolitical differentiation of Ohio Hopewell clans.

In Chapter 18, Turff and Carr focus on the important role of the panpiper across eastern North America. Although the specific roles that panpipers played within Hopewellian societies are unknown, their integration with various other key roles, and by implication the activities in which panpipes possibly were integral, is documented from the grave goods with which panpipes were associated and is based on evidence that panpipes typically were buried with their owners rather than given as gifts to others. Turff and Carr find that the role of panpiper was combined very fluidly with diverse roles, both within and among regional traditions. The associated roles include (1) shaman-like persons buried with items such as quartz points, mirrors, and sucking tubes, which would have been used in shamanic tasks; (2) apparent community-wide leaders marked by copper celts; (3) members or high achievers in apparently two prestigious sodalities, marked by copper breastplates and earspools; (4) clan leaders or members buried with real or effigy power parts of animals; and (5) other persons of social standing buried with gorgets and pearl and shell beads. The shaman-like roles indicated by the grave goods associated with panpipes are equally broad and include public ceremonial leadership, manufacture of ceremonial items with exotic raw materials, trance work of unspecified kinds involving smoking, divination in general, hunt or war divination, healing, and philosophizing.

The fluidity with which the role of panpiper was associated with other roles of key importance indicates that they were not firmly institutionalized, were probably reworked situationally, and

were recruited primarily by achievement, which would have encouraged such reworking, rather than by birthright or rank. The adult male-biased age–sex distribution of deceased persons buried with panpipes supports this view. All of the above situations imply the fairly informal political organization of Hopewellian societies across the Eastern Woodlands.

Turff and Carr also document that the important social roles with which that of the panpiper did and did not associate varied among Hopewellian regional traditions in a patterned way. Four broad, geographic areas were so distinguished: (1) the central Midwest, including the central Scioto, Muskingum, Miami/Indiana, Havana, and Crab Orchard traditions; (2) the northern Midwest, including the Goodall and Trempealeau traditions; (3) the Northeast, including the northern Ohio, Point Peninsula, and Saugeen traditions; and (4) the Southeast, including the Santa Rosa–Swift Creek, Southern Appalachian, Porter–Miller, and Marksville traditions. It is clear that Hopewellian societies over the Eastern Woodlands varied significantly in their organization of leadership and other positions of importance.

Chapter 7, by Carr, identifies and characterizes two further leadership roles, marked by copper headplates and celts. Both of these artifact classes are identified as symbols of community-wide leadership, or leadership within two sodalities with community-wide functions, by their forms, precious metal composition, rarity, age–sex distributions, and disproportionate burial in Hopewell Mound 25—a cemetery reserved primarily for important persons. The two leadership roles were almost never combined in the same person and tended to be recruited from different clans. In Chapter 8, Thomas et al. find that headplates occurred at statistically unexpectedly high frequencies in graves with markers of the Canine and Raccoon clans, whereas celts occurred at unexpectedly high frequencies in graves with markers of the Raptor and Nonraptorial Bird clans. The authors suggest that the distinction between headplates and celts may have marked a division between peace and war leader positions, respectively, which were widespread across the Eastern Woodlands historically. However,

archaeological and ethnohistoric evidence do not fully support this notion.

In sum, by taking their mortuary analyses beyond the search for rank, Carr, Case, Thomas, Keller, and Turff are able to reveal many facets of Hopewellian leadership, a pattern to its development that aligns with what is seen in certain other middle-range societies and modeled in anthropological theory, and its diversity among societies interregionally.

SOCIAL RANKING

Modern Americanist studies of mortuary records for their cultural information began in the mid 1960s (Binford 1964b) as a part of the New Archaeology's broad interest in reconstructing past social organization using mortuary remains, ceramic styles, and settlement patterns (e.g., Binford 1968; Deetz 1965; Hill 1968; Longacre 1968; Whallon 1968). In the arena of mortuary analysis, attention quickly came to focus on the issue of how to determine whether a past society was organized by principles of rank: "the search for rank" (J. A. Brown 1981). This topic was seen as central to evaluating the size and complexity of past social systems, to classifying prehistoric societies into sociopolitical types (Fried 1967; Service 1962), and to tracking "one of the thorniest problems in cultural evolution . . . the origin of hereditary inequality—the leap to a stage where lineages are 'ranked' with regard to each other . . . " (Flannery 1972:402).

Both fortunately and not so fortunately, the development of middle-range theory for identifying social ranking with mortuary data historically involved Hopewellian societies—in the Havana tradition in Illinois (Braun 1977, 1979; J. A. Brown 1981; Buikstra 1976; Tainter 1975a, 1977) and the Scioto tradition in Ohio (Greber 1976, 1979a; Greber and Ruhl 1989). The studies gave the first systematic looks at how Hopewellian mortuary records are structured and first impressions of how Hopewellian societies might have been organized. At the same time, the sociological interpretations that the studies offered have difficulties because the analyses were carried out when ethnological theory about the nature of ranking and archaeological theory

for identifying ranking in prehistory were first crystallizing and incomplete. Conclusions were drawn from the data that we would not draw today with broader understandings of ranking and its archaeological correlates. Also, in total, the studies provided contradictory or ambiguous conclusions about whether Havana and Scioto Hopewellian societies exhibited ranking. Specifically, Buikstra and Tainter concluded that Havana societies of the lower Illinois valley were organized by principles of rank, and Brown did so in a qualified manner. Braun did not find Havana Hopewell societies to have ranking. These opposite conclusions were derived in spite of the fact that the core of the data used by these researchers was the same site: the Klunk–Gibson cemetery in the lower Illinois valley. Regarding Ohio Hopewellian societies, Greber posited that they exhibited ranking in the course of examining the nature and organization of their social divisions. However, she did not formally derive an identification of ranking from the correspondence of mortuary data to middle-range theoretical principles about the archaeological correlates of ranking. Thus, for the multiple studies of Hopewellian cemeteries that have been done, we still do not have firm answers to the question of whether Havana and Scioto societies exhibited ranking.

The reasons that contradictory and ambiguous conclusions about ranking were drawn in the Havana and Scioto Hopewell studies are several, but two are most essential and shared by most of the studies. The problems are simultaneously conceptual and methodological in nature. First, material, archaeological indicators of four, distinct vertical dimensions of social differentiation were confounded in various combinations in the studies. These dimensions are: achieved social prestige, wealth, rank, and leadership. The archaeological correlates of these distinct forms of social differentiation were not adequately defined theoretically at the time of writing of Buikstra, Tainter, Brown, Braun, and Greber, and are yet to be adequately addressed in current published theory on mortuary practices.

Second, all of these researchers except Buikstra used the cemetery as the unit of study, implicitly assuming or erroneously stating the

equation of a mound complex or mound with a community, and the burial of most if not all members of a local community in that mound (cf. Konigsberg 1985). However, in the Havana and Scioto areas, it can be shown (see above, Community Ceremonial-spatial Organization; Carr, Chapter 7; Ruby et al., Chapter 4) that multiple cemeteries were used by single, local Hopewellian communities to bury their different social segments; and in the Scioto region, single cemeteries were used to bury substantial numbers of people from multiple local Hopewellian communities. A regional-scale, multi-cemetery perspective on mortuary programs and societies, rather than a site-centered one, is necessary in these cases to resolve past social organization. This perspective was understood and used by Buikstra (1976) in her analysis of Havana Hopewell social organization, but had to wait almost 20 years to emerge formally as a part of mortuary analysis (Beck 1995).

Chapters 6 and 7, by Carr, aim at correcting current uncertainty about whether Havana and Scioto Hopewell societies were organized through ranking. The chapters revisit the above, previous studies of Havana and Scioto mortuary records in light of current ethnological understanding of the diversity of ranking systems, and in accordance with refinements made in Chapter 6 in archaeological, middle-range theory about the expression of ranking in mortuary data. The analyses in the two chapters segregate ranking from leadership in concept and archaeological correlate, and take a regional perspective on burial programs.

Chapter 6 summarizes the key characteristics of social ranking systems cross-culturally and updates their archaeological correlates. Although social ranking has sometimes been defined ethnologically as merely differences in prestige among individuals, whether achieved or inherited or ascribed by other means, Fried's (1957, 1960, 1967) definition forms the foundation for the understanding of social ranking used in the chapter. Social ranking is defined as the differential allocation of prestige to individuals on the basis of criteria other than age, sex, or personal attributes, which results in a limited number of social categories that vary in distinction.

Ranks can be assigned to individuals, families, lineages, or clans, on the basis of descent or without reference to descent. Ranks may be defined finely, approaching a continuum, coarsely, finely at the top and more coarsely for lower ranks, or amalgamated into two or three broad "conceptual classes." None of these distinctions allow differential control over access to strategic resources. Leadership in a rank society, in contrast to rank, may be achieved, ascribed by rank, or ascribed by other criteria. Achievement commonly is the criterion used to fill leadership positions that require a special talent, such as leading war or interfacing with the supernatural. In rank societies where leadership roles are relatively centralized, rank tends to be used as a primary criterion to select leaders.

Social ranking is expressed materially and can be identified archaeologically from "symbols of rank," in contrast to markers of achieved prestige, achieved leadership, and leadership ascribed by rank. Following directly from Fried's definition of social ranking, symbols of rank are artifact classes or mortuary traits that indicate a degree of prestige through their labor investment, workmanship, exotic material source, relative infrequency, context of deposition, or symbolic flamboyance. In cemetery contexts, they are found with persons of all ages beyond puberty, rather than restricted to those in the prime of life most capable of achieving prestige. They also occur with persons of all physical predispositions to power or not, rather than with just those most physically capable of achieving prestige, and are found with both sexes. In coarse systems of ranking where many persons fill each rank level, the demographic profile of persons of one rank approximates that generated by a whole living population. In coarse systems of ranking, symbols of rank are common, whereas symbols of leadership are infrequent and symbols of achieved prestige may be infrequent. Symbols of rank, like symbols of leadership ascribed by rank, differ qualitatively rather than quantitatively from symbols of other rank levels or leadership positions, whereas symbols of achieved prestige or achieved leadership vary quantitatively from each other. Symbols of different rank levels may form a pyramidal distribution in their frequencies within a

society when ranks are calculated finely but not necessarily when they are calculated coarsely, as in the cases of ranked moieties, dual divisions, clans, sodalities, or communities (contra Buikstra 1976). Symbols of rank do not typically form covarying, redundant sets indicative of a rank level; this is a quality of centralized and institutionalized roles within a leadership position, and such positions need not be recruited by rank (contra Braun 1979; Peebles 1974; Peebles and Kus 1977). The term *symbols of authority* is not suggested for use, because it confounds ranking with leadership that may or may not be tied to ranking (contra Braun 1979; Peebles and Kus 1977).

Drawing on these more contemporary understandings of social ranking and its material correlates, Carr sifts through the many mortuary patterns found by Braun (1979), James Brown (1981), Buikstra (1976), and Tainter (1975a, 1977) for the Havana Hopewell blufftop Klunk–Gibson cemetery and/or the complementary Peisker and Kamp flood plain mound complexes, and retrieves those patterns relevant today for assessing whether ranking was present. He finds that weak ranking is indicated for lower Illinois valley Havana Hopewell societies by small differences in the labor expended on three modes of burial at Klunk–Gibson. Each mode includes subadults and adults, and males and females, in approximately equal frequencies. Together, the three modes define a pyramidal distribution of prestige. The three burial modes are: burial on an original ground surface, peripheral subfloor pits lacking limestone and/or log construction, and peripheral subfloor pits elaborated with limestone and/or logs. These burials Carr contrasts with the well-known, fairly elaborately constructed, "central" tombs that contained most fancy artifacts in the cemetery, are infrequent, housed predominantly adult males, and are associated with secondary handling of the deceased much more commonly than are the first three modes of burials. The characteristics of the central tombs suggest leaders recruited through unspecifiable means—ranking, achievement, or both—whereas Buikstra, Tainter, and Brown saw these tombs as segregating individuals and lineages of the highest rank. Leadership roles do not appear to have been centralized into one or a few positions because the mortuary traits of the central tomb burials do not covary much. Carr also places the Klunk–Gibson cemetery in a regional perspective, as did Buikstra. He suggests that the central tombs in the bluff-top Klunk–Gibson cemetery, and larger and richer ones found in the flood plain Peisker and Kamp mound complexes, may represent a two-level hierarchy of leadership positions, perhaps recruited from two different social ranks or through other criteria.

In all, the study shows the potency of taking a personalized and contextualized approach to studying the archaeological record. By decoupling, defining, and searching for social roles and dimensions that in previous studies had been lumped together—especially rank and leadership gained through achievement or ascribed by rank—and by taking a contextualizing approach in which local mortuary patterns in blufftop mounds were placed in the broader perspective of a regional mortuary program, a clear answer on whether lower Illinois valley Havana Hopewellian societies were organized by principles of rank is obtained. Certain characteristics of Havana Hopewell leadership are also revealed.

GENDER

Within the realm of anthropological and archaeological theory, gender is defined as the culturally constructed and interpreted categories of personhood that frequently are tied to differences in biological sex, age, and/or labor (Claassen and Joyce 1997:2–5). In my view, the anthropological study of gender is a part of the broader field of inquiry into the nature of social differentiation (Blau 1970)—both horizontal and vertical—its cultural construction, and its biological–demographic foundations. In this regard, the anthropology of gender focuses on women, men, and alternative genders as "social–structural groups or categories" (*sensu* Evans-Pritchard 1940; Fortes 1945; Murdock 1949a:1–112; Radcliffe-Brown 1952b:90–104, 15–31; Radcliffe-Brown and Forde 1950) as well as the

"roles" that persons in those categories play as agents of action, function, and change (*sensu* Firth 1951; Goodenough 1965; Nadel 1957). The perennial issues of the field of social structure and organization at large are found in anthropological gender studies: (1) the social *roles*—rights, duties, activities—of genders and the other societal positions that they may fill; (2) *relations* of symmetry or asymmetry in prestige, power, and authority among the genders; (3) *recruitment* and identity formation—how a person is enculturated and personally comes to identify with a gender through familial and societal practices and rites of passage; (4) the *cultural construction* and continuously negotiated reformation of gender through the prescribed and proscribed rituals of mundane daily life, sacred events, public celebration, semiprivate or private observances, etc.; (5) the *ideology* of gender—the meaning(s) attributed culturally in a given social or cultural situation to being male, female, or an alternative gender, or being in relationship to the same or a different gender; (6) the *symbolism* of gender and its meaning, expressed in material stylistic or other cultural ways; and (7) the *ultimate causes* of gender distinctions, like other social categories, including demographic, biological, psychological, economic, and evolutionary factors, in contrast to proximate cultural factors. Different subsets of these topics have been recognized or emphasized by different researchers of gender (e.g., Claassen and Joyce 1997:6–7; Conkey and Spector 1984:15). What is clear is that the issue of gender is crucial for a full understanding of social organization.

The archaeology of gender formally began with Conkey and Spector's (1984) call for archaeologists to explore gender issues like their sociocultural and social science colleagues, and has quickly led to conferences (see Hays-Gilpin and Whitley 1998:6) and now hundreds of articles on gender by archaeologists, as surveyed by Claassen and Joyce (1997:1). With the revealing and recognition of the clear andropocentrism of many previous archaeological, sociocultural, and physical anthropological studies, gender studies have naturally and with welcome tended to focus on the woman side of the balance (but see Knapp

1988). Archaeological studies of gender have developed along three fronts, at least, which might be termed *womanism gender proper*, and *feminism*, following the lead of Claassen and Joyce (1997:1).

The goal of womanism is most basically to find archaeological evidence of women of the past and their activities. This goal, though deceptively simple in statement, calls for fundamental changes in the traditional assumptions and operations of archaeology. Womanism challenges the traditional ethnographic finding that there are cross-cultural near-universals in the division of labor among the sexes, with women working soft and pliable materials and men working hard, difficult-to-process materials (Murdock 1949b; Murdock and Provost 1973), and with women avoiding dangerous tasks (Burton et al. 1977). It also challenges the contemporary stereotypical view of what activities women and men are capable of, in light of potential biological distinctions among them in robusticity and strength and the actual difference of child birthing. The methodological consequence of these new ideas is that inferring the past actions and the presence of a man or a woman in the archaeological record cannot be done by the commonplace archaeological means of simply determining the utilitarian function of an artifact and evoking stereotypic linkages between task and biological sex (see Conkey and Spector 1984:8, 11–12). Further, decoupling women from soft and decayable materials undermines the traditional notion that female activities, being involved with such materials, are less visible archaeologically than male activities (e.g., Isaac 1978:102).

The second front of development of gender studies in archaeology—gender proper—potentially encompasses all seven of the topics of social structure and organization listed above, but practically has focused primarily on women's and men's social roles, their complementarity or asymmetry, and their relative prestige, power, and authority (e.g., Claassen and Joyce 1997; Crown 2000; Hayes-Gilpin and Whitley 1998). Archaeological studies of gender proper also question the two long-standing assumptions, that division of labor by biological sex is a

cross-cultural universal that runs deep in time (see references in Conkey and Spector 1984:9), and that male-dominant sexual asymmetry is a universal fact of human social life (Rosaldo and Lamphere 1974).

The third area of development—feminism—aims at empowering women today by revealing through critical theory the androcentrism of traditional anthropological research and the gender stereotypes that it has implicitly assumed, which have academically supported sexism and gender asymmetry in popular Western culture (Conkey and Spector 1984:3). In addition, feminist studies have attempted to empower women today by documenting women in positions of power in the past and the potentials that are truly women's, in contrast to limiting, contemporary Western stereotypes.

In this book, gender issues under the heading of womanism and gender proper are explored in Chapters 9, 10, 11, and 18, by Field et al., Rodrigues, Keller and Carr, and Turff and Carr, respectively. Each chapter finds archaeological evidence of women and their activities in past Hopewell societies, and goes on to discuss the social roles and degree of prestige held by women, and sometimes by men.

In Chapter 9, Field et al. make a very detailed examination of the social roles filled by women compared to men in Ohio Hopewellian societies, variation in role assignments across regions, and the implications of these patterns for reconstructing kinship, gender equality or inequality, multiple genders, ethnicity, and the nature of interregional Hopewell. The study that the authors make is gender-balanced and neutral, rather than specifically oriented toward women. It is based on the distributions of artifactual role markers in the graves of females and males in three regions: northeastern Ohio, the central Scioto valley, and southwestern Ohio. The social roles that are considered include shaman-like leadership in the arenas of war or hunt divination, other divination, and heading public ceremonies; apparently community-wide, nonshamanic leadership marked by metallic headplates and celts; prestigious sodality membership or achievement marked by metallic breastplates and earspools; perhaps more secular war achievement indicated

by trophy skulls; and importance in one's clan signaled by animal power parts.

The authors uncover striking geographic variation in role assignments and gender dominance. In northeastern Ohio, only graves of males contained markers of the above-listed kinds of important social roles, and even utilitarian items were found much more commonly with males than females. In the central Scioto valley, roles of importance were distributed more equitably among the sexes, with some male predominance in most roles and female equality or predominance in a few. Males and females shared, with male predominance, in metallic breastplates and earspools that marked prestigious sodality positions, copper celts that apparently symbolized community wide leadership, shaman-like divination items not associated with warfare or the hunt, tortoise shell ornaments and copper nose inserts used in unspecifiable shaman-like activities that probably involved trancing; conch shells used in leading public ceremony, and, with much more male predominance, items for war or hunt divination and body processing/psychopomp work, and trophy skulls perhaps indicating war achievement. Females were buried largely or exclusively with two kinds of wind instruments—panpipes and flutes—while males alone were buried with metallic headplates that probably indicated community-wide leadership and with barracuda jaws and batons that marked leaders of public ceremony. In southwestern Ohio, in contrast, roles of leadership and prestige—shamanic and nonshamanic, war or hunt-related and not—were exclusively or largely held by females. This is the case for roles marked by artifacts used in war or hunt divination, other divination, body processing and/or psychopomp work, and public ceremonial leadership, as well as metallic breastplates and earspools that indicated prestigious sodality positions.

The strong assignment of key social roles to males in northeast Ohio suggests a patrilineal ethic, which would accord with the patrilineal kinship systems of historic Central Algonkian tribes of the northern Woodlands. The dominance of females in positions of prestige and power in southwestern Ohio suggests a matrilineal ethic, and recalls the matrilineal kinship systems of

historic tribes of the southern Woodlands. The more equitable but still male-biased distribution of important social roles between the sexes in the central Scioto valley is less easily correlated with kinship, but may reflect weak patrilineal, cognatic, or dual systems of descent and role allocation.

The regional differences found in the sexes that filled various social roles, in the relative prestige and power of women and men, and possibly in kinship suggest that these gender-related aspects of social organization were local issues rather than an integral part of any pan-Woodland, Hopewellian ideology, identity, or practice. If interregional Hopewell was a social–symbolic form of a kind, as proposed by Seeman (1995), gender and kinship were not the essential social components of it. On the contrary, Field et al. suggest that regional differences in the roles and prestige of women may have been essential aspects of constructed identities by which Hopewellian groups came to distinguish themselves from each other, i.e., ethnicity. The authors summarize some key ethnological works that link gender and ethnicity in their mutual construction.

The role analysis made by Field et al. also reveals an interesting bit of the cultural fabric—a socioreligious theme—of central Scioto Hopewellian societies. There, three social roles related to death and the life–death contrast were each strongly filled by males: war or hunt diviners, war achievers, and body processors/psychopomps. This social pattern may indicate a masculine polarity to death in the worldview of central Scioto Hopewell peoples, and a gender dimension to the dualism that pervades Hopewellian art of that region and others (Carr and Case, Chapter 5; Greber and Ruhl 1989:275–284).

Another topic addressed by Field et al. is the relationship between gender dominance and the religious roles played by women. Deprivation theory proposes that in male-dominated societies, women sometimes seek out religious roles, especially as mediums, as the only refuges of power and prestige (Lewis 1971; see also Winkelman 1989, 1990, 1992). In contrast, Sered (1994) found that women played dominant religious roles in matrifocal societies, especially matrilineal and matrilocal ones. The Ohio Hopewell

record follows the latter generality. In southwestern Ohio, where key leadership roles were exclusively or largely held by females and matrilineal kinship is inferred, women exclusively held the shaman-like roles of war or hunt diviner, diviner in other matters, and public ceremonial leader, whereas men shared in only one shaman-like role—that of body processor or psychopomp. Persons that held multiple shaman-like roles and had broader spans of religious power, as indicated by grave inclusions, were all women. In contrast, in northwestern Ohio, where males do appear to have dominated politically (see above), the mortuary record would suggest that women did not take harbor in religious roles.

A final subject that Field et al. consider is the social construction of gender—specifically the construction of more than two gender categories, termed *gender variance*. Third genders are relatively common in Native American societies, where they are associated with spiritual power (Fulton and Anderson 1992:609; Holliman 2001:128; Nanda 2000; Roscoe 1999:8, 26). More broadly over the globe, third genders are associated with shamanism. The transformation of males into shaman sometimes involved the neophyte taking on the hair style, clothing, and/or work of women and a composite, masculine–feminine gender identity (Eliade 1972:257–258; Joan Halifax 1979:22–28). The association of third genders with religious practitioners appears to hold for the Hopewellian mortuary records from the Scioto valley and southwestern Ohio, as well. Field et al. found three cases of persons who were buried with shamanic equipment and who had additional shamanic or other ceremonial artifacts that typically were buried with the opposite sex in that geographic region. These instances of cross-gender artifact associations interestingly included both male and female burials.

The study by Field et al. in Chapter 9 is continued with more detail and a narrower geographic focus in Chapter 10 by Rodrigues. She compares the musculoskeletal stress markers (MSMs) of male and female skeletons, the mortuary features of their graves, and the co-occurrence of these biological and cultural traits at the Turner site, southwestern Ohio, in order

to examine several topics. Her subjects are: the sexual division of labor and leadership, and the relative workloads, health, and prestige of men and women in the Turner community.

MSMs are hypertrophied ("bumpy") areas on bone where muscles, ligaments, or tendons attach and, because they have been chronically or traumatically stressed in bearing loads, net bone growth has increased. The size and placement of MSM on a skeleton can indicate the tasks that the person repetitively and stressfully performed because different tasks involve different sets of muscles, ligaments, and tendons, with different places of attachment. Rodrigues's study is one in a line of pioneering methodological research (Angel et al. 1987; Hawkey 1988; Hawkey and Merbs 1995; Kennedy 1983, 1989; Merbs 1983; Nagy 2000) that has developed the explicit measurement and the interpretation of MSMs for activity reconstruction (see also Capasso et al. 1999; Peterson and Hawkey 1998). Her specific methodological contribution is the compilation of functional–morphological, kinematic, ergonomic, electromyographic, and sports medicine data on the stress markings produced by particular activities, and then the positing of specific combinations of MSMs that can be expected to be caused by particular tasks among peoples with traditional technologies. Previous studies have commonly focused on overall differences between men and women in the kind of work they did and workload, rather than the specific activities undertaken.

Rodrigues's study seriously challenges conventional Western stereotypes of the activities performed and the social positions held by men and women in hunter–gatherer and horticultural societies. In contrast to Murdock's (1949b; Murdock and Provost 1973) cross-cultural generalizations, she concludes that females in the Turner community, rather than males, may have been more involved in flint knapping, as well as running that might have had a hunting association. Females may have more commonly performed hide preparation with an endscraper, which Murdock did not think was linked to sex. Both sexes may have ground nuts and seeds, females with a nutting stone and pestle, males with grinding stones, in contrast to the stereotypic notion of women processing plant foods. Other activities of Hopewellian women and men are also concluded. In contrast to some woman-oriented studies of gender, Rodrigues attempts to reveal the division of labor among both women and men, in a gender-balanced and neutral manner, as completely as possible.

Rodrigues goes on to document the nature of leadership in the Turner community, using the same archaeological data as Field et al., but extending and qualifying their analysis with osteological information. Like Field et al., Rodrieges finds that females as well as males at Turner held positions of leadership and high prestige, that females more than males were buried with shamanic artifacts and other artifacts of institutionalized leadership, whereas males more than females were buried with prestigious personal items, and that only females were buried with artifacts indicating more than one leadership role. Harmonious with the conclusions of Field et al., Rodrigues postulates that institutionalized leadership roles in the Turner community may have rested primarily with women, that they may have been inherited through the female line, and that male positions of prestige may have instead been achieved. At the same time, Rodrigues notes that leadership roles appear to have sheltered males from extensive work but not females, and that an increase in the number of leadership roles held by females seems not to have led to a decrease in their workload. She also finds that individuals with high status—both males and females—often had strong cases of pathologies, whereas those of lower status commonly had only mild cases. These health distinctions were not tied to differences in workload. These joint biological and archaeological assessments paint a more complex picture of the on-the-ground lifeways of males and females at Turner than that inferred from only the archaeological data used by Field et al.

Chapter 11, by Keller and Carr, documents the social hands of Hopewellian women and men through the study of clay figurines found in the Havana, Mann, and Scioto regions. The figurines depict women and men in equal abundance, some children, and individuals whose sex cannot be determined. The authors argue that

the figurines were most likely made by women, based not simply on ethnohistorical analogy, but also on archaeological patterning. The authors point out that there is a very strong tendency in historic North America and in the Woodlands (Driver 1969) for women to have made ceramics, which should not be undervalued by feminist theory. They also note the naturalistic style of the figurines, their manufacture from clay, which was readily accessible to women, and the common domestic contexts of deposition of figurines in regions where habitation areas have been well excavated (the Havana and Mann regions). All of these ethnohistorical and archaeological characteristics generally point to women and their familial world. These traits also contrast from those of other Hopewellian artworks that are geometric and/or were made of stone or metals obtained from great distances ethnohistorically traversed largely by men (e.g., copper earspools, breastplates, headplates, and celts and mica polygonal mirrors; see Chapter 16), that were restricted to mortuary contexts, and that were more commonly or exclusively buried with males, at least in Ohio (Carr and Case, Chapter 5). Thus, figurines probably provide a woman's view of Hopewellian society and gender, and it is on women that Keller and Carr focus their attention.

The ornamentation and hair styles that the figurines depict suggest that women in the Havana region, compared to the Mann and Scioto regions, had greater access to positions of leadership and/or prestige, and were more active in communicating their positions and power in society. Female figurines in the Havana region have earspools, which were markers of prestige of a kind (Carr, Chapter 7; Carr and Case, Chapter 5; Ruhl, Chapter 19; Greber 1979), somewhat more commonly than do male figurines. Female figures also have topknots and heads shaven on one or two sides—which reveal and call attention to earspools—in equal proportions to male figurines. In contrast, in the Scioto and Mann regions, earspools, topknots, and shaven heads on two sides are found primarily or exclusively on figures of males. Variation in the height of sitting postures depicted by figurines from the Havana region suggests that some males had higher prestige relative to other males and to females, who

were more equal to each other but distinguished in posture form.

Ceramic figurines and vessels in the greater Scioto region may also record a change in the role of women in society and, perhaps, their increased prestige over time. During the Early Woodland Period, utilitarian pottery vessels were used during Adena graveside rituals but not placed with the dead. By the Middle Woodland Period, utilitarian ceramics were placed with some Scioto Hopewell burials. If women produced and used these ceramics, then through time women apparently became more involved with caring for the dead. The addition of fine Hopewell ware and clay figurines to Scioto Hopewell burials could record other roles that women came to assume in the mortuary domain, if women made and used these items. A final step in this sequence may be represented by the inclusion of finely executed clay figurines with effigies of Lower World monsters, copper geometric symbols of status, and many other prestigious items. These were placed not in a burial but, rather, a cremation basin filled during an apparently large and symbolically important ritual gathering at the Turner site. Turner probably dates to later in the Middle Woodland (Prufer 1964a:49). This ceremonial deposit may indicate the elevated role of a woman who was involved not only in the Middle World affair of caring for the deceased, but also in relationships among cosmological realms and/or their beings more broadly.

There is some indication that women within each of the Havana and Scioto Hopewell regions actively created and maintained their social positions, prestige, and identity as women through their frequent interaction with each other in the domestic and mortuary rituals in which figurines were probably used. Common, close interaction among Hopewellian women within each of these two regions is indicated by similarities in the kinds of status markers depicted on figurines and in obscure technological and stylistic traits of the figurines within each region.

Chapter 18, by Turff and Carr, corrects the observation of Griffin et al. (1970), that use of Hopewellian copper and silver jacketed panpipes was exclusively the domain of adult males, by documenting the burial of panpipes with women

and men of diverse ages, as well as children. The authors offer the alternative view that, in at least some regional traditions, panpipes may have functioned in age and gender-related rites of passage of several kinds, including naming, attainment of puberty, menopause, passage into elderhood, and/or the death of persons at such ages. This interpretation seems most plausible for Hopewellian societies in the neighboring Point Peninsula, Saugeen, and northern Ohio regions, where panpipes are found in unusually high frequencies with children, adolescents near puberty, and the elderly—both females and males. In support of their idea, the authors recall the use of panpipes among the Columbian Desana to mark sexual development, as well as Hall's (1979) broader findings of association between panpipes or flutes and sexuality/fertility in the New World. In the course of documenting the rituals in which Hopewellian panpipes were used, Turff and Carr describe four burials that are especially significant to their "rites of passage" argument as well as to womanist studies. At LeVescote Mound 1 in Ontario were buried an old woman of 45–60 years and a child, each with the very unusually high number of four panpipes. Another child in the mound had one panpipe, as did a child in the nearby Cameron's Point Mound C. All of these individuals had panpipes that were silver-jacketed—a rare form over the Woodlands. The number of panpipers who gathered at one time at LeVescote and gave panpipes as gifts to the deceased could have ranged between four and nine, and possibly indicates a ceremonial society of panpipers in this region—perhaps like the historic Algonkian sacred pack organizations (Calendar 1962; Skinner 1915; Tax 1937) and perhaps one focused on women and/or restricted in membership to women.

The roles of leadership and prestige that Field et al., Rodrigues, Keller, and Turff and Carr each document for Hopewellian women of multiple regional traditions counterbalances the generally accepted view of Hopewellian women as subordinate, which is drawn from Buikstra's (1976) and Braun's (1979) detailed mortuary analyses of the Klunk, Gibson, and other Havana cemeteries. Both Buikstra (1976:34, 40–41) and Braun (1979:76) found that only males were given individual burial in the most energy-expensive, central tombs of the mounds. Females, when found in central tombs, were always accompanied by a male. Males also were buried with a very much greater number and diversity of Hopewell Interaction Sphere goods than were females (Braun 1979:79; Buikstra 1976:35, 42).

CONCLUSION

The opening chapter of this book points out that, despite the richness of Hopewellian material culture and the deep curiosity of professionals and the public in the social and ritual lives that produced those remains, we know amazing little of the details of Hopewellian ways. The discussions offered here and in the following chapters in Part II, on Hopewellian community ceremonial–spatial organization, leadership and its development from shamanism, social ranking, gender, and other aspects of the social, political, and ritual organizations of northern Hopewellian peoples, demonstrate that detailed, ethnographic-like understandings of them are feasible when a locally contextualized, personalized, and generative approach to their archaeological remains is taken. For instance, the identification of shaman-like leaders involved in divination, healing, public ceremony, or soul guidance in Ohio Hopewell societies; the documentation of their animal–totemic clans and the success of clans in filling particular leadership roles; and the increasing role of some Hopewellian women in mortuary ceremonies through time lend to culturally richer and more humanized understandings of Hopewell than does the discussion of generalized social categories such as "persons of prestige" and "horizontal social segments." Reconstructing sociological and cultural details of the kinds just mentioned and sought out by the authors in this book—thick description in archaeology—does not require any loss of scientific, empirical validation. Such work does require the desire and commitment on the part of archaeologists to contextualize and personalize Hopewellian studies, and to assemble the comprehensive and detailed data upon which firm sociological conclusions can be drawn.

NOTES

1. The term, sustainable community, is an unfortunate one because the word, community, implies a self-identifying unit, as in "a sense of community," but sustainable communities need not have this feeling or be self-recognizing. Network is a less presuming and more appropriate word.

2. An exception is Pacheco's (1993:42–45, 1996) interpretation of earthwork functions via ethnographic analogies to the Mapuche and Chachi. See also DeBoer (1997).

3. Struever did not publish on the burial programs of Hopewellian peoples in the lower Illinois valley, and specifically on the residential affiliation(s) of those buried in flood plain cemeteries.

4. Specifically, Greber (1979a) thought that Seip–Pricer represented the remains of a rank society of complexity, with three differentially ranked divisions whose membership was ascribed (Greber, p. 45), whereas Ater represented a society of less complexity, with two divisions that were about equal in rank and whose burials were focused around individual leaders and/or their kin (Greber, p. 50–51). This diversity in social ranking and segmentation aligns with organizational differences found among middle-range societies that span distinct ecological settings separated by distances of the order of 100 to 300 kilometers (e.g., Flannery 1967; Sahlins 1968; Wiessner 1999). In the historic Eastern Woodlands, organizational contrasts of the kind Greber posited are approximated by the distinction between northeastern societies and the simpler of southeastern societies, which are widely separated. In contrast, Seip–Pricer and Ater are located a small distance from each other (ca. 17 kilometers by air, 49 kilometers by river), in similar ecological settings, and are not separated by any major topographic barrier. They were likely components of directly neighboring societies in adjoining river valleys (main Paint Creek and its North Fork), considering Pacheco's (1996; Pacheco and Dancey n.d.) estimates of the catchment size of some Ohio Hopewellian local symbolic communities, and mortuary and stylistic evidence (Carr Chapter 7). Thus, the societal diversity proposed by Greber for Seip–Pricer and Ater is out of sync with ethnographic analogs.

5. Caldwell asked Struever to think about Hopewell from a regional perspective, and specifically in relation to Caldwell's concept of interaction spheres, in preparation for giving a paper in a symposium organized by A. R. Kelly for the 1961 American Anthropological Association meetings. The result was Struever's (1964) article on the Hopewell Interaction Sphere considered in a regional, adaptive, ecological, and demographic framework (Struever, p. 96–105) that centered on mudflat horticulture and that was suggested by his survey findings of Havana Hopewell site distributions in the lower Illinois valley.

6. The modestly sized mounds, after decades of cultivation, are now spread out over an approximately 25 meter diameter circular area and a 20×40 meter oval area based on topography, only (Jarrod Burks, personal communication, 2003). Their original areal expanses would have been significantly smaller.

7. It is also likely that at least the Mound City cemetery served as a burial grounds for leaders from multiple, local symbolic communities (Carr et al., Chapter 13).

8. Romain analyzed a rectified USDA aerial photo of the Cedar Bank works. He found that if the earthwork was a square, with all sides equal to the intact eastern wall of the works, then given the azimuths of the wall segments that appear on the air photo, the diagonal southeast–northwest axis of the Cedar Bank Square extends along an axis of $125.5°$ in one direction and $305.5°$ in the other. The diagonal axes through opposite corners of the squares of other earthworks in the Scioto–Paint Creek area are oriented similarly. These squares and the azimuths of their diagonal axes in each direction are as follows: Hopewell (123.0/303.0°), Anderson (120.5/300.5°), Mound City (119.0/299.0°), Seip (123.2/303.2°), and Hopeton (121.9/301.9°) (William F. Romain, personal communication, June 11, 2003).

9. Squire and Davis's (1848) maps of the earthworks in the Scioto–Paint Creek area vary in the accuracy of their directionality from contemporary measurements between 2 and 12 degrees, depending on the site. Although these accuracies are not good enough to determine the orientations of the earthworks to specific celestial events, they are sufficient to say whether Frankfort and Works East are oriented differently from each other and from other earthworks in the vicinity. The differences in orientation shown by Squire and Davis are greater than their mapping error levels.

10. The similarity of the Anderson earthwork to Mound City in size and morphology suggests their similar time of construction according to seriation principles developed by DeBoer (1997:232). He has shown a reasonable association between the morphology and the size of earthworks as wholes and between these traits and the morphology and size of their component shapes. These associations, coupled with some chronometric information, suggest that the earthworks can be seriated over time according to these traits.

11. An Adena circular earthwork with a diameter of 500 square feet has an area of 4.5 acres, which is larger than the 3.5 acres enclosed in the Scioto Hopewell Tremper earthwork. The charnel house under the Tremper mound contained about 375 deceased persons—enough to constitute a small sustainable breeding population. Between 136 and 1,175 persons, from three to five social units, are estimated to have gathered at the earthwork (Weets et al., Chapter 13)—within the range of a local symbolic community, if not a sustainable community.

12. Prufer (1964a:74) concluded that all persons buried in the "great" Ohio Hopewell burial mounds were privileged and that places of disposal of commoners had yet to be found.

13. The large, loaf-shaped mounds considered here, and their numbers of burials and of gatherers, respectively,

are as follows: Hopewell Mound 25 (98, 580), Seip–Pricer (110, 229), and Edwin Harness (183+, and unknown). The smaller, isolated mounds, and their numbers of burials and of gatherers, respectively, are as follows: McKenzie (10, 17), Rockhold (5, 13), Ginther (0, 12), Bourneville (11, 10), and Shilder (1, 4).

14. Alternative cultural interpretations that were ruled out empirically for the three burial clusters under each of the Hopewell 25, Seip–Pricer, and Edwin Harness mounds include the following: that they were different rank groups, that they were places of burial of leaders versus nonleaders or leaders of particular kinds, that they contrasted in other kinds of social roles, that they comprised different age sets or gender groups, that they differed in how the deceased died and social categories of death, and that they varied in the land of the dead to which the deceased was thought to have gone.

15. The sizes of burial clusters under the Pricer mound at Seip are 47, 37, and 18 individuals. The sizes of burial clusters in three rooms under the Conjoined mound at Seip are 24, 19, and 0 individuals. The sizes of burial clusters under the Edwin Harness mound at Libery are 68, 48, and 22 individuals. The sizes of burial clusters under Mound 25 at Hopewell are 35, 13, and 30 individuals.

Community Organizations in the Scioto, Mann, and Havana Hopewellian Regions

A Comparative Perspective

Bret J. Ruby, Christopher Carr, and Douglas K. Charles

This chapter has three purposes. First, it reviews previous and current models of Hopewellian community organization in the Midwestern United States, to stand as context for other chapters in the book. Community organizations modeled implicitly by Prufer (1964a, 1965) for Ohio and Struever (1968a, 1968b) for Illinois in the framework of subsistence-settlement studies, as well as explicitly by Bruce Smith (1992) for the northern and midsouthern Eastern Woodlands in general, are considered. Second, this chapter reports, summarizes, and cites many new archaeological data, against which previous and current models of Midwestern Hopewellian community organization are evaluated. Three geographic regions are considered: the lower Illinois valley, which was a homeland of the Mound House phase of the Havana Hopewellian tradition (Farnsworth and Asch 1986); the lower Wabash–Ohio River confluence area, where the Hopewellian Mann phase developed (Ruby 1997a); and the Scioto–Paint Creek confluence area, which was the center of

the Ohio Hopewell phase of the Scioto tradition (Prufer 1965) and the place of the most elaborate Hopewellian expression in the Eastern Woodlands (Figure 4.1). Third, this chapter aims at an empirical, controlled comparison of Hopewellian community organizations across the three regions. A comparative perspective holds the promise of highlighting variability in the organization of Hopewellian communities and resolving the monolithic, homogenized characterization of Hopewellian community organization presented by Smith and others into its variant forms. At the same time, a comparative perspective may draw attention to underlying ecological, social, and historical factors that might account for similarities and differences in community organization across regions.

The chapter begins with a broad, theoretical consideration of the nature of communities as a framework for interpretation. Three kinds of communities are distinguished: residential communities defined by coresidence and regular, face-to-face interaction; sustainable
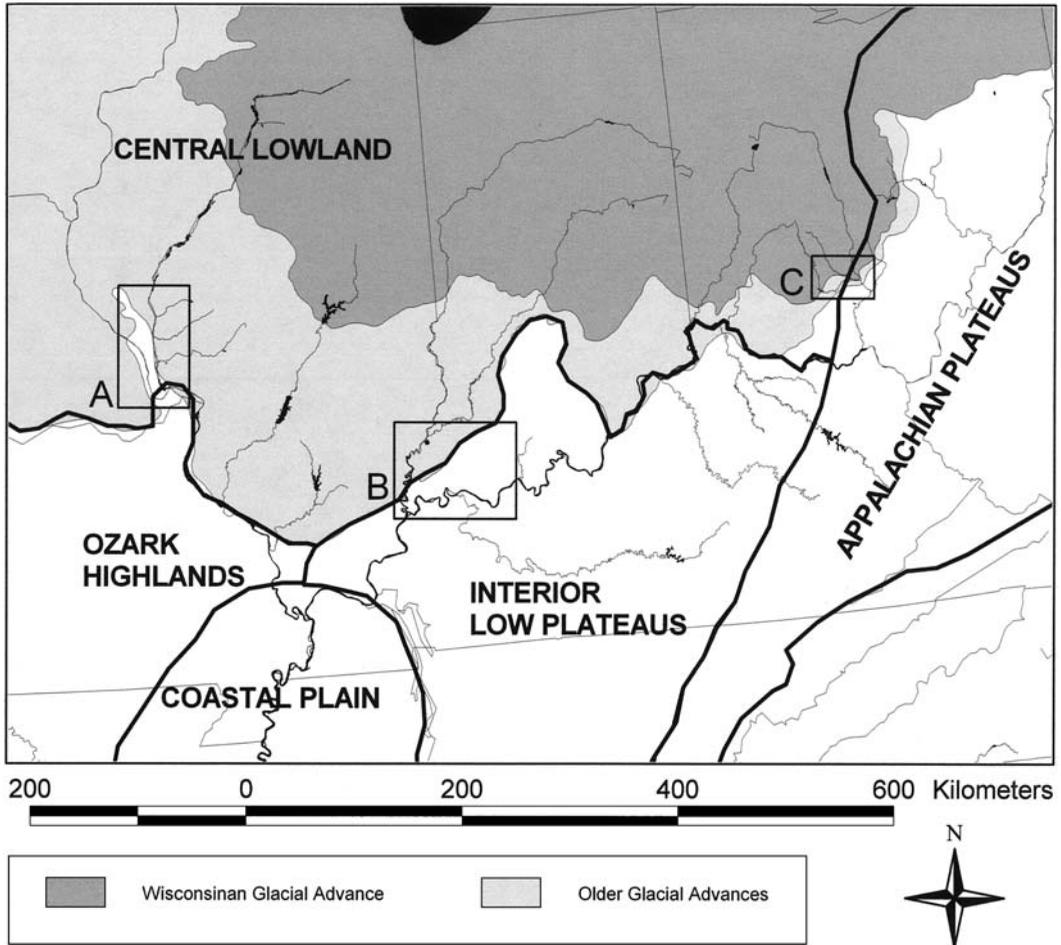
Figure 4.1. Three Midwestern study areas of Hopewellian expression: (A) the lower Illinois valley, where Havana–tradition Hopewell developed; (B) the lower Wabash–Ohio River confluence area, where the Hopewellian Mann phase developed; and (C) the Scioto–Paint Creek confluence area. Five physiographic provinces in the vicinity of these areas are shown.

communities of the size necessary to meet the long-term demographic requirements of a population; and symbolic communities that may be more fluid in membership and less territorially bounded, and that are formed for various social, political, and/or economic ends.

A brief discussion of the roles of mounds and earthworks in community formation, organization, and maintenance is also provided. We point out that mounds and earthworks can play very different roles in relation to different kinds of communities, such as defining and displaying corporate identity, defining territorial rights, and/or symbolizing participation in a

continuously negotiated network of social units. Different mounds and earthworks can be variously interpreted as cemeteries, as earth shrines or shrines to the ancestors, or as stages for ritual and political action (Buikstra and Charles 1999). Thus, some Hopewellian mound and earthwork centers hosted a much richer array of activities than simply mortuary ritual. We also note that mounds and earthworks may vary in their spatial relationships to communities. They may occur at the centers or edges of communities, or in less definable positions where community boundaries are fluid, overlapping, and/or continuously negotiated.

The chapter proceeds to summarize Bruce Smith's (1992) monolithic model of Hopewellian community organization in the Eastern Woodlands. Smith (1992), like Prufer (1964a) earlier for Ohio, envisioned the Hopewellian community to have been a group of dispersed households that associated with a single mounded cemetery or earthwork complex and that supported themselves through farming. We then point out the need, today, to explore regional variations in community organization and their natural environmental determinants. The chapter goes on to detail environmental variability across the three regions, including their natural plant and animal productivity, climate-based agricultural potential, spatial circumscription of food availability, and ease of transportation. The lower Wabash–Ohio area and the lower Illinois valley are found to have been privileged relative to the Scioto–Paint Creek area in food availability, potential for sedentism, potential for population growth, and/or opportunity for regional social intercourse. In addition, the lower Illinois valley is observed to exhibit the greatest circumscription of food resources and potential for social competition and subsequent development of territoriality and social complexity. These conditions are found to have been essential in determining variations among the three regions in the organization of their local symbolic and sustainable communities. In addition, the specifics of the environmental variations among the three regions suggest that these factors, alone, cannot account for the unusual elaboration of social complexity in the Scioto–Paint Creek area.

Hopewell community organization in each of the three regions is explored next. Key excavated sites and survey areas are described, with an emphasis on summarizing new information from the lower Ohio–Wabash and Scioto regions that has emerged through a resurgence of field research in these areas. Equivalent studies in the lower Illinois valley are well published and are presented more briefly. The evidence indicates that none of the three areas had nucleated villages during the Middle Woodland and, instead, supported small residential units of one to a few households, in agreement with this basic element of the Hopewellian community models posed by Bruce Smith for the Woodlands and Prufer, and later Dancey and Pacheco, for the Scioto–Paint Creek area. However, the image that these models construct, of the dispersed households of a community of one unspecified kind focused on a single ceremonial center, is not supported empirically. Specifically, in each region are found ceremonial centers of diversified functions rather than centers of one kind. Some centers served primarily for holding mortuary ceremonies; others as the locations of predominantly or exclusively other kinds of ceremonies. Some mounds and mound groups were built and used by relatively small, local social groups, while others hosted gatherings of social groups drawn from farther afield, forging symbolic or sustainable communities. Local symbolic communities used multiple kinds of centers within their own territories, and some centers were used by multiple local symbolic communities. Ceremonial precincts used by singular local symbolic communities were sometimes segregated from and sometimes combined with ceremonial precincts used by multiple local symbolic communities that constituted a broad, sustainable community. Individuals in each region likely visited a range of these ceremonial centers for different purposes, each event a potential context for the construction of group identities and affiliations of varied membership, duration, and spatial extent.

We conclude that greater circumscription and linear distribution of food resources in the lower Illinois valley most likely fostered local symbolic communities there to be territorial and relatively fixed in membership, whereas the less constraining environments of the lower Wabash–Ohio and Scioto–Paint Creek regions allowed the construction of local symbolic communities that archaeologically do not indicate their territoriality and that could have been relatively fluid in membership. Also, differences in environmental natural productivity and agricultural potential among the three areas are shown to have led to different patterns of residential aggregation and sedentism there. Household aggregation was greatest in the lower Wabash–Ohio area, where food resource productivity was highest. The Mann site is unique among Hopewell geometric earthworks in having a substantial residential

area within it. Illinois residential sites sometimes were larger than the one-to-two household habitation sites that characterized the Scioto–Paint Creek area. Settlement mobility appears to have been greatest in the Scioto–Paint Creek area, where food productivity was lowest.

All of these variations in the ceremonial and domestic spheres of Hopewellian life, within and among the three regions, call for fundamental revision of our notions of Hopewellian community organization. This review clearly reveals that the pan-Woodlands model of the Hopewellian community as a group of dispersed households associated with a single mounded cemetery or earthwork complex, as offered by Smith and Prufer, is overly simplistic. The oversimplification stems in part from an uncritical use of the concept of "community," as well as a tendency to treat all mounds and earthworks as if they were equivalent in function and interchangeable. Our review demonstrates that models of Hopewellian community organization must consider the various ways in which these different kinds of places were used to negotiate, define, and display membership in and boundaries among communities of several kinds.

CONSIDERING COMMUNITIES

Archaeologists today are increasingly focusing on communities as fundamental units of economic, political, and social integration above the level of the household (Abbott 2000; Adler and Varien 1994; Canuto and Yaeger 2000; Dancey and Pacheco 1997a; Kantner and Mahoney 2000; Kolb and Snead 1997; Varien 1999a). Community formation can be seen as an organizational response by individuals and households to a variety of local problems, including subsistence risk, resource competition, the demand for labor, and local resource deficiencies (Johnson and Earle 1987). Community organization can spread out subsistence risk through communal storage and relationships of reciprocity within and among communities. Community organization can provide individuals and households a measure of security through mutual defense of life, land, and resources. Communities may collectively

invest labor and resources in projects that are beyond the capabilities of individual households (storage facilities, land clearance, public architecture, etc.). Community organization may afford individuals and households opportunities for economic specialization. For these reasons and more, community organization can be a useful focus for Hopewellian studies. A comparative perspective on community organization will allow us to see both how challenges varied across the Middle Woodland period landscape and how Hopewellian responses to these trials varied.

However, increasing interest in communities has brought with it considerable debate about their nature. The classic anthropological definition is given by Murdock: "the maximal group of persons who normally reside together in face-to-face association" (1949a:79–80). Thus, in the traditional anthropological sense, communities are territorially based social units constituted through coresidence or close residence and regular interaction. Alternatively, some recent archaeological studies of the community have deemphasized the spatial and residential aspects of the traditional definition, instead defining the community in symbolic and ideational terms as an "imagined construct" or a "discourse" (see especially Preucel 2000 and other papers in Canuto and Yaeger 2000). In this view, community can be thought of as a *process* of group identity formation wherein individuals actively construct and negotiate group identities and affiliations. Conceived in this way, community membership can be extremely fluid, unbounded, and entirely nonresidential. Of particular interest in the case of Hopewellian studies is the notion that monumental architecture may constitute a symbolic means of community formation: mounds, earthworks, and other man-made elements of the landscape may have been used as symbols to define community membership and boundaries (Charles 1995; Cohen 1985).

These different theoretical approaches to community studies need not be mutually exclusive, and each may be appropriate, depending on the nature of the problem under consideration. We have found it useful to differentiate three kinds of Hopewellian communities in this

study: residential communities, sustainable communities, and symbolic or political communities.

The *residential community*—as defined by Mahoney (2000), Varien (1999), and others—is closest in meaning to Murdock's (1949a) traditional definition of the community. Residential communities are defined by coresidence or close residence, and regular face-to-face interaction. As such, residential communities are uniquely conditioned by coresidence and limited means of communication and transportation. These conditions necessitate a limited geographic scale that uniquely shapes the interactions among individuals, households, and their natural and social environments. In the perspective adopted here, residential communities are a unique type of social formation because they are *territorially based social formations*—they are *both people and place* (see Varien 1999:21).

The tendency to uncritically equate the "site" or "settlement" with the residential community has been the source of some confusion in archaeological studies of community (see Tringham 1972). It is important to recognize, as did Murdock, that there is considerable variation in the spatial organization of residential communities: "With more or less settled residence, the community may assume the form either of a village, occupying a concentrated cluster of dwellings near the center of the exploited territory, or of a neighborhood, with its families scattered in semi-isolated homesteads" (Murdock 1949a:79–80). In the former case, the residential community may in fact equate to a single archaeological site or settlement; in the latter, the archaeological expression of the residential community will be a cluster of sites within a small vicinity allowing frequent, daily interaction.[1]

The restricted spatial scale of the residential community poses a demographic challenge to the long-term viability of this kind of social unit: In some cases, the residential community will not include enough members to ensure the availability of marriageable mates. This has given rise to the distinction between residential communities and *sustainable communities* (Mahoney 2000). Incest prohibitions and random factors set lower bounds on the population size necessary to ensure the availability of marriageable mates (Moore

and Moseley 2001; Wobst 1974). Because members of small social units are mostly related to one another, children in small, lineage-based residential groups often find that they are surrounded by siblings and first cousins rather than potential mates when they reach marriageable age. Random variation in sex ratios at birth can further limit the number of potential mates in a small group—a boy might find that there simply are no eligible girls in his age grade. Minimum sizes for viable mating networks have been estimated at about 500 persons for social and demographic parameters typical of hunter–gatherers (Wobst 1974). Clearly, small residential communities (a single village, a cluster of dispersed households) sometimes fall well below this population size. In these cases, the minimum spatial and demographic scales of social interaction necessary to maintain a sustainable community over the long term exceed those of the residential community.

This last point makes it clear that it is unreasonable and unrealistic to conceive of residential communities as closed and rigidly bounded social units. In many cases, individuals must build and maintain relationships with others beyond their residential community in order to maintain a viable mating network. A host of other demands—for labor, defense, land, resources, trading partners, and others—act as further incentives for individuals and households to build and maintain social ties beyond their own residential community (Abbott 2000; Netting 1993). Changes in the spatial distributions of any of these demands and social resources over time may lead to a reworking of the particular residential communities networked together.

Recognition that individuals and households actively construct and negotiate group identities and affiliations that may cross-cut residential units and be quite fluid in membership and duration gives rise to the notion of the *symbolic community*. This concept emphasizes that symbols (e.g., ornamentation, dress, public architecture, etc.) may be used to define, communicate, and negotiate membership in a social group that transcends or crosscuts local residence groups (Charles 1995) for common political, economic, social, and/or religious purposes. Multiple residential communities, or segments

of them, may link together into a larger or different, self-identifying unit that is capable of united decision making and action, such as warfare, irrigation (Abbott 2000), or maintaining the order of the cosmos (Rappaport 1968, 1971). A number of researchers have recently focused attention on the regional scale of some mortuary programs, alerting us to the possibility that cemetery populations may constitute symbolic–political communities, including individuals drawn from multiple residential communities (see Carr, Chapters 3 and 7; Beck 1995a; Charles 1995; Peebles and Kus 1977).

The concept of the symbolic community is a broad one and includes a variety of kinds of social groups or networks traditionally recognized in anthropology, such as age grades, gender-based groups, cult societies, other sodalities, families or larger groups networked in formal trading relations, and transitory groups centered on particularly powerful and charismatic individuals. What is essential to the definition of each of these as a "community" is their constructed sense of identity and purpose. Also, symbolic communities of these various kinds are not defined by the physical imperatives of residential or sustainable communities, although a symbolic community may be coterminous with a sustainable one. The self-identification and common goals constructed by the members of a symbolic community can be the mechanisms that help maintain a sustainable community. Finally, symbolic communities often are not concerned with the possession of territory, though they may be practically circumscribed in the absolute distances from which their members come.

When a symbolic community is circumscribed geographically, either practically or by a common goal of owning, maintaining, or using a territory, we refer to it as a *local symbolic community*. Common, practical geographic limits of local symbolic communities are implied by well-documented, cross-cultural information on travel costs and the size of resource exploitation catchments (Chisholm 1962; Roper 1979; Sallade and Braun 1982; Stone 1991; Varien 1999). Time and energy costs associated with foot travel impose limits on the geographic distances over which resources are exploited. These distances can also be taken as the practical distances within which persons might interact fairly regularly and construct a local symbolic community. Most studies find that farmers practicing intensive agriculture try to limit their work activities and participation in work parties to within a one to two-kilometer radius of their residence. Under less intensive agricultural regimes, farmers regularly work fields at distances of three to five kilometers, with seven to eight kilometers being a good estimate of the maximum distance that farmers will regularly travel to fields. Hunter–gatherers, including highly mobile foragers, tend to limit their regular resource exploitation trips to within 10 kilometers of their residential camp. An upper, practical limit on frequent social interaction by land—the maximal practical expanse of a local symbolic community—can be estimated by an 18-kilometer radius, given a day's foot travel of 36 kilometers.

In all, symbolic communities can be rigidly circumscribed geographically or virtually unbounded. They can be stable for long periods of time or extremely transitory at different temporal scales. They can have relatively fixed and hereditary or highly fluid and voluntary membership. They may link whole households or lineages as units, or individuals independently of their residential community or kinship affiliation. Symbolic communities can be of many different kinds, and these may leave very different archaeological signatures.

Among the northern Hopewellian societies examined in this chapter, the symbolic communities for which we find evidence were localized, having been constituted by multiple hamlets in the vicinity of each other, e.g., within one valley or a sector of a valley. In the Illinois case, there is good evidence that local symbolic communities were also involved in the ownership and protection of territory, whereas in the Indiana and Ohio cases, it is unclear that local symbolic communities were territorial. In addition, it is probable that membership within local symbolic communities in the lower Illinois valley was relatively fixed, whereas in the Scioto–Paint Creek area, membership in and among local symbolic communities may have been more fluid (see below). Our use of one term, the local symbolic community,

should not gloss over the variations among regions in territoriality and fluidity.

Mounds, Earthworks, and Communities

Owing to their physical scale, mounds and earthworks are almost universally interpreted as public or corporate structures and, hence, intimately related to community formation and maintenance. Further, the foregoing discussion implies that mounds and earthworks can play very different roles in relation to different kinds of communities. Mounds used for burial might define and display the corporate identity of a relatively small residential community or, alternatively or simultaneously, might be used to define and display membership or participation in a much larger symbolic or sustainable community. One goal of this paper is to focus attention on this variability.

A second goal, following Clay (1991), is to highlight variability in the spatial relationships between mounds, earthworks, and communities. Clay pointed out that it is intuitively appealing, especially in the case of cemeteries or large mounds or earthworks, to assume that these structures formed the spatial foci of social groups and stood at the center of corporate group territories. Clay called this arrangement the "bull's-eye" model. Clay went on to point out that there might be alternative spatial arrangements and functions for mounds and earthworks, which we would add particularly holds in relation to different kinds of communities. Clay formulated one alternative, which we might call the "hinge" model—where mounds and earthworks are located along the edges rather than at the centers of corporate group territories, and serve as contexts for intergroup interaction and negotiation. In this model,

> the ritual sites represent cooperative activity loci and not corporate expressions of ritual activity. As such, they shifted from being the central places of group territories to loci between different groups that served as hinges between them. Expressive of Brose's [1979] emphasis upon cooperation between groups, they represent the architectural expressions of negotiations between groups.
>
> When the possibility of multiple intergroup cooperation is considered, the ritual set-

tlement becomes an increasingly complicated pattern of overlapping territories and interacting corporate groups. (Clay 1991:20)

Note that Clay's alternative formulation does not *require* that a ritual precinct serving as cooperative activity loci be located only on the edges of corporate group territories. He does caution us that community boundaries may be fluid, multidimensional, overlapping, and continually renegotiated. Also, note that an earthwork used by multiple communities as either a bull's-eye or hinge need not symbolize territorial or corporate social units. A multicommunity religious group, for example, need not be territorial or corporate.

SMITH'S GENERAL MODEL OF HOPEWELLIAN COMMUNITIES

Bruce Smith (1992) developed a general model of Hopewellian communities using data drawn from primarily three regions: the Upper Duck River valley of south–central Tennessee, the lower Illinois River valley of west–central Illinois, and the American Bottom region of the central Mississippi River valley. Smith argued convincingly that Hopewellian communities in each region were fundamentally *farming* communities. In each region, there is clear evidence for a "premaize" household farming economy focused on a set of seven indigenous domesticated and cultivated seed crops: squash (*Cucurbita pepo*), sumpweed (*Iva annua*), chenopodium (*Chenopodium berlandieri*), sunflower (*Helianthus annuus*), erect knotweed (*Polygonum erectum*), maygrass (*Phalaris caroliniana*), and little barley (*Hordeum pusillum*). These seed crops became both abundant and ubiquitous in archaeobotanical assemblages across all three regions between about A.D. 1–200, long before maize (*Zea mays*) became abundant and ubiquitous, after about A.D. 900–1000.

Smith built his model of Hopewellian communities against this economic background. In the model, a fundamental principle of community organization in each region was expressed in a spatial and functional bifurcation into two distinct contexts: the *domestic* and the *corporate–ceremonial* spheres of Hopewellian life.

In Smith's view, the corporate–ceremonial sphere stood at the spatial and social center of Hopewellian community life, and was manifested in mounds and mortuary facilities, geometric earthworks, and a variety of structures devoted to nonmortuary, nondomestic activities. Communities were integrated at these corporate–ceremonial centers through investments of corporate labor, through participation in ritual and ceremony, and perhaps through redistribution and feasting. In contrast, the fundamental domestic sphere unit was the *Hopewellian household unit*. It included a single-wall-post structure housing a nuclear or extended family; food storage and processing pits; warm-season open-sided shelters; scattered post patterns; shallow sheet middens; terrace edge or gully trash dumps; and, rarely, isolated interments or clusters of human burials. The business of everyday life—subsistence production and consumption—was carried out in these domestic units. They were dispersed around corporate–ceremonial centers, either in isolation or grouped into loosely organized settlements of no more than three household units. Thus, in Smith's general model, Hopewellian communities were composed of small, dispersed, river valley farming settlements integrated through corporate and ceremonial activities focused on centers marked by mounds and earthworks.

Departure

This chapter uses Bruce Smith's (1992) general model as a point of departure. Whereas Smith's study focused primarily on the domestic sphere and on the household or hamlet level of analysis, this chapter brings more attention to variability in the ceremonial sphere and to the community level of analysis. In particular, we explore the possibility that ceremonial centers, and their mounds and earthworks, may have served as contexts for integrating several different kinds of communities, at several different geographic and demographic scales—residential, symbolic, and sustainable communities. In addition, this review considers two regions that are only tangentially referenced in Smith's study: the central Scioto and the lower Wabash valleys. We also consider, like Smith, the lower Illinois River

valley. The central Scioto and the lower Illinois River valleys are well known for having the most flamboyant and best-documented expressions of Hopewellian ceremonialism in the Midwest. The Wabash–Ohio River confluence region is less well known, but offers an interesting comparative perspective by virtue of its geographic location midway between the other regions and its distinctive natural environment. Each region is also recognizable as a distinct cultural unit—a Hopewellian phase—and not simply as a geographic unit.

In speaking of the ceremonial sphere and ceremonial centers of Hopewellian communities, Smith (1992) tied the descriptor "corporate" to them. In the remainder of this chapter, we seldom use this term because, anthropologically, it implies some specific social conditions that are hard to demonstrate and/or that are probably not true in some of the archaeological cases at hand. What is meant by a corporate group is a body of persons who are united politically/jurally in being bound by the decisions and sanctions of their heads; economically by joint ownership, management, or use of property upon which the persons depend for their daily subsistence; and/or religiously by joint participation in ceremonies or adherence to religious propositions with supernatural sanctions (Befu and Plotnicov 1962:382–388). None of these conditions are strictly demonstrable or necessarily expectable for the potentially fluid symbolic and sustainable communities that assembled at the large geometric earthworks of the Scioto–Paint Creek and Mann areas, or the flood plain mound groups in the lower Illinois valley, save perhaps joint participation in religious ceremonies. Even in the latter, there is a distinction between religiously ordered "ceremonies" and less formal "gatherings." It is arguable that the local symbolic communities that built bluff-top mound centers in the lower Illinois valley were economically corporate, and that the small residential communities that sometimes built small isolated mounds and mound groups in the Scioto–Paint Creek area were jurally corporate (see below), but demonstrating these situations is harder. Given the uncertainty of corporateness for some kinds of Hopewellian ceremonial centers, and the variation in its political, economic, and/or religious nature among

ceremonial centers of different kinds, we find it prudent not to automatically link the term corporate to the term ceremonial center.

SETTING THE STAGE: ENVIRONMENTAL VARIABILITY ACROSS THE THREE REGIONS

The following section outlines environmental conditions within each of the three study regions (Figure 4.1) and identifies significant differences among them that could have contributed to differences in community organization. Some of the variables that are considered here include physiography and hydrology, which influence wild food resources—especially their species, gross productivity, density, diversity, seasonality, and aggregation or dispersal—and climatic variables, which influence gross productivity, agricultural potential, growing season length, and cold season stress. The manner in which community differences among the three regions relate to environmental differences among them is explored in the next section.

Lower Illinois River Valley

The lower Illinois River valley study area (Figure 4.1) encompasses the lower 115 kilometers (70 miles) of the valley and extends roughly 32 kilometers (20 miles) into the uplands on either side—an area of about 7,300 square kilometers. The lower Illinois River valley forms a deeply entrenched trough flowing through the Till Plains and Dissected Till Plains sections of the Central Lowland physiographic province (Figure 4.1) (Fenneman 1938). valley edges are abrupt, defined by steep-sided bluffs rising 50 to 75 meters above the valley floor. The flanking bluffs are broken and hilly, heavily dissected by many narrow and deep tributary streams and hollows. The upland topography softens to the gently rolling terrain characteristic of the Till Plains section 5 to 10 kilometers back from the valley margin.

The lower Illinois river is an underfit stream, occupying a valley that formerly served as the course of the much larger Mississippi river. The lower Illinois river valley is about three to five kilometers wide along most of its course, widen-

ing to about nine kilometers at its northern end where it joins the central Illinois valley. Most of the valley floor is covered by a series of late Pleistocene and Holocene terrace remnants, and alluvial fans emanating from tributary creek valleys. Seasonally inundated backwater lakes and sloughs are prominent features of the active flood plain. These backwater habitats represented a reliable, renewable, and easily exploitable source of fish and waterfowl (Styles 1981). The main channel was another productive source of fish, waterfowl, and mussels.

Asch and Asch (1985a) provide a reconstruction of the vegetation and resource potential of the lower Illinois valley. Much of the valley floor was essentially treeless, covered by prairie grasses. High-quality plant and animal food resources would have been scarce here. Tributary creeks and the active Illinois River flood plain supported ribbonlike stands of wet and mesic forests with greater potential for human exploitation in the form of pecans, hickory nuts, acorns, black walnuts, butternuts, hackberries, groundnut tubers, and wildbean. Upland forests—typically dominated by an oak–hickory association—occupied the broken, dissected valley margins for a distance of 5 to 10 kilometers from the valley. Deer, turkey, and squirrels would have been most abundant in these areas. Upland tallgrass prairies with little potential for human exploitation became dominant as the topography flattened out.

Most early historic observers described the upland oak–hickory forests as thinly timbered or barrens—essentially grasslands with scattered timber. Asch and Asch (1978, 1985a) have argued that this open oak–hickory forest type was a consequence of Native American forest management using fire. Natural succession in an oak–hickory association should trend toward a closed-canopy forest in the absence of fire. Asch and Asch (1978, 1985a) posited that Native Americans may have periodically burned these areas to increase the underbrush available for deer forage and to improve acorn, hickory nut, and hazelnut masts.

The position of the Illinois valley along the Mississippi Flyway places it along one of the world's greatest waterfowl migration corridors. Modern estimates of duck and goose migration

Table 4.1. Comparative Data on Duck and Geese Migration Corridor Populations[a]

Region	Duck migration corridor	Geese migration corridor
Lower Illinois valley	5,250,000–9,000,000	301,000–500,000
Lower Wabash–Ohio river confluence	226,000–750,000	151,000–300,000
Scioto–Paint Creek confluence	50,000–225,000	5,000–75,000

[a] Data from Bellrose (1976:20–23).

corridor populations in the lower Illinois valley are presented in Table 4.1 and discussed in the concluding section.

It is important to note that the human population of the lower Illinois valley was very sparse, or perhaps entirely absent, at the beginning of the Middle Woodland period (Charles 1992). Hence, Mound House phase populations were pioneering an open frontier, a unique situation among the three regions under consideration.

Wabash–Ohio River Confluence

The Wabash-Ohio river confluence study area (Figure 4.1) encompasses five counties in extreme southwestern Indiana—an area of roughly 10,000 square kilometers. This includes the Indiana side of the lower Wabash valley, from its confluence with the White river to its mouth (about 90 kilometers), and thence up the lower Ohio River valley to the mouth of the Anderson river (about 115 kilometers). The Illinois and Kentucky sides of the Wabash and Ohio valleys are given only cursory examination in this chapter, but there is no reason to believe that this introduces serious bias into the study.

The study area is coterminous with the Wabash Lowland physiographic province in southwestern Indiana (Figure 4.1)—a region characterized by low, rolling loess-mantled uplands and broad alluvial valleys traversed by meandering streams (Fidlar 1948). This area marks the beginning of the lower Ohio valley as a distinct environmental zone. It is distinguished from upstream reaches of the Ohio by its meandering course and significantly broader flood plain segments with well-developed valley–margin terraces and extensive backwater oxbow lakes and sloughs. These same characteristics distinguish the lower Wabash valley from its upstream reaches. Some of the broader meander loops and

bottomlands near the Wabash–Ohio river confluence approach 13 to 16 kilometers in width—twice or three times the width of bottomland segments in the lower Illinois valley or the Scioto–Paint Creek region.

It has often been noted that the ecology of the Wabash Lowland has a Southern rather than a Midwestern cast; it represents the northeastern-most extension of a relatively mild climatic and hydrologic regime characteristic of the extreme lower Ohio valley and the northern portions of the lower Mississippi valley. That these factors had significant adaptive consequences is borne out by the observation that several plant and animal species and prehistoric cultures reach the northeastern-most extreme of their ranges here (Adams 1949; Green and Munson 1978; Higginbotham 1983; Redmond 1990). Some comparative climate measures are presented below, and clearly demonstrate that this region is warmer, wetter, less stressful, and more productive than the lower Illinois valley or the Scioto–Paint Creek region.

The Wabash Lowland can be divided into four environmental subregions. Each subregion is defined by a complex association among soil type, elevation, flood frequency, and floral and faunal communities. The four subregions are highly correlated with landform and can be described as flood plain, low terrace, high terrace/lacustrine plain, and upland. Green (1984) presented a reconstruction of the presettlement vegetation and an estimate of the economic potential of each zone (Green 1984). All four subregions were heavily forested in presettlement times and supported significant stands of nut-bearing trees. Hickory and oak were foremost among these, and the low terrace zone harbored particularly dense stands of them. The flood plain zone stands out from the others in having a greater density and diversity of seeds, fruit,

sap, and cambium-bearing plants, along with a wide array of marsh and mud flat resources unavailable elsewhere.

The backwater lakes and sloughs of the flood plain environmental zone were important and geographically restricted sources of aquatic fauna. For most of the year, the flood plain and low terrace environmental zones probably harbored the greatest densities of terrestrial and semi-aquatic animals such as deer, turkey, raccoon, squirrel, and beaver. During the fall and winter months, some of these populations (especially deer and turkey) may have migrated to the more sheltered and less flood-prone, high terrace and upland environments (Munson 1988; Rudolph 1981; Smith 1975).

Modern estimates of duck and goose migration corridor populations in the Wabash–Ohio river confluence area are between those for the Scioto–Paint Creek area and the lower Illinois valley, as presented in Table 4.1.

Scioto–Paint Creek Confluence

The Scioto–Paint Creek confluence study area (Figure 4.1) encompasses the lower 40 kilometers of Paint Creek and adjacent portions of the Scioto valley for about 30 kilometers north and south of the confluence—an area of roughly 2,400 square kilometers. This region has the greatest physiographic diversity of the three study areas. It encompasses portions of the glaciated Till Plains section of the Central Lowland physiographic province, as well as both unglaciated and glaciated portions of the Allegheny Plateaus section of the Appalachian Plateaus province (Figure 4.1). Both the Illinoisan and the Wisconsinan glacial advances terminated within the study area. Gently rolling ground moraine topography characterizes those portions of the study area within the Till Plains section. Rugged relief and deep steep-sided valleys characterize those portions of the study area within the Allegheny Plateaus section. These characteristics are somewhat subdued in the glaciated portions of the Allegheny Plateaus. In contrast to the broad Scioto and Paint Creek valleys, tributary streams in the Allegheny Plateaus section tend to be V-shaped, with little

or no flood plain development (Brockman 1998; Fenneman 1938). The large Hopewellian mound and earthwork complexes in the area are limited primarily to the broad terraces of the Scioto river and Paint Creek, where they cross through the Allegheny Plateaus section.

Both the Scioto river and Paint Creek are greatly underfit streams in the confluence region, occupying valleys carved out by much larger preglacial and glacial streams. The Scioto valley is about 3 to 5 kilometers wide in the vicinity of Chillicothe, Ohio; the Paint Creek valley is about 1.5 to 2 kilometers wide within the study area. A complex set of up to six Wisconsinan and Illinoisan age terraces flanks the modern flood plains: their differing elevations, compositions, and drainage regimes influence the biota supported. Backwater lakes and sloughs are not prominent bottomland features in either valley.

The study area was largely forested in prehistoric times. Shoreline and bottomland hardwood forests with prairie openings occupied the main valley flood plains. The better-drained terraces supported mesophytic forests with prairie openings. Acorns, maple sap, and edge-adapted fauna such as deer and turkey may have been the resources of primary interest here. The uplands supported mixed oak–hickory forests, oak–sugar maple forests, and mixed mesophytic forests. Hickory nuts and deer were likely the primary targets of upland exploitation (Gordon 1969; Maslowski and Seeman 1992). There is some evidence from the nearby Licking drainage that Hopewellian farming and forest management began to have significant impacts on forest composition (Wymer 1996, 1997). There is no archaeobotanical record from the immediate Scioto–Paint Creek area with which to address the issue.

Modern estimates of duck and goose migration corridor populations in the Scioto valley and the other regions are shown in Table 4.1.

Environmental Comparisons: Summary and Conclusion

Differences among the three study areas in their environments are significant; consequently, we might expect variations in community

Table 4.2. Comparative Data on Climate[a]

Climatic parameter	White Hall, IL	Evansville, IN	Circleville, OH
Mean annual temperature (crude measure of biotic productivity), °F	52.0	57.3	51.7
Mean January temperature° (measure of cold-season stress), °F	24.2	32.3	26.6
Median growing-season days (32°F base)	185.0	200.0	172.0
Rainfall (measure of agricultural potential), inches			
Apr.–June	11.1	13.7	11.6
July–Sept.	10.3	11.6	11.3
Total (Apr.–Sept.)	21.4	25.3	22.9

[a] Source: http://mccsws.uiuc.edu. (Midwestern Regional Climate Center 2000).

organization among them. One difference is in spatial scale. The Scioto–Paint Creek confluence study area is the smallest, roughly one-third the size of the lower Illinois valley region and one-quarter the size of the Wabash–Ohio river confluence region. At the same time, there are many more and much larger mound and earthwork complexes in the Scioto–Paint Creek area than in either of the other two regions. There may have been significant differences among the regions in population density, in the number and density of Hopewellian communities, and in the ways in which mounds and earthworks were used to express community identity or served as a context for integrative activities.

The density and distribution of wild food resources differ significantly between regions. Abundant, predictable, and easily exploitable aquatic resources, backwater lake resources, and migratory waterfowl are more readily available in the lower Illinois valley and the Wabash–Ohio river confluence areas than in the Scioto–Paint Creek area. Backwater lakes, sloughs, marshes, and mudflats are virtually absent in the Scioto–Paint Creek area, severely limiting the availability of easily exploitable fish, waterfowl, and other aquatic or semi-aquatic resources. Table 4.1 highlights the regional differences in the availability of migratory waterfowl.[2] The lower Illinois valley enjoys an incredible abundance of migratory ducks and geese, owing to its position along the Mississippi valley Flyway (Bellrose 1976). The lower Wabash–Ohio valley confluence region has a lesser but still significant seasonal migration. The availability of waterfowl is significantly less in the Scioto–Paint Creek

confluence region. This contrast has important implications for community organization: Hopewellian populations in the lower Illinois valley and the Wabash–Ohio river confluence areas had the option of forming larger and more sedentary residential communities than did populations in the Scioto–Paint Creek area.

There are significant differences in climate among regions that could influence the spatial and demographic scales of Hopewellian communities (Table 4.2). The climatic variables chosen favor the Wabash–Ohio confluence area in each case. Compared to the Wabash Lowland, the lower Illinois valley and central Scioto valley are less productive, more stressful during the cold season, and drier through the growing season. The median growing season length in the Wabash Lowland exceeds that in the lower Illinois valley, mid-Ohio valley, and central Scioto valley values by two to four weeks. Differences of these magnitudes could certainly play a role in explaining interregional cultural variability (see Maslowski and Seeman 1992). The Illinois and central Scioto valleys are very similar in their climates.

The lower Illinois valley is unique among all the regions under consideration in that the distribution of productive resources is markedly linear and circumscribed. The region can be characterized as a ribbon of highly productive bottomlands and talus slopes with rich aquatic resources and nut-bearing forests. These are flanked by much less productive uplands, where nut-bearing forests quickly give way to prairie communities. Linearity and circumscription are less marked in the Scioto–Paint Creek area, where nut-bearing forests continue beyond the valley

Table 4.3. Comparison of the Natural Environments of the Central Scioto, Lower Illinois, and Lower Wabash–Ohio Valleys for Their Potential to Encourage Demographically Driven Sociopolitical Development[a]

Study region	Spatial scale	Natural food productivity	Agricultural potential relative to climate	Total population potential	Circumscription of food resources	Connectedness, ease of transportation and communication	Environmentally encouraged potential for sociopolitical development
Scioto valley	3	3	2	3	2	3	3
Lower Illinois valley	2	2	2	2	1	2	2
Lower Wabash–Ohio valley	1	1	1	1	3	1	1

[a]Rank order of 1 = biggest/most, 3 = smallest/least.

bottoms into the uplands, and much less limiting in the Wabash–Ohio River confluence area, with its very wide flood plain. We can expect that the linear distribution in the lower Illinois valley would have tended to restrict mobility and influence the expression of territoriality among Hopewellian communities there.

The lower Illinois valley is also unique in that its most highly productive food patches, in the form of backwater lakes, are limited in their locations in the valley. In contrast, in the lower Wabash–Ohio region, the spatial distribution of highly productive food patches is more uniform, defined by a much more extensive system of sloughs and backwater lakes. In the Scioto–Paint Creek area, the most productive food patches are, again, uniformly distributed because backwater lakes simply do not occur. This third, unique characteristic of the lower Illinois valley, like its one-dimensionality and circumscription by less productive uplands, would have encouraged territoriality there.

Finally, owing to the topology of the river networks in question, the lower Wabash–Ohio area exhibits a much higher degree of connectedness than the other two areas. This may have implications for risk and opportunity, aggregation and dispersal. The rivers, sloughs, and backwater lakes within the lower Wabash–Ohio area provide easy transportation and communication within it, as well as access to points farther up and down the Ohio river; to the Midsouth through the Green, Tennessee, and Cumberland rivers; and to the Great Lakes through the Wabash river. The lower Illinois valley is intermediate in its connectedness. The low stream gradients of both the Illinois River and its tributaries, and the rich dendritic pattern of this stream system,

make for easy water transportation throughout the area (Seeman 1979a:406–407). In contrast, the central Scioto valley and its tributaries have higher stream gradients, and major tributaries into the Scioto are much less frequent. These conditions constrain transportation and communication within the Scioto–Paint Creek region (Seeman, p. 406–407).

The several ways in which the central Scioto, lower Illinois, and lower Wabash–Ohio valleys differ from each environmentally, as just described, are summarized in Table 4.3. These multiple factors can be combined for each region into a gross estimate of its baseline potential for encouraging demographically driven increases in sociopolitical complexity (Table 4.3). The table assumes, for the sake of argument, that food availability translates into sedentism and population increases, and that these, along with circumscription of natural food resources and at least some ease of transportation and population interaction, encourage social tensions and, thus, forms of sociopolitical cooperation and development. Using this coarse logic, the lower Illinois valley has the optimal environmental potential for producing sociopolitical complexity. It is rich (though not the richest) in natural food resources that would have encouraged sedentism and population growth. Yet the resources are strongly circumscribed, which could have promoted social competition, tensions, and concomitant organizational complexity. Moderate connectivity would have ensured the interactions of local populations and the expression of their competition, but also would have been a vehicle for cooperation and developing social complexity at a supralocal scale. The central Scioto valley and lower Wabash–Ohio confluence are each less

optimal in these regards. The Scioto valley offers the lowest density of natural food resources and potential for population growth. Its food resources are not strongly circumscribed and so promoting of social competition. The lower Wabash–Ohio confluence is the richest of the three areas in natural foods and has the greatest potential for population growth. However, food resources are not circumscribed much and would not have encouraged food-based competition. In addition, the low circumscription of natural foods within the area, the ease of transportation within it, and its large size all would have facilitated the budding-off of local social groups as local populations rose, as a strategy for obviating social competition. Increases in social complexity would not have been so necessary.

In short, the relative degrees of Hopewellian sociopolitical development found in the three study regions, with the greatest complexity in Ohio, less in Indiana, and the least in Illinois, are not readily explained by a coarse, materialistic, environmental–demographic framework. Local social, ideological, historical, and/or other factors may have played equally critical roles in the varying rises of Hopewellian expressions across the three regions.

HOPEWELLIAN COMMUNITIES IN THE LOWER ILLINOIS RIVER VALLEY

The Mound House phase is an occupation of the lower Illinois river valley by peoples of the Havana (Hopewell) tradition between about 50 B.C. and A.D. 250. The available radiocarbon evidence and the absence of early Havana tradition ceramic types in the lower Illinois valley suggest that these people were immigrants who entered the region from a central Illinois valley homeland (Charles 1985, 1992, 1995; Farnsworth and Asch 1986). They were farmers who cultivated and domesticated oily- and starchy-seeded annuals. They established full-blown, premaize agricultural systems between about A.D. 1 and A.D. 200 (B. D. Smith 1992).

There appear to be three fundamental types of Middle Woodland sites (or site com-

plexes) in the lower Illinois valley (Figure 4.2). (1) Hamlets formed of one to multiple households and located in the main Illinois valley, at the bases of bluffs and within the flood plain, are exemplified by Apple Creek (Struever 1968a), Macoupin (Rackerby 1969, 1982), Gardens of Kampsville, and Smiling Dan (Stafford and Sant 1985). Hamlets have also been documented as much as 40 kilometers up tributary valleys (Asch et al. 1979; Farnsworth 1973; Farnsworth and Koski 1985). The relationships between the inhabitants of these sites and the people who resided in the main valley are not yet clear. (2) Bluff-top, ceremonial–cemetery sites, comprised of multiple, small, conical burial mounds, are represented by the Elizabeth (Charles et al. 1988) and Klunk–Gibson (Buikstra 1976; Perino 1968, n.d.) sites. (3) Flood plain mound/ceremonial sites, with small conical mounds, larger loaf-shaped mounds, and/or a plaza organization, are exemplified by Kamp (Struever 1960), Mound House (Buikstra et al. 1998), Napoleon Hollow (Wiant and McGimsey 1986), and Peisker (Perino 1966b; Staab 1984; Struever 1968a). A fourth category of sites—special purpose/extractive camps—has been proposed, but to date these have been rather elusive in the archaeological record, except in upland areas (Asch et al. 1979; Farnsworth 1990). This formulation differs somewhat from Struever's (1968a, 1968b) now classic settlement model, which included bluff-base settlements, summer (flood plain) agricultural camps, regional exchange centers, and mortuary camps (see below).

Households and Hamlets

Our use of the term "hamlet" contrasts with Struever's earlier conception of a bluff-base camp. The concept of a hamlet reflects recent analyses of new and existing databases that indicate that small, sedentary, one to three-household hamlets, rather than large villages, are characteristic of Middle Woodland/Hopewell settlement systems (B. D. Smith 1992) in Ohio (e.g., Carskadden and Morton 1996; Dancey and Pacheco 1997a; Kozarek 1997; Pacheco 1996, 1997; Wymer 1997), the lower Illinois river valley (e.g., Stafford and Sant 1985), the American
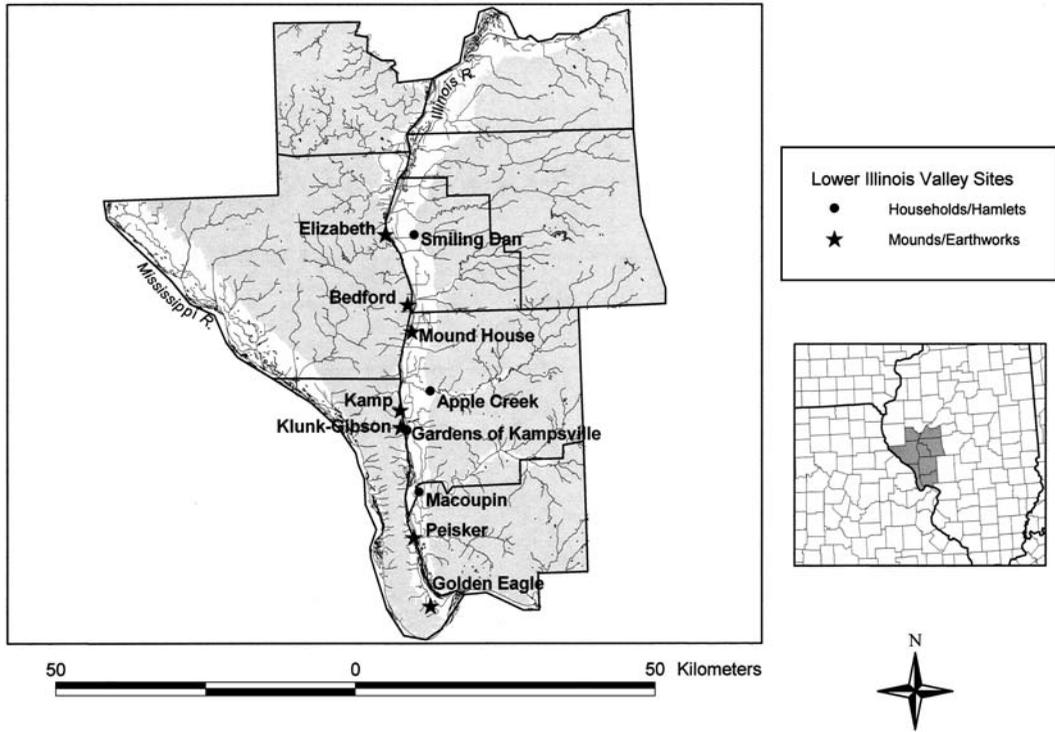
Figure 4.2. Hopewellian mound, earthwork, and base-camp sites in the lower Illinois valley.

Bottom of the Mississippi river valley (e.g., Fortier et al. 1989), and the Duck river valley of central Tennessee (e.g., various reports cited in B. D. Smith 1992). The hamlet concept was put forward originally as part of Prufer's (1964a, 1965) Vacant Ceremonial Center–Dispersed Agricultural Hamlet model of Ohio Hopewell settlement, but it was ignored in Illinois archaeology and elsewhere until the last decade, in part under the assumption by many that the material efflorescence of Hopewell must have been associated with substantial villages. This assumption was also reinforced by the size estimates for Illinois valley habitations provided by Struever and others. Struever's (1968:197, table 7) estimates range from 0.09 to 6.07 hectares, with a mean of 1.21 hectares. If the largest habitation, Mound House, is excluded, since it is actually included in his regional exchange center category, the next largest site is 2.48 hectares and the mean drops to 0.97 hectare.[3] Struever's estimates are further problematic in that almost all the habitations that he listed contain Havana

and Pike Middle Woodland and White Hall early Late Woodland components, and all of his estimates are based on surface distributions (see also B. D. Smith 1992). Also unresolved for the region is the extent to which the larger sites, such as Apple Creek, Macoupin, and Gardens of Kampsville, represent larger communities (i.e., with more contemporaneous households) rather than longer-term or more frequently repeated occupations.

In Struever's settlement model, habitations were located at the bluff base at the interface of the upland and the flood plain resource zones, and were contrasted with supposed agricultural camps in the flood plain. Subsequent excavations of a site thought to be an agricultural camp—the Macoupin site—indicated that it was similar to the bluff-base hamlets, and that those two categories should be collapsed (Rackerby 1969, 1982). Subsuming the flood plain and bluff-base hamlets into the same category, and including data from more recent regional surveys, indicates that a better predictor of hamlet location is

proximity to a large, nonstagnant water source, such as the Illinois river or a major tributary (Asch and Asch 1978; Asch et al. 1979). Thus, hamlets might be located at the bluff base where the Illinois River flows near the bluff or where a secondary stream enters the valley and the river is more distant. Hamlets might also be located on levees or terraces in the flood plain adjacent to the Illinois river or larger tributaries. However, the discovery of the Smiling Dan site (Stafford and Sant 1985), in a small side valley with only a small stream flowing through it, suggests that further revision of the model may be necessary.

The Smiling Dan site, excavated in about 1980 as part of the Central Illinois Expressway mitigation project (Stafford and Sant 1985), is the only completely excavated Middle Woodland hamlet in the lower Illinois valley. Smiling Dan covered 0.67 hectare, and part of that area, on the northern margin of the site, includes only Late Woodland debris and features. Extensive stripping revealed three, or possibly four, structures. These were concluded on ceramic evidence not to have been occupied contemporaneously (Stafford and Sant 1985), but a more recent analysis suggests that at least two of the structures were in use at the same time (Charles and Shortell 2002). The structures were of single-post construction, subrectangular in shape, and roughly seven to eight meters across in either direction. Interior and exterior post alignments associated with one of the structures suggest the presence of benches, racks or screens. Pit features, hearths, and rock concentrations were clustered in and around each of the structures, and provide evidence of domestic activities including heating, cooking, storage, and refuse disposal. Instances of overlapping pit features and postmolds indicate some extended period of occupation or reoccupation. Midden deposits ranging from 30 to 60 centimeters thick were found throughout the site, and refuse deposits up to two meters deep were found in a stream channel bisecting the site. A series of eight radiocarbon dates spans some 400 years, and has three noticeable and statistically distinguishable modes (see Table 4.4, below). In sum, the evidence from Smiling Dan points to a relatively intensive oc-

cupation by one to three households for perhaps several hundred years, either continuously or episodically.

Middle Woodland hamlets do not appear to have been evenly distributed along the lower Illinois valley. A composite map of bluff-base hamlets (Struever and Houart 1972:62) indicates that they often cluster in groups of two or three and upward to five, with 0.8 to 1.6 kilometers between hamlets in a cluster and much larger distances among clusters or the less common, single hamlets. There are at least eight such clusters a long the lower Illinois valley.[4] In terms of the different kinds of communities defined in the theory section above, hamlets like Apple Creek, Macoupin, Gardens of Kampsville, and Smiling Dan, and closely spaced hamlets within a cluster, if they were contemporaneous, correspond to residential communities. It was within these places and restricted locales that the day-to-day activities and face-to-face interactions of life took place. The core of these settlements most probably consisted of two or three-generation extended families related through the male line, based on certain mortuary evidence (Charles and Buikstra 2002).

Ceremonial Centers

In general, there was a dichotomy in the nature and function of ceremonial sites, throughout the prehistory of the lower Illinois valley, between those located on the bluffs and those located on elevated ridges and terraces in the flood plain (Buikstra and Charles 1999; Charles and Buikstra 2002). The bluff-top sites were primarily funerary in nature, and reflected group identity and membership to the exclusion of other groups. In contrast, flood plain ceremonial sites were places where multiple groups interacted and were only secondarily used for funerals. By Middle Woodland times, this pattern included the construction of very large, loaf-shaped burial mounds along with conical mounds at some flood plain sites, but only conical burial mounds at bluff-top sites. The only exception to this pattern is the loaf-shaped Naples–Russell Mound 8 on the bluff top. The sheer size of the unusually large, loaf-shaped, flood plain mounds—up to 100 meters long and 6 meters tall—suggests an investment of labor

beyond that which could be marshaled by one or a few hamlets. The suggestion that some of these sites were organized around plazas (Buikstra 1976; Buikstra et al. 1998:1; Struever and Houart 1972) further argues for a wider participation in the ceremonies enacted there, as does their flood plain location, which made them easily accessible to distant social groups by water travel. While there are features, structures, debris scatters, and midden dumps present at the flood plain sites, occupation appears to have been temporary and seasonal, rather than year-round.

The Klunk–Gibson mound group provides one of the most thoroughly excavated examples of a bluff-top cemetery site (Buikstra 1976; Perino 1968, n.d.). The Gibson group included 6 mounds, the Ben Klunk group included 5 mounds, and the Pete Klunk group had at least 14 mounds. The three groups occupy adjacent finger ridges forming the bluff crest overlooking the Illinois river. The area was used for burial by Archaic and Late Woodland groups, but Middle Woodland use was the most intensive. The largest mounds were up to 20 meters in diameter and 6 meters tall. The smallest mounds may have been natural knolls. The mounds were arranged in a linear fashion following the ridge crests. Over 500 Middle Woodland burials were excavated from 13 mounds and one natural knoll (Braun 1979). Each of the Middle Woodland mounds contained a central tomb, often log-lined and roofed, and surrounded by earthen ramps. J. A. Brown's (1981) summary of the mortuary program identifies two burial tracks. The first track involved temporary storage and processing of corpses through the central tomb, eventually leading to final burial in and around the surrounding ramp as disarticulated or bundled remains. The second track led directly to burial in tombs or graves encircling the ramp. Brown suggested that the two tracks represent separate lineages. Charles (1995) extended this interpretation and suggested that the central tomb track may represent lineages that held dominant status because they resettled the lower Illinois valley earlier than did other lineages. The subordinate status of later immigrant lineages may have been expressed in the peripheral placement of burials in the second track (see below). It is clear that virtually all ac-

tivity at these bluff-top sites was directed toward mortuary ritual and the treatment and burial of the dead.

Flood plain mound groups, exemplified by the excavated Kamp, Mound House, and Peisker sites, can be contrasted with the bluff-top cemeteries (Baker et al. 1941; Buikstra 1976:41–45; Buikstra et al. 1998; Perino 1966a, 1966b; Struever 1960). Like the bluff-top mounds, flood plain mounds were organized around a central tomb. However, the flood plain mounds are almost always larger than any of the bluff-top mounds, and with much larger central tombs. Sometimes the mounds are organized around a plaza. The larger flood plain tombs tend to contain more individuals within them than the bluff-top tombs, but overall the flood plain mound groups contain fewer burials per mound and per site. Most flood plain mound centers that have been excavated had burial populations between 2 and 19 individuals (Asch 1976). Further, burial in the flood plain mounds was largely limited to adult males, in contrast to the more inclusive burial program expressed in the bluff-top cemeteries. In short, access to burial in the flood plain mounds was more restricted, and the greater amounts of energy expended per individual in tomb and mound construction suggest that they held positions of social prominence. Buikstra suggested, "It is not unreasonable to suppose that these were individuals who exerted influence beyond the local community" (1976:44).

Excavations at the Mound House site provide the best evidence for the multicommunity function of the flood plain centers (Buikstra et al. 1998). Mound construction at Mound 1 was preceded by the preparation of a circular space some 20 meters in diameter, marked by a lens of yellow sand and surrounded by a series of at least three concentric rings of postholes filled with yellow clays or sands. Buikstra et al. (1998:59–74) interpreted this feature as the remains of a series of wooden screens or bent-pole structures that had been repeatedly built, dismantled, and rebuilt to demarcate sacred space as part of a ritual cycle. This ritual complexity is unparalleled at any of the bluff-crest mound groups and strongly suggests a broader, multicommunity function for this center. Charles and Buikstra (2002) suggested

that each flood plain center served to forge a social entity larger than a residential community—a "community of communities."[5] These broad gatherings would have provided opportunities for mate exchanges and other means of securing the far-reaching social ties necessary to maintain a sustainable community. Here, too, was a context for performances intended to forge symbolic communities of one kind or another through ritual enactments, gifting, displays of wealth and status, and so forth.

Relative to the flood plain and blufftop dichotomy of ceremonial sites, the Elizabeth/Napoleon Hollow complex is somewhat enigmatic. Wiant and McGimsey (1986) saw the bluff-base Napoleon Hollow site as a ritual camp associated with the bluff-top Elizabeth mounds. The authors combined the complex with the Peisker site to form a category that they called the mound/ritual camp. The massive Naples–Russell Mound 8 on the bluff top, less than one kilometer north of Elizabeth, should be included in the site complex, especially since it overlooks the northern end of the Napoleon Hollow occupation. Significantly, recent C-14 dates (Kut and Buikstra 1998) confirm that this mound was built at the end of the construction sequence of the Elizabeth mound group. It therefore seems more likely that the Elizabeth/Napoleon Hollow/Naples–Russell complex represents a bluff-top cemetery that initially was used by a local group and that evolved into a bluff-top *and* bluff-base multigroup ritual site analogous to the flood plain Kamp, Mound House, and Peisker sites (Charles 1985, 1992; Charles et al. 1988). This unusual situation probably arose because the sites are located where the Illinois river hugs the western bluff for several kilometers and where there was insufficient space for large gatherings of people on the flood plain, alone, on that side of the river.[6]

Community Organization in the Lower Illinois Valley

Middle Woodland individuals in the lower Illinois valley belonged to at least three kinds of communities at differing geographic and demographic scales. At the most local level was the residential community, comprised of one to several extended families who lived in isolated hamlets or closely clustered hamlets of varying size, such as Apple Creek, Macoupin, Gardens of Kampsville, and Smiling Dan. At a wider scale, an individual participated in a local symbolic community that was comprised of members of several hamlets and was negotiated and maintained in part through ceremonial activities conducted at a bluff-top ceremonial center. Each local symbolic community used and claimed a territory, giving the community a political or economic dimension. At the broadest scale was the sustainable community, which was formed from multiple local symbolic communities and was negotiated and maintained through the ceremonial activities performed at a flood plain center. A sustainable community constituted a regional breeding population and probably had other cultural functions. There was an inherent structural tension between the structuring of people into a local symbolic community and the structuring of people into a broader sustainable community—between a desire for local control and the need for regional integration—which was played out materially in the distinction between the blufftop and flood plain ceremonial centers. Each of these three kinds of communities is defined more fully now.

Each bluff-top ceremonial site defined membership in a corporate, territorial, political, symbolic community through inclusion in the site's cemetery. Age and sex distributions indicate that virtually everyone—young and old, male and female—was eventually buried in one of the bluff-top mound groups, with the exception of the very highest-status individuals, who were buried in the flood plain mound groups (Charles and Buikstra 2002). The identification of the bluff-top mound cemeteries as having been used by a local symbolic community, but not a sustainable community, is borne out by the sizes of their burial populations. These range between 25 and 170 individuals, where their excavation is relatively complete (e.g., Bedford, Gibson, Klunk, Elizabeth, Knight, L'Orient, Montezuma, Mappen, Parsell [Asch 1976; Charles et al. 1988]). These burial populations sizes are well below what would constitute a

sustainable breeding population (Wobst 1974), and would have been generated by yet smaller living populations over the decades.

It is quite likely that several neighboring residential communities used the same cemetery. The logic of this argument runs as follows. There is genetic continuity through successive mounds in a given mound group (Konigsberg 1990): biological variability within individual mound groups is relatively small compared to that evident between spatially distant mound groups along the lower Illinois valley trench (Buikstra 1976). However, by at least the later portion of the Middle Woodland period, a structural (i.e., spatial) distinction was made in the cemeteries between members of dominant lineages that utilized the central crypts and members of subordinate lineages that were buried in peripheral graves (Brown 1981). The dominant lineages may have resided in one or more hamlets, while subordinate lineages may have resided in other hamlets. Further, the dominant lineages may have been those who first resettled the lower Illinois valley during the Middle Woodland (founder settlements and daughter hamlets), whereas the subordinate lineages may have been late-comers (adopted hamlets of immigrant lineages) (Charles 1992). Thus, the bluff-top cemeteries can be interpreted as local symbolic, political communities that integrated multiple, status-differentiated residential communities, each formed of a hamlet or cluster of hamlets.

If the bluff-top mounds constituted identity markers related to subsistence territories (Charles 1992, 1995; Charles and Buikstra 1983), then there was not a direct mapping of individual residential communities onto discrete economic catchments. Instead, there was a correspondence among the local symbolic community, as a set of related lineages defined by reference to a bluff-top cemetery, a subsistence territory, and rights to its use to the exclusion of neighboring local symbolic communities. The conspicuous consumption of grave goods may have been a medium of status competition and/or social cooperation among individuals or residential communities. Bluff-top mound construction may have been a means for status competi-

tion and boundary contestation between neighboring local symbolic communities (Charles 1995).

In contrast, the flood plain ceremonial sites involved the coming-together of these economically competitive, real or fictive lineages from several local symbolic, political communities up and down the river valley. These sites provided a context for the construction of sustainable communities. The distribution of bluff-top mound groups and flood plain ceremonial centers accords well with this interpretation, as shown by the following calculations. A sustainable marriage network requires a minimum figure of about 500 people (Birdsell 1968; Wobst 1974). About 33 hamlets of 15 people each could account for the requisite 500 persons. If three hamlets comprised a bluff-top mound symbolic/political community, then only 11 of those communities were necessary to make up the sustainable community. By the end of the Middle Woodland period, bluff-top mound groups were spaced approximately every 5 kilometers along both sides of the Illinois valley, i.e., 2.5 kilometers of river length per mound group (Charles 1992). Only 27.5 river kilometers would have been necessary to accommodate 11 bluff-top mound communities and a sustainable community of 500 persons. Significantly, this distance corresponds fairly closely to the distance between large flood plain ceremonial centers—about 20 kilometers (Asch et al. 1979; Struever and Houart 1972)—suggesting that they were built and used by sustainable communities.

Estimates of population density can also be used to explore the relationship between flood plain mound centers and sustainable communities. Based on an independent set of excavated mound sites, Asch (1976) estimated a population density for Illinois valley Middle Woodland populations at 25 persons per river kilometer. At this density, flood plain ceremonial sites spaced at 20-km intervals along the river would each have accommodated a sustainable community of 500 persons.

Marriage networks would not have been the only structures or relations requiring sustainable communities. The exchange (e.g., feasting, gift-giving, formal partnerships) and funerary activities conducted at these sites would have

served to create a network of relationships that could have mediated subsistence risks and would have provided opportunities for the exchange of information (Charles and Buikstra 2002). Sustainable communities also would have provided another arena through which individual and lineage hierarchies would have been negotiated and contested (Charles 1992, 1995).

Summary

A Middle Woodland individual living in the Illinois valley would have been a member of three kinds of communities of differing scales and functions: a residential community comprised of a household, hamlet, or cluster, of closely spaced hamlets; a local symbolic, territorial, political, and economic community comprised of multiple households, hamlets, or hamlet clusters, focused on a bluff-top funerary site, and probably associated with a food resource catchment; and a regional sustainable community that was critical to marriage, status contestation, and possibly subsistence exchange, and that was materialized in a flood plain ceremonial center.

HOPEWELLIAN COMMUNITIES IN THE WABASH–OHIO RIVER CONFLUENCE REGION

Archaeologists have long been aware of the Mann site: a single, very large Hopewellian earthwork, mound, and habitation complex located along the lower Ohio river near its confluence with the Wabash (Adams 1949). However, until recently, only a handful of archaeological components in the Wabash Lowlands were recognized as related to the Mann site. These were linked to the site by the presence of complicated stamped ceramics. It has recently been possible to identify an additional 51 related ceramic-bearing Mann phase components by focusing on the distinctive attributes of the undecorated assemblage from the Mann site (Ruby 1993, 1997a). This same study identified an additional 60 components bearing temporally diagnostic Lowe and Copena Cluster bifaces in combination with the distinctive "Ohio-style"

lamellar blades[7] characteristic of the Mann site blade assemblage. These 111 components, plus the Mann site and one additional mound (the GE mound), are now recognized as constituents of the "Mann phase" occupation of southwestern Indiana (Figure 4.3).[8] Because many aspects of the Mann site and its surrounding sites are unpublished, they are described in some detail here.

All of the available evidence suggests that Mann phase populations had made a significant commitment to agriculture. Mann phase seed assemblages are dominated by cultivated starchy seeds. At one well-documented site (Grabert), the ratio of recovered seeds to nutshells is among the highest of those documented for the Midwest during the Middle Woodland.[9]

Three site types subsume most of the functional variability in Mann phase settlements: households or hamlets, short-term extractive camps, and ceremonial centers. The Mann site, itself, stands in a class of its own, with both its earthen architecture and habitation remains, and cannot be relegated exclusively to either the ceremonial or the domestic sphere. It is distinguished from the other classes by its size, intensity of occupation, and complexity as measured by investment in mound and earthwork construction, the quantity and diversity of exotica present, and the range of activities evident.

Households and Hamlets

Households and hamlets of the Mann phase community conform quite closely to the small Hopewellian settlements composed of one to three households, as identified by B. Smith (1992). In surface collections, these households or hamlets are defined by the presence of utilitarian ceramics, rare occurrences of decorated ceramics, and a wide range of lithic tool types and debitage. Fifty-one components meeting this description have been identified to date in southwestern Indiana.

Test excavations at four of these sites— Grabert (12 Po 248), Hovey Lake (12 Po 10), Kuester (12 Vg 71), and Ellerbusch (12 W 56)—revealed a redundant pattern of small-scale
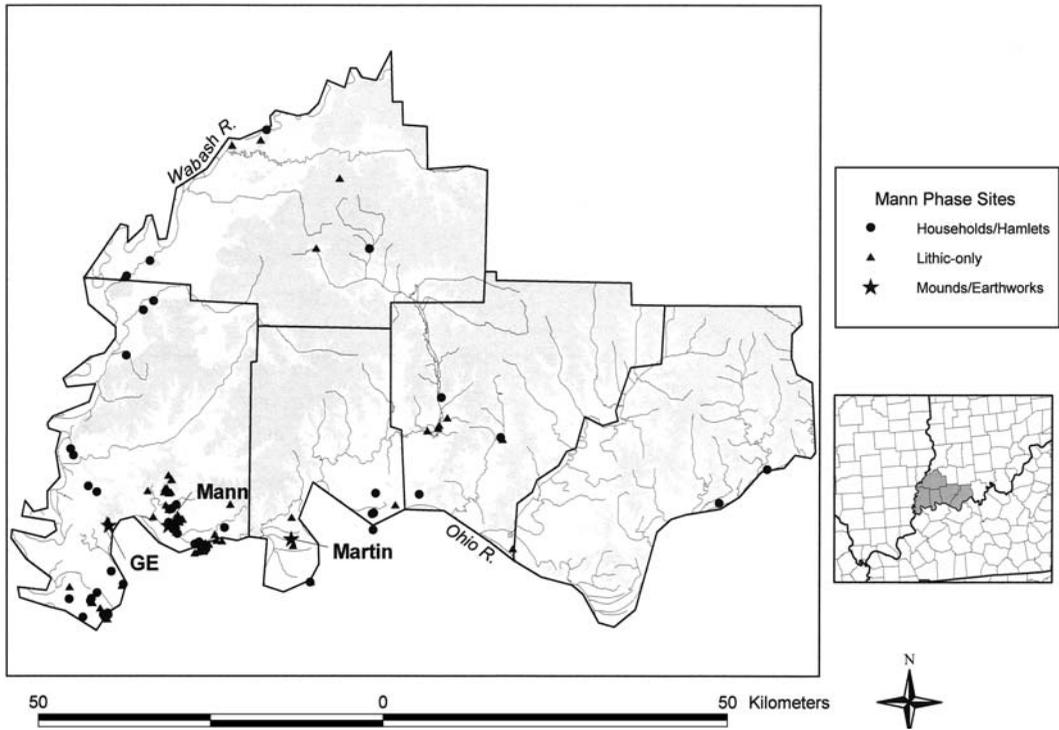
Figure 4.3. Hopewellian mound and earthwork sites in southwestern Indiana.

occupations represented by loose clusters of shallow bathtub or basin-shaped pits, thin middens, and scattered postholes. The basin-shaped pits always contained fire-cracked rock and often displayed direct evidence of *in situ* burning, suggesting food processing rather than storage. None of these sites has produced evidence of below-ground storage facilities.

The Grabert site is the largest and most extensively excavated of the four sites. The total area of scatter is 1.6 hectares, but most debris was limited to three individual midden concentrations ranging in size from 500 to 1,500 square meters (0.05–0.15 hectare). Block excavations exposed 93 square meters of the central and highest concentration and revealed the remains of at least two overlapping circular or oval, single-wall-post structures. The more completely exposed structure was no more than four meters in diameter. A structure of this size (12.6 square meters) would accommodate approximately five individuals.[10] This is toward the very low end of the range of

Middle Woodland domestic household sizes reported by B. Smith (1992:figure 9.8 [4.5–130.5 square meters, 2–18 individuals].[11] Two corrected and uncalibrated radiocarbon dates (Beta-38550, 1780 ± 60 rcybp; Beta-38551, 1810 ± 60 rcybp) place the Grabert site occupation close to A.D. 150.

The regional, topographic distribution of 51 identified, dispersed households and hamlets of the Mann phase, beyond the Mann site, shows the same focus on main valley bottomland settings characteristic of Middle Woodland-period settlement elsewhere in the Midcontinent. Only three (6%) of the Mann phase habitations occupations occur in interior upland settings. The household distribution shows a marked preference for highly productive flood plain (38%), low terrace (42%) and high terrace/lacustrine plain (15%) soils. About 80% of the habitations located within the active flood plain or on low terrace landforms would have been exposed to significant risk of late winter and spring floods. This

suggests that they may have been occupied only during the warm season.

Short-Term Extractive Camps

The second element of the Mann phase community might be termed the short-term extractive camp. Unfortunately, none of these sites has been excavated, so their actual function remains speculative. Sites identified as short-term extractive camps are characterized by restricted tool assemblages, typically including only diagnostic projectile points, debitage reflecting tool maintenance activities, and lamellar blades. Ceramics are absent. Sixty components conforming to this description have been found to date in southwestern Indiana.

The extractive camps are more numerous than the household sites discussed above, have a wider spatial distribution, and occur in a more diverse array of environmental settings, as would be expected if they were extractive camps. Several sites occupy interior upland and tributary stream settings, in addition to those found in flood plain and terrace settings, which also were chosen for ceramic-bearing habitations.

A Ceremonial Center with Domestic Habitations: The Mann Site

The Mann site is located on a high, flat terrace that overlooks an extensive backwater slough and a broad expanse of Ohio river flood plain, about 20 kilometers upstream from the Wabash river confluence. The site consists of series of geometric earthworks, mounds and an extensive habitation area. The total site complex covers an area of about 175 hectares (Figure 4.4).

Mann Site Ceremonial Contexts

A series of aerial photographs, limited field observations, and amateur excavations reveal something of the nature and magnitude of ceremonial sphere contexts at the Mann site. As in the contrast between Illinois bluff-top and flood plain mound sites, there seems to be a dichotomy in the nature and function of ceremonial sphere contexts at Mann. Five small conical mounds on the eastern edge of the site appear to have had primarily funerary functions, and to have expressed group identity and membership on a scale consistent with a small residential or local symbolic community. On the other hand, a series of much larger geometric earthworks, loaf-shaped mounds, and platform mounds seems to express a nonmortuary ceremonialism that may have served to integrate a much broader suite of communities, analogous to the lower Illinois valley flood plain ceremonial complexes.

In all, the site contains two rectangular enclosures (IU 2 and 3), a third partial rectangular enclosure (IU 4), two C-shaped enclosures (IU 7 and 17), a circular enclosure (IU 16), a very long linear earthwork (IU 10), two large rectangular mounds (IU8 and 9), two large loaf-shaped mounds (IU 1 and 6), and six conical mounds (IU 5 and 11–15) (Kellar 1979; Ruby 1997:321–351).

Two rectangular enclosures dominate the western edge of the site. One (IU 2) is a three-sided rectangular enclosure 600 meters long and 300 meters wide, opening on Cypress Slough to the south. The work encloses a very large loaf-shaped mound (IU 1). The other work (IU 3) is a regular square 310 meters on a side, with 15-meter-wide gateways at the corners and midpoint of each wall. The size and design of this square enclosure are very similar or identical to those of 10 other Hopewellian mound and earthwork complexes in southern Ohio. These similarities strongly suggest direct contact between Middle Woodland populations at the Mann site and Ohio Hopewell populations.

The central portion of the site, east of the two square enclosures, is dominated by two large rectangular flat-topped mounds, two C-shaped embankments, and a large conical mound. The eastern portion of the site contains a linear embankment stretching some 700 meters, as well as five smaller conical mounds. A small circular enclosure is located along an intermittent stream defining the eastern edge of the site complex. These structures obviously represent a tremendous investment of labor. In fact, two of the Mann site mounds (IU 1 and 9) rank among the five largest Middle Woodland mounds in
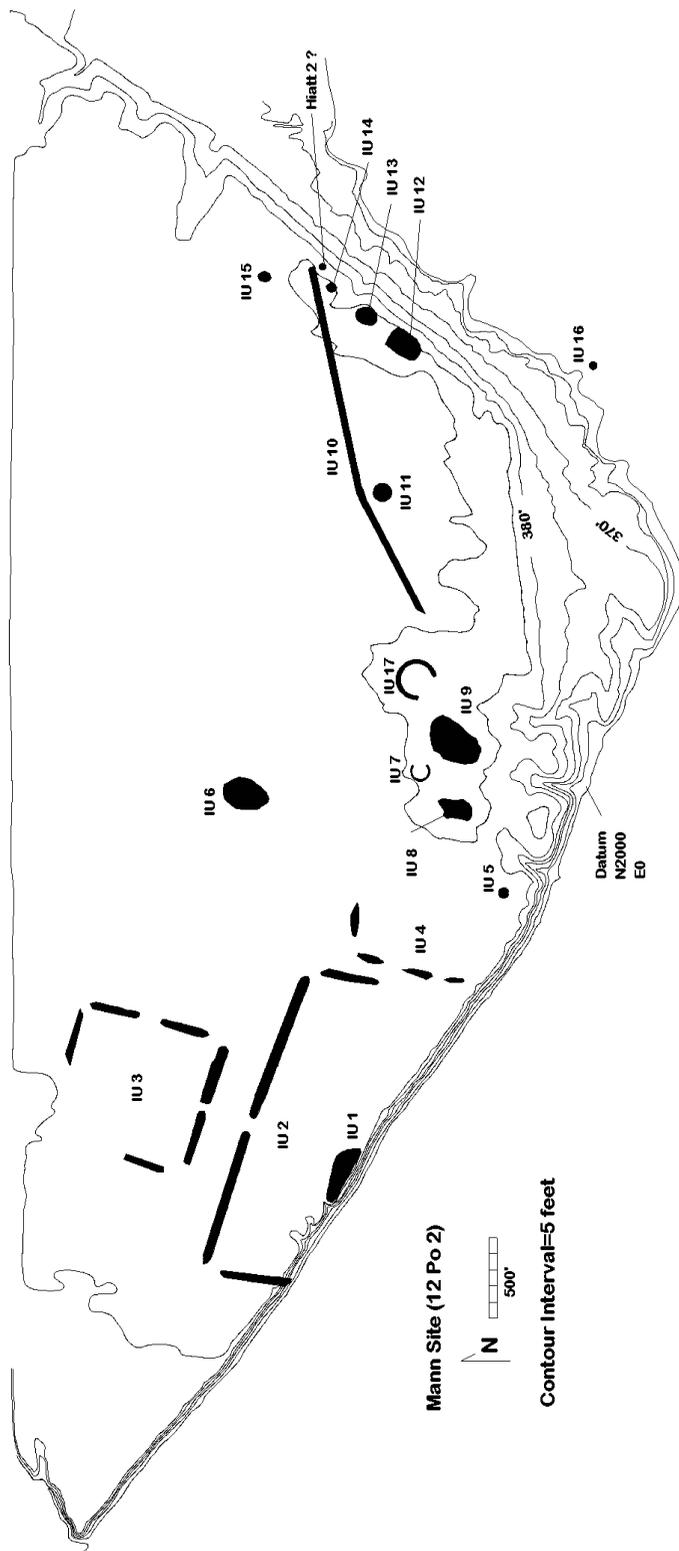
Figure 4.4. The Mann site, Posey County, southwest Indiana.

the Midwest (along with the nearby GE mound and the Seip–Pricer and Hopewell mound 25 in Ohio).

None of the Mann site mounds have been explored professionally. We do have two written accounts documenting amateur and antiquarian explorations in the largest of the flat-topped mounds (IU 9) and several of the smaller conical structures (Hiatt n.d.; Lacer n.d.).

Excavations in the large flat-topped mound (IU 9) indicate that it served as a stage for ceremonial activities not directly associated with burial of the dead. As documented below, such structures and activities are not unique to Mann phase contexts. Recent investigations of similar Middle Woodland mounds in south–central Ohio, the Midsouth, and the lower Mississippi valley suggest that such structures and activities were part of a distinctive, patterned expression of nonmortuary Hopewellian ceremonialism that has only recently been recognized.

Excavations in IU 9 produced evidence of at least three horizontal sand floors located at intervals well above the base of the mound. These strata may reasonably be interpreted as floors, as they are associated with several post molds, though no obvious pattern was documented; midden-like deposits of charcoal, burned bone, lithic debris, and broken pottery; and eight shallow, basin-shaped pits that contained redeposited materials reflecting nonmortuary ceremonialism. The pits contained a variety of exotic raw materials and finished artifacts, most of which had been subjected to intense fire or mechanical breakage, including galena, crystal quartz, obsidian, mica, engraved bone, drilled canines, turtle shell fragments, ceramic vessel fragments, and more. Several of the pits contained burned and unburned animal bone and charred nuts and seeds. The evidence suggests that feasting may have been one of the activities associated with the sand floors and pits on the mound. Charred material from one of the pits produced a radiocarbon date of A.D. 420 ± 45 (DIC-1017, uncalibrated [Kellar 1979]).

Importantly, there is little evidence to suggest that the ceremonialism reflected at IU 9 was directly related to mortuary activities. Burials and associated funerary objects are absent. Instead, some other form of ceremonialism is indicated, which may have promoted integrative functions that cross-cut social divisions based on residence or kinship. The midden-like deposits are similar to others more typically found in habitations, suggesting that food processing, consumption, and discard were important elements in the ceremonies conducted here. Thus, the platform mounds may have been used in ways that brought individuals and social groups together in order to share in common experiences, including ones involving food. Joint participation in or observation of the ritual destruction of symbolically charged and economically valuable goods and raw materials is also indicated.

In contrast, the group of five relatively small conical mounds at the eastern extreme of the site is clearly associated with mortuary activity and presumably expressive of kinship-related ties to ancestors. The largest of these mounds, IU 13,[12] is a relatively modest structure, about 40 meters across and 3–5 meters tall. About 25 people could have built a mound this size in a month.[13] The structure and contents of the mound are very similar to those of the bluff-top mounds in Illinois. At least 54 people were buried in and around a central log tomb and a set of surrounding earthen ramps. All segments of the population are represented: infants, children, adolescents, and adults, both male and female (Lacer n.d.). About one-half of these burials were accompanied by items for personal adornment or possibly for marking clan or sodality affiliation (Carr, Chapter 7; Carr et al., Chapter 13; Thomas et al., Chapter 8), including marine shell and freshwater pearl beads, copper earspools, and cut and drilled bear canines. The evidence from the other small conical mounds is more fragmentary, but consistent with the interpretation that these small conical mounds represent cemeteries used by one or several small, residential communities.

Mann Site Domestic Contexts

The most unique characteristic of the Mann site is the areal extent and density of its midden deposits. Surface surveys and midden stains visible

in aerial photographs document dense habitation debris covering an area of at least 40 hectares, unlike anything reported for Ohio Hopewell earthwork centers. Some fraction of the 40 hectares is attributable to a Late Prehistoric (Caborn–Welborn phase) occupation; however, all observers agree that the vast majority of this debris relates to the Middle Woodland occupation. The debris field is essentially continuous near the southern margin of the site. As one approaches the northern bound, away from the high terrace edge, the surface debris is entirely attributable to the Mann phase occupation and begins to resolve into a series of discontinuous patches, one-half hectare or less in size (Kellar 1979:102; Lacer n.d:1–4), and possibly indicating individual households.

Kellar's (1979) four Indiana University field schools conducted between 1964 and 1977 encountered habitation debris far in excess of what might be expected if the site had been occupied by only ritual specialists. Excavations in 1964 encountered a terrace-edge trash dump covering at least 100 square meters and extending almost 1 meter below the ground surface. Widely spaced excavations in 1966 and 1967 encountered clusters of shallow, basin-shaped pits, and two very large features approximately 2 meters across and up to 1.5 meters deep, with fills suggesting their use as earth ovens. In 1966, one 5 × 10-foot trench was excavated through midden deposits to a depth of more than 3 meters, apparently sampling a backfilled borrow pit. Finally, in 1977, excavations documented two large pit features: one a straight-sided, cylindrical flat-bottomed pit that may have served as a storage facility, and the other a very large (3 × 1.5+ meters), shallow basin containing alternating layers of burned limestone and midden debris, suggesting a very large food processing facility.

In short, each area tested to date has revealed high densities of food processing and storage facilities, and some very deep midden accumulations. No structures have been identified, but scattered postholes and the discrete midden patches suggest their presence. The available evidence on the internal organization of the site suggests a very weak spatial separation of ceremonial and domestic sphere activities: mounds, earthworks, and dense habitation debris are not clearly segregated in the most intensively surveyed, central portion of the site. While the density of habitation debris is impressive, the few available radiocarbon dates document almost three centuries of occupation during the Mann phase, from about A.D. 150 to 450. Thus, it is not necessary to conclude that a large population was present at any one time. Also, individual household units need not have been tightly integrated socially, politically, or economically. The organizationally independent midden patches on the periphery of the most heavily occupied area point to a long series of temporally and spatially shifting occupations by relatively small and autonomous social units. Elsewhere in the Wabash Lowlands, there is abundant evidence for small household or hamlet-sized occupations during the Mann phase. Even so, the density and intensity of habitation debris at the Mann site far exceeds any Middle Woodland site in either Illinois or Ohio.

The dates of the habitation remains within the Mann site relative to the dates of its square enclosures are not fully clear. However, square enclosures in Ohio that are very similar or identical to IU3 at Mann (see above) date between about A.D. 200 and 300 (De Boer 1997:232, 234; see also Greber 1997:215), in the middle of the span of dates for the habitation areas at Mann.

Ceremonial Centers Lacking Domestic Habitations

At least two other sites in the Wabash–Ohio river confluence area served ceremonial functions during the Mann phase. These differ markedly in scale, one being among the largest Middle Woodland constructions anywhere, the other much more modest in proportion.

The GE Mound

The GE mound, or Mount Vernon site (12 Po 885), is located in an upland setting near the mouth of the Wabash river, about eight kilometers west of the Mann site. The site was discovered in 1988 during county earth-moving operations. The site was subsequently subjected to

extensive looting, followed by several indictments and convictions under the Archaeological Resources Protection Act, and the recovery of a portion of the artifacts removed from the mound. Limited test excavations designed to determine the extent of the looting were conducted by the Indiana Department of Transportation (IDOT) in 1988 (General Electric Company 1997; Seeman 1992, 1995; Tomak 1990, Tomak 1994).

The GE mound reflects an investment of labor on a truly monumental scale. Prior to its disturbance, the GE mound was a loaf-shaped structure approximately 125 meters long, 50 meters wide, and 6 meters high. The site ranks among the five largest Hopewell mounds in the Midwest and was comparable in size to Seip–Pricer in south–central Ohio.

Information regarding the context of the artifacts recovered is sketchy at best, but the GE site was clearly the focus of a complex ceremonial program. The "main feature of the mound was a central deposit containing several thousand bifaces . . . this deposit was surrounded or capped with human burials and artifact deposits" (Seeman 1992:24). Most if not all of the artifacts appear to have been recovered at or near the mound floor, perhaps in formal deposits. No intact burials were recovered, but the presence of both burned and unburned human bone in the IDOT collections from the site suggests that extended processing and manipulation of the dead was a part of the mortuary program.

Often-spectacular status and ceremonial artifacts (Seeman 1992:table 1, 1995) were recovered from the mound in great diversity, suggesting that people were major players in Hopewellian interaction and procurement. Among the artifacts were more than 2,000 large ovate bifaces, most fashioned of Burlington chert from the lower Illinois valley area; at least 3 large crystal quartz bifaces; at least 10 obsidian bifaces; 5 mica cutouts; 13 copper earspools, 8 with silver covers; 3 copper panpipes, 2 with silver covers; copper nuggets and beads; and a size-graded series of 23 copper celts. The most temporally sensitive of these are the obsidian bifaces and the stylistic attributes of one of the silver-covered earspools. Both of these should date close to or after A.D. 100 (Rule, Chapter

18; Griffin 1965; Griffin et al. 1969; Hatch et al. 1990; Ruhl 1992, 1996; Ruhl and Seeman 1998). Seeman (1992) estimated that the GE assemblage was deposited between about A.D. 100 and A.D. 300. On this basis, GE is assigned to the Mann phase rather than the earlier Crab Orchard occupation of the region.

Several observations support the notion that this structure represents something more than just a burial ground—that it served as a context for integrative ritual, activity, and symbolism. First is the imposing size of the structure, itself, which certainly speaks of a significant cooperative investment. Second is the structure as a *monument*—a work possessing the attributes of prominence and persistence—an enduring symbol of social affiliation made manifest on the landscape (Charles 1985; Wheatley 1996:84–88). Third is the fact that many of the artifacts deposited in the mound had been intentionally destroyed through heating or smashing. Although we know nothing of the context of this destruction, it seems reasonable that the destruction of artifacts so evidently charged with wealth and symbolism had the potential to serve as the focus of an impressive public spectacle.

The GE mound appears to have been spatially as well as functionally divorced from the domestic sphere. There is no evidence of any domestic habitation immediately adjacent to the mound or in the nearby lowlands. In fact, the only evidence of associated activity in the vicinity of the mound comes in the form of chert debitage reflecting the production or refinement of bifaces for inclusion in the central deposit.

The Martin Site (12 Vg 41)

At least one other site in the lower Wabash region, the Martin site, appears to belong within the ceremonial sphere of the Mann phase Hopewellian community.[14] Martin consists of three small conical mounds preserved in a 19th Century cemetery. The largest stands less than two meters high. Because these have not been excavated, their attribution to the Mann phase is based on associated debris surrounding the mounds and is, consequently, less certain. Surrounding the

mounds is a low-density scatter containing lamellar blades and undecorated ceramics similar to those documented at the Mann site. The greatest density of materials is contained within a single 40 × 60-meter area.

The ceremonial centers of Mann, Martin, and GE are all located on upland or terrace landforms. It is possible that activities involving suprahousehold integration were scheduled to correspond to portions of the year when lowland habitats were inaccessible. This situation mirrors the accessibility in the Illinois valley of the elevated ridges and terraces where flood plain ceremonial sites were located.

Community Organization in the Lower Wabash–Ohio River Confluence

As in the Illinois case, and as we shall see for the Ohio case, there is evidence that Mann-phase peoples organized themselves into communities of varying demographic and spatial scales. Residential communities comprised of one or a few households were dispersed over the lower Wabash–Ohio river confluence landscape, much as they were in Ohio. The small size and apparently seasonal, warm-weather occupation of the Wabash–Ohio hamlets distinguishes them from bluff-base habitations in Illinois, which seem to have been occupied year-round, were commonly somewhat larger, and occasionally may have been much larger. Mann phase hamlets were certainly smaller than the clusters of two to five bluff-base habitations along the Illinois valley trench that possibly each constituted a dispersed residential community. Clusters of several small, one-household settlements found in some Ohio contexts (e.g., Pacheco 1996:26, 29, 1997:56, 58; see below) have analogs in the Mann phase area.

In contrast to the small, dispersed residential communities in the Mann region was a residential community of larger scale, to some unknown degree, within the Mann site. This residential community probably was as large as or larger than the bigger of the bluff-base settlements in the Illinois valley or the clusters of bluff-base settlements along that valley.

Small-scale mounded cemeteries in the Mann area, such as the five small conical mounds at the Mann site and the three at the Martin site, appear from their burial populations and mortuary programs to have functioned in forging (local?) symbolic communities composed of multiple residential communities represented by the scattered, often seasonal, hamlets. In structure and content, the cemeteries are similar to the conical bluff-top mounded cemeteries in the lower Illinois valley but are relatively few in number. There also is no clear evidence that the conical mounds in the Mann area were used as territorial markers to broadcast and validate claims to subsistence territories, as were the conical mounds in Illinois.

Sites like Mann and GE, marked by truly monumental public architecture and ceremonial facilities, were more closely linked to feasting and public pageantry than mortuary ritual, and likely served to integrate multiple residential and symbolic communities into a single, large, symbolic, and sustainable community organized on a regional scale. Mann and GE, eight kilometers apart, appear to have served partially different and partially overlapping functions within this regional community. Mann has rectangular enclosures and rectangular mounds for staging nonmortuary rituals as well as large, loaf-shaped mounds that, by analogy to GE and similarly shaped mounds in Ohio and Illinois (e.g., Hopewell Mound 25, the Seip–Pricer, Seip–Conjoined, Edwin Harness, and Kamp mounds, Mound House), would have been used for ceremonial displays and the decommissioning of fancy ritual items in deposits, attendant with anywhere from few to many burials. The GE site lacks earthworks and rectangular staging mounds and has only the one huge and rich mound created in the course of ceremonial display, decommissioning, and burial. In its size and diversity of fancy artifacts, it recalls Hopewell Mound 25 in Ohio, which was a specialized burial place for social leaders and other persons of social importance (Carr, Chapter 7).[15] The partially complementary functions of Mann and GE imply one regional, symbolic, and sustainable community rather than two smaller ones.

In their function as centers for gatherings of a sustainable community for considerable nonmortuary-related activity as well as burial, Mann and GE resemble the flood plain mound centers in the lower Illinois valley (see above). In their functional differentiation within one symbolic community, they remind us of the functionally differentiated earthworks within symbolic communities in Ohio (see below).

In total, the ceremonial sphere of the Mann phase and its archaeological manifestations both resemble and differ from those in the lower Illinois valley. The contrast between the clusters of small conical mounds that were used to bury persons from multiple residential communities and to create symbolic communities, and the large, loaf-shaped mounds that were the focus of larger sustainable communities, holds in both geographic regions. However, the material–spatial organization of symbolic and sustainable communities differs between the regions. In the Illinois case, the conical and loaf-shaped mounds that represented local symbolic communities and sustainable communities, respectively, were separated in distinct bluff-top and flood plain locations, whereas in southwestern Indiana, the conical and loaf-shaped mounds that represented these two social units, respectively, were sometimes located apart (e.g., Martin versus GE) and sometimes together (e.g., at Mann).

HOPEWELLIAN COMMUNITIES AT THE PAINT CREEK–SCIOTO RIVER CONFLUENCE

The confluence of Paint Creek and the Scioto River in Ross County, Ohio, has long been recognized as the center of the most flamboyant Hopewellian expression anywhere in the Eastern Woodlands. At least nine major mound and earthwork centers, several minor centers, and dozens of mounds or mound groups are concentrated within a 30-kilometer radius of the Scioto–Paint Creek confluence (Figure 4.5). Several of these centers are unmatched in scale anywhere outside the south–central Ohio area, enclosing areas as large as 31 hectares. No other region of Hopewellian development displays a compara-

ble density of mound and earthwork centers or a comparable range or concentration of exotic raw materials or finished artifacts (Prufer 1964a; Squier and Davis 1848).

All of the early observers (e.g., Atwater 1820; Squier and Davis 1848) were struck by the scale and geometry of the works in Ross County, and it seemed intuitively obvious that the earthwork builders must have lived in large, permanent villages and supported their extravagances through an industrious agriculture. But despite more than 150 years of investigation, few if any occupations of any size have been identified in association with the great works.

Almost 40 years ago, Olaf Prufer proposed that Middle Woodland settlement patterns in the central Scioto region could be characterized by "a system of semi-permanent shifting agricultural farmsteads or hamlets, clustered around a series of ceremonial centers with which a number of such settlements identified themselves" (1965:137). The central tenets of Prufer's "model" were that individual settlements were small and dispersed, occupied for no more than a generation or so, and the monumental mound and earthwork centers were "vacant", in the sense that they did not serve the domestic residential needs of any significant number of people (Prufer 1965, 1997c).

A 1992 Society for American Archaeology symposium dedicated to a reevaluation of Prufer's "vacant center" model confirmed the utility of the model with only minor revisions (Dancey and Pacheco 1997b). Dancey and Pacheco formalized and extended Prufer's ideas as the "dispersed sedentary community model" (Dancey and Pacheco 1997b). In this model, the fundamental organizational unit of Ohio Hopewell society is a community of unspecified kind, composed of isolated, sedentary, farming, single or multiple-family households (hamlets) dispersed around a centrally located ritual precinct marked by mounds and earthworks. Specialized camps and activity loci related to the use and construction of mound and earthworks may be found within the ritual precinct, but there should be little if any evidence of domestic occupation. Individual communities, each identified with its own central earthwork group, are spaced
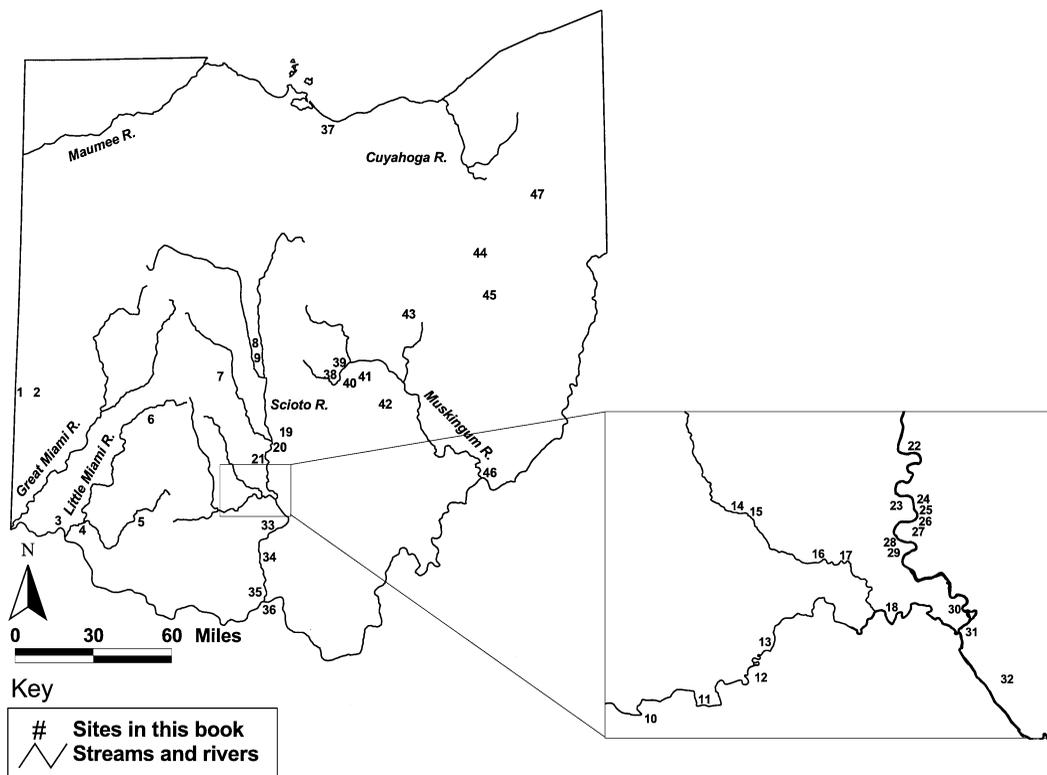
Figure 4.5. Hopewellian mound and earthwork sites in the Scioto–Paint Creek area and broader Ohio. Isolated mounds and mound groups are denoted by name only; earthworks are specified as such. (1) Pense, (2) Lee, (3) West, (4) Turner earthwork, (5) Boyles Farm, (6) Finney, (7) Rutledge, (8) Wright, (9) Melvin Phillips, (10) Rockhold, (11) Seip earthwork, (12) Baum earthwork, (13) Frankfort earthwork, (14) Bourneville, (15) Ater, (16) Hopewell earthwork, (17) Anderson earthwork, (18) Junction earthworks, (19) Snake Den, (20) Circleville earthwork, (21) Westenhaver, (22) Blackwater earthwork, (23) Dunlap earthwork, (24) Cedar Bank earthwork, (25) Ginther, (26) Shilder, (27) Hopeton earthwork, (28) Mound City earthwork, (29) Shriver earthwork, (30) Works East earthwork, (31) High Bank earthwork, (32) Liberty earthwork, (33) McKenzie, (34) Seal earthwork, (35) Tremper earthwork, (36) Portsmouth Square earthwork, (37) Esch, (38) Wells, (39) Eagle, (40) Stone, (41) Hazlett, (42) Rollins Ford Farm, (43) Martin, (44) Yant, (45) Kohl, (46) Marietta earthwork, and (47) North Benton.

at regular intervals along river courses, according to Dancey and Pacheco's schema. Pacheco's (1996a) description of Hopewellian communities in the central Muskingum region is perhaps the clearest expression of this. He described six independent Ohio Hopewell communities, each focused on an earthwork center. Where multiple earthworks fall within the apparent territorial bounds of a single community, he posited that this "is probably indicative of time, rather than additional communities" (Pacheco 1996:24). Territorial boundaries between contiguous communities are fixed on valley floors, but more open and fluid where they face into upland hunting grounds on

valley margins (Dancey and Pacheco 1997a:7, figure 1.2b). Specialized camps supporting specific subsistence pursuits and extractive activities, as well as significant symbolic places, may be found throughout the community's territorial range. It is impossible to specify whether the Ohio Hopewellian communities envisioned by Dancey and Pacheco would be residential, local symbolic, and/or sustainable communities in the terms used in this chapter. The authors do not model enough about the social composition, functions, and activities of such hypothetical communities to define them to this detail.

At a broader scale, Dancey and Pacheco (1997a:9b) postulated that some of "the burial groups under the conjoined mounds at sites like Seip, Liberty, and Hopewell may represent the dominant lineages of several adjacent communities," elaborating on Carr and Maslowski (1995:338–339). Each such set of contiguous communities may have constituted a peer polity, focused on its own, centrally located public works. Dancey and Pacheco (1997a:9–10) suggested that the very largest mound and earthwork centers in each of the various southern Ohio regions may have served this role: for example, the Hopewell Mound Group in the Scioto–Paint Creek confluence region, the Newark complex in the Muskingum watershed, the Portsmouth works at the mouth of the Scioto, and Turner Earthworks in the region drained by the Great Miami and Little Miami rivers.

In Dancey and Pacheco's model, the organization of Ohio Hopewellian communities was based on a swidden agricultural subsistence strategy. Agriculture was developed enough to produce the dietary staples of the peoples and to have had a major impact on the local forest ecology (Dancey and Pacheco 1997a:11).

There is a growing body of empirical data in support of the most fundamental tenets of this model. Large nucleated settlements have not been identified in association with any major earthwork center or elsewhere on the landscape. Instead, wherever intensive and systematic surveys have been undertaken in the vicinity of the major Ohio centers, these reveal a pattern of small-scale domestic habitations located outside of the earthwork walls, along with a variety of special-purpose activity areas both inside and outside the walls. The specialized loci are variously interpreted as ritual camps, workshops, plazas, and blade manufacturing and use areas.

The following sections summarize some of this evidence and supplement it with notices of new data emerging from recent fieldwork in the region. After a long hiatus that witnessed only sporadic field investigations in the Scioto–Paint Creek region, the National Park Service has sponsored a ressurgence in field investigations in the area since 1994. Expansion of the former Mound City Group National Monument to include four additional Hopewellian mound and earthwork centers in Ross County, Ohio (the Hopeton Works, Hopewell Mound Group, High Bank Works, and Seip Earthworks), has prompted new surveys and excavations designed to evaluate the nature and integrity of the new park units, and to evaluate additional sites in the region for possible inclusion in the park. Recent investigations in the vicinity of Mound City, Hopeton, Hopewell, and Seip have not yet been fully reported, but the preliminary results support the contention that individual Hopewellian domestic habitations in the Scioto–Paint Creek region were small—more aptly described as households or hamlets than villages (contra Griffin 1996). The new research also documents a variety of special-purpose areas in association with these major enclosures.

Households and Hamlets

Habitations and Specialized Sites in the Immediate Scioto–Paint Creek Area

The McGraw site, excavated in 1963, remains the only published example of an excavated domestic habitation in the vicinity of the Scioto–Paint Creek confluence (Prufer 1965). There, Prufer found buried in the active Scioto River flood plain a midden deposit averaging about 18 centimeters thick and covering an area of about 0.12 hectare (about 30 × 40 meters). No remains of structures or other features were identified, possibly because the area excavated was a trash dump downslope of a work and/or habitation area (Carr and Haas 1996:28; Dancey 1991:38). Erosion and the difficulties of identifying postmolds and pits in the midden-stained soils remain other possibilities. The midden assemblage conforms to the expected composition of a domestic refuse deposit. The artifact assemblage is dominated by utilitarian ceramics, chert debitage, cutting tools, and projectiles. Only a few items hint at participation in Hopewellian ritual and long-distance procurement: some scrap mica, a copper awl or drill, two worked bear canines, a sandstone cone, and

five crude ceramic figurine fragments. By far, the bulk of the assemblage reflects more mundane concerns. Faunal remains were abundant throughout—mostly deer, with turkey, turtles, fish, and shellfish as subdominants. Flotation was not used, the technique having been in its infancy, but nonetheless, the midden yielded some wild plant food remains (nutshell and berry seeds), and a single cob and a few kernels of maize (*Zea mays*).[16]

There is little other direct evidence of subsistence practices, particularly with respect to agricultural practices, from Hopewellian sites in the immediate Scioto–Paint Creek area. A few samples from the Salt Creek valley are discussed below. However, cultivated and domesticated plant resources including cucurbits, sunflower, sumpweed, goosefoot, maygrass, knotweed, and little barley are consistently present in Hopewellian assemblages from sites in the nearby Licking River drainage (Wymer 1997). The co-occurrence of these plants along with genera characteristic of both mature and early successional forests suggests the operation of a forest swidden agricultural system (Wymer 1997). Hopewellian botanical assemblages from locations farther afield along the Ohio river, in southwestern and southeastern Ohio, are remarkably similar in the representation of cultigens and domesticates (Wymer 1996).

Systematic surface surveys and excavations at the Hopeton and Hopewell earthworks, yet unpublished, have provided evidence on habitations that complements that from McGraw. At Hopeton, systematic surface surveys under the direction of Ruby (1996, 1997c; Ruby and Troy 1997), Dancey (1997), and Burks et al. (2002) have produced the most comprehensive and detailed artifact distribution maps in the vicinity of any major Ohio Hopewell earthwork. Virtually the entire terrace surface within 1,000 meters of the earthworks was surveyed under conditions of good surface visibility (open, cultivated soils) at transect intervals of no more than 10 meters. In most areas, all artifacts—including chert debitage and fire-cracked rock—were individually piece-plotted. These detailed studies documented widespread Middle Woodland pe-

riod activity across the entire landform, and three relatively dense concentrations of Middle Woodland period diagnostics: the "Triangle" (33 Ro 812), "Overly" (33Ro 110), and "Redwing" (33 Ro 813) components. In no case do the material densities approach those characteristic of nearby Late Woodland or Fort Ancient-period village occupations, such as Harness-28 (Coughlin and Seeman 1997; Seeman 1981a, 1981b), Gartner (Mills 1904; Troy 2002), and Baum (Mills 1906).

Two of the densest concentrations of Middle Woodland-period debris at the Hopeton Works were intensively investigated by archaeo-geophysical methods and wide-area mechanical stripping: Mark Lynott's 1994 and 1998 investigations at the Triangle component and William Dancey's 1995 investigations at the Overly Tract (Dancey 1997; Lynott 1998a, 1998b, Lynott 2001; Weymouth 1996, 1998a, 1998b). In both areas, loose clusters of shallow refuse and rock-filled basins and occasional earth ovens were revealed, and no remains of structures were identified. Portions of both of these concentrations could be attributed to pre or post-Middle Woodland period occupations. Field observations suggest that the Middle Woodland period occupations were household or hamlet-scale habitations with evidence for a full range of domestic activities, but with no evidence of the intensive and structured use of space characteristic of later Ohio village-scale occupations. Surface survey, geophysical exploration, and limited subsurface testing at the Redwing component revealed what may be a specialized locus of activities that were more likely corporate–ceremonial than domestic (see below; also Ruby 1997b, 1997c, 1997d).

The flood plain below the Hopeton Works has not been as intensively surveyed, but there are indications of Middle Woodland activity in the area (Brose 1976). Ruby excavated a small-scale test trench in 1995 and identified a low-density midden deposit buried by a meter of alluvial sediments. It was radiocarbon dated to about A.D. 100 radiocarbon time (33 Ro 811, Beta-109961; see Appendix 4.1 and Dancey 1995).

Survey in and around the Hopewell Mound Group has failed to locate evidence of large,

nucleated villages (Seeman 1981a, 1981b). How-ever, a recent shovel-test survey of 21 local-ities within a 10-kilometer radius did doc-ument widespread, if somewhat ephemeral, Middle Woodland activity in the vicinity. One of these localities ("Datum H") produced a rel-atively high proportion (approximately 25%) of undecorated ceramics, and is a strong candidate for a small-scale domestic habitation just outside the earthwork walls (Dancey 1996; Hopewell Culture National Historical Park 2003). Other recent work (see below) has documented indica-tions of more specialized occupations, especially within the earthwork enclosure.

Habitations and Specialized Sites Elsewhere in the Scioto Drainage

Survey and excavation data on small habitations are also available from sections of the Scioto drainage farther north and south of the Paint Creek confluence. Three previously unpublished cases are summarized here. Each evidence short, ephemeral occupation compared to the McGraw and Murphy sites, with abandonment and reoc-cupation probable in two of the cases.

Madeira–Brown. The Madeira–Brown site (33 Pk 153) is an example of a Scioto Hopewell habitation in the Unglaciated Alleg-heny Plateau province, in a main valley set-ting. The site is located on a flood-prone low terrace in the Scioto river bottomlands in Pike County, Ohio, about 30 kilometers south of the Scioto–Paint Creek confluence. The nearest mounds or earthworks consist of a group of conical mounds located about 800 meters northeast. The "Graded Way" at Piketon (Fowke 1902:274–278; Squier and Davis 1848:88–90) is located about two kilometers north, and the Seal Township Works (Fowke 1902:179–181; Squier and Davis 1848:66–67) are located about eight kilometers south. The nearest major mound and earthwork complexes are located about 30 kilometers distance, at Liberty to the north and Portsmouth to the south.

The site was heavily investigated (Bush et al. 1989, 1992; Ohio Department of Trans-portation 1993).[17] Intensive surface collection identified a relatively light scatter of Late Archaic and Middle Woodland lithics and one possible Middle Woodland period ceramic sherd within an area of about 100×120 meters (1.2 hectares) (Bush et al. 1992). Plow-zone strip-ping exposed an estimated 25% of the total site area and revealed six refuse-filled pits and 53 postmolds (Ohio Department of Transportation 1993). Five of the refuse-filled pits were shallow and basin-shaped; the sixth was nearly one me-ter deep, with basal deposits of fire-cracked rock and charcoal suggesting its use as an earth oven. Additional diagnostic artifacts recovered include 7 fragmentary Vanport chert bladelets, 14 (proba-ble) McGraw Cordmarked sherds, and 2 possible Chillicothe Incised or Turner Simple Stamped sherds. There is a possibility that substantial secondary refuse deposits could exist in nearby buried swale contexts not sampled (Ohio Depart-ment of Transportation 1993:23–24).

The postmolds suggest at least three struc-tures (Appendix 4.2). One, only partially ex-posed, was circular, 6.8 meters in diameter, with an estimated floor area of 36.3 square meters, and capable of having accommodated about 8 individuals. This is the modal size for Middle Woodland habitation structures identified by B. Smith (1992:figure 9.8). One of the basin-shaped pits was inside the post pattern, and one of the possible Chillicothe Incised sherds was recovered from a posthole fill. A second, less complete arc of postholes overlaps the first and suggests a rebuilding episode. A third, incom-plete post pattern about 20 meters away appears to describe a rectilinear structure, with rounded corners. It is estimated to have been a minimum 6.1×9.8 meters, with a floor area of 59.8 square meters, and capable of having accommodated 11 individuals. This area is toward the upper end of the size range for Middle Woodland habita-tion structures identified by B. Smith (1992:fig-ure 9.8).

Baker (Ohio Department of Transportation 1993) interpreted the Middle Woodland compo-nent at Madeira–Brown as a hamlet-scale res-idential occupation within a settlement system that also included specialized logistical camps in upland settings. It should be noted that the site produced very few artifacts in compari-son to other Ohio Hopewell habitations such as

McGraw and Murphy, and the contrast is even more striking when compared to settlements such as Smiling Dan in the lower Illinois river valley and Mann in the lower Ohio valley (Table 4.5).

Marsh Run. The Marsh Run (33 Fr 895; a.k.a. "Wal-Mart site") and Clarence Ford (33 Fa 81) sites provide the best examples of upland habitation sites in the central Scioto basin. Marsh Run is located on a gentle upland rise in the central Ohio Till Plains, in Franklin County, just southwest of Columbus, Ohio (Aument et al. 1991; Aument and Gibbs 1992; Cowan 2003a). The site is situated near a wetland depression at the headwaters of Marsh Run, a small stream that flows east to the central Scioto river, about 8 kilometers distance. The nearest mounds or earthworks are reported in Mills's (1914) *Atlas* and include two circular enclosures located approximately 4.8 and 6.4 kilometers away, and two isolated mounds located approximately 1.6 and 2.4 kilometers away. The major earthworks at Newark and Chillicothe are nearly equidistant, about 65 kilometers away.

The site was intensively investigated through survey, which revealed two concentrations of artifacts on two small knolls located about 100–150 meters apart within an approximately 1.5-hectare scatter. Both concentrations had diagnostic Hopewellian bladelets and were mechanically stripped, exposing some 4,392 square meters. The bulk of the artifacts and features on the two knolls relate to the Middle Woodland period. One concentration was estimated to have been about 0.14 hectare; the other, about 0.70 hectare. The underlying subplow-zone features, however, occupied much smaller areas, estimated at 100 and 240 square meters. One cluster included three postmolds and two shallow basin-shaped pits associated with heating, cooking, and/or processing functions, but not storage. The second cluster included 21 postmolds and 5 shallow, basin-shaped heating/cooking/processing pits. The postmold patterns cannot be confidently interpreted, but several linear alignments suggest the presence of rectangular structures, screens, or racks (Appendix 4.3). Some postmolds contained charred wood fragments or burned clay nodules, while others appeared to have been purposely removed, suggesting several periods of site use and reuse. No significant midden deposits were identified.

The material assemblage documents a wide range of domestic activities. The assemblage includes at least 1 diagnostic Middle Woodland projectile point, 2 drills, and 5 endscrapers; 102 whole and fragmentary bladelets and 7 bladelet cores; 4 celts, 2 pitted stones, 1 grinding stone, 1 fragmentary gorget, and 1 fragmentary pendant; and 149 grit-tempered sherds and many sherdlets. The small archaeobotanical assemblage is dominated by locally available nuts and wild varieties of goosefoot (*Chenopodium* sp.) and maygrass (*Phalaris* sp.). Cultivated cucurbit rind is present. Faunal remains are virtually absent, likely due to poor preservation.

Six radiocarbon dates were obtained from charred wood samples (Appendix 4.1). Four of these apparently relate to intermittent occupations during the Early and Middle Woodland periods. The spread among the calibrated dates more strongly supports a series of short-term occupations than a long period of continuous occupation, as discussed below and shown in Table 4.4.

Clarence Ford. The Clarence Ford site is also located in the rolling uplands of the central Ohio Till Plains, in Fairfield County just east of Columbus (Aument 2003; Aument and Gibbs 1992). The site overlooks the narrow flood plain of Sycamore Creek, a tributary stream that flows into the central Scioto valley about 20 kilometers to the west. There are no mounds or earthworks in the immediate neighborhood, but the Newark Works lie about 30 kilometers to the northeast.

The site is multicomponent, complicating estimates of site size, but the Middle Woodland component is probably less than 0.35 hectare. Limited testing identified a stone-lined earth oven separated by about 12 meters from a basin-shaped cooking/heating facility and three large and deep postmolds, 30 centimeters in diameter × 50–60 centimeters deep, with ceramic and stone chinking. A mud dauber's nest with a sedge stem imprint was found in the cooking/heating facility. The excavators interpreted

the postmolds as remnants of a structure, which the mud dauber's nest corroborates and suggests was built partly of sedge. Time constraints did not permit the full pattern of posts to be exposed (Aument 2003; Aument and Gibbs 1992).

The material assemblage included diagnostic bladelets, McGraw-series cordmarked ceramics, Chesser Notched bifaces, and groundstone items including pitted stones and celt and gorget fragments. The botanical assemblage includes exclusively wild plant food resources: sumac seeds and nuts including hickory nuts, black walnuts, hazelnuts, and acorns. Faunal remains are virtually absent, again likely due to poor preservation.

Aument and Gibbs (1992) note that the upland Marsh Run and Clarence Ford sites differ in several respects from valley-bottom sites interpreted as year-round sedentary hamlets, such as the Murphy I occupation (Dancey 1991; Pacheco 1997). The upland occupations are smaller, with fewer and less functionally diverse features, midden development is absent, there is evidence of periodic abandonment and rebuilding of structures, and the botanical assemblages are dominated by wild plant foods rather than agricultural products. These observations led Aument and Gibbs (1992) to infer that the sites may represent seasonal, fall–winter occupations, perhaps complementary to valley-bottom warm-season farming occupations.

Wade. The Wade site is located in the flood plain of Salt Creek—a good-sized tributary that drains the Unglaciated Allegheny Plateau south and east of the Scioto–Paint Creek confluence (Church and Ericksen 1997; Prufer 1975, 1997b). Excavations within a 0.16-hectare area revealed a loose cluster of shallow basins, hearths, earth ovens, and fire-cracked rock concentrations interpreted as heating or food processing facilities. Undecorated ceramics, chert debitage, cutting tools, and projectiles made up the vast majority of the recovered artifacts. A few pieces of scrap mica constitute the only evidence of nonsubsistence activities. No faunal remains were recovered,

but this might be attributed to acidic soils and poor preservation. Virtually the same description could be applied to the limited excavations at the nearby Ilif Riddle I site reported by Prufer (1997b). Nutshell and economically important seeds including some possible cultigens (maygrass [*Phalaris* sp.] and goosefoot [*Chenopodium* sp.]) were recovered at Wade by flotation, along with wild seeds indicating disturbed habitats.

Church and Ericksen (1997) interpreted the Wade site as a seasonally occupied, household-scale settlement. Baker (Ohio Department of Transportation 1993) points out that the Wade site occupation was orders of magnitude smaller in its area of debris scatter, number of features, number of artifacts, and density of food remains than the McGraw and Murphy occupations, which are commonly described as "typical" Ohio Hopewell hamlets (see Dancey 1991; Prufer 1965). Thus, Baker suggested that Wade, which is in a flood plain setting, as well as small sites in the uplands, such as Marsh Run and Clarence Ford, may represent logistical camps that complemented more substantial residential occupations elsewhere.

Beyond the Scioto–Paint Creek area, in the neighboring Licking–Muskingum drainage basin, a few habitation sites have been documented by excavation, but are beyond the geographic scope of this study. The Murphy I site (Dancey 1991) was explored and reported most fully. Information is also available from excavations at the Murphy III and Cox B sites (Morton and Carskadden 1987; Pacheco 1996:27–28).

Patterning among Habitation Sites

Middle Woodland dwellings in the Scioto–Paint Creek area and neighboring drainages usually were isolated or occurred in twos or threes, the generational contemporaneity of which is hard to demonstrate. The two or three dwellings at the Marsh Run site described above, and three couplets of habitations in a small tributary of the Licking valley that likely date to three different periods (Pacheco 1997:56, 58), provide the

best evidence for multiple household residential sites. Other, less chronologically clear cases include clusters of up to six apparent habitations within one kilometer in the Dresden subregion of the Muskingum valley (Carskadden 1997:374), clusters of two or three apparent habitations within one kilometer in the Philo district of that valley (Carskadden 1996:321), some couplets of apparent habitations within one-half kilometer of each other in the upper Jonathan Creek subregion of the Muskingum (Pacheco 1996:31), and a group of up to seven possible habitations within one kilometer southwest of the Liberty earthworks (Seeman 1997). These groupings of households in the greater Scioto area all have fewer households than the larger of the bluff-based residential communities in the lower Illinois valley (e.g., Apple Creek, Macoupin, Gardens of Kampsville).

The probability that Scioto and neighboring Hopewellian farmers employed a swidden strategy, as evidenced by archaeobotanical information (Wymer 1997), suggests the possibility that they moved their residences periodically to remain near to their fields. Rainey (2003) has summarized ethnographic literature on the residential and field mobility of historic Native American farmers in the northeastern United States and found that villages were commonly moved every 10 to 20 years, usually in coordination with changes in the locations of fields, which were typically placed close to or within the villages. Field houses, which would have allowed the working of more distant fields and longer-term residential stability, were not used. In addition, Rainey estimated from the ecological successional nature of the wild plant food remains found in six Middle Woodland habitation sites in the Scioto area that fields abandoned upwards of 25 to 50 years were sometimes used for their secondary-growth wild resources, implying up to this duration between residential moves for some habitation sites. The paleobotanical records of some other sites imply shorter occupations. All of these durations are shorter than the 100 years of occupation estimated by Dancey (1991) for the Murphy I site, and more in accord with the multiple lines of evidence cited by Carr

and Haas (1996) that indicate its substantially shorter occupation.

The periodic movement of residential sites by Scioto and neighboring Hopewellian peoples is also suggested by the multimodality of radiocarbon dates typically obtained from them (Table 4.4). Of nine Middle Woodland habitation sites with multiple, reasonable radiocarbon assays in the region, eight sites have two or three statistically distinct modalities, suggesting abandonments and later reoccupations, and only one site appears to represent a single occupation. This pattern is an expectable product of swidden farming, where residences are cyclically relocated to previously used areas in order to take advantage of the greater food resource diversity created there by former human disturbances and the less mature, more easily cut forests there. The length of reoccupation cycles for specific habitation locations in the sampled sites commonly falls between 175 and 300 years. The duration of cycles for household moves within a general area, with the potential use and reuse of many more alternative habitation sites within it by a local farming unit, could be significantly less, and is probably best estimated by the up to 25 to 50-year period of farming plot regrowth estimated by Rainey.

Specialized Activity Areas

There is comparatively little evidence of specialized extractive camps, such as nut-processing camps or fishing or shellfishing stations, that date to the Middle Woodland period. Exceptions include the apparently seasonal upland occupations at sites like Marsh Run and Clarence Ford (see above), and a few reported specialized sites in the Muskingum drainage in the Philo district (Carskadden 1996) and along a small seasonal tributary of Raccoon Creek (Pacheco 1997). There is also some evidence for Middle Woodland use of upland rockshelters throughout the heavily dissected hill country of southeastern Ohio. Remains at the rockshelters indicate that they were used markedly less during the Middle Woodland than the preceding Early Woodland period (Seeman 1996). Seeman suggests that this pattern is "consistent with increased sedentism

Table 4.4. Modalities in Calibrated Radiocarbon Dates from Middle Woodland Habitations[a]

Site	Number of dates	Means of modalities			Separation(s) among means of modalities
Ohio					
McGraw	11	A.D. 40	A.D. 315	A.D. 585	275 yr, 270 yr
Li 79.1	2	A.D. 137	A.D. 420		283 yr
Murphy I	6	40 B.C.	283 B.C.		323 yr
Marsh Run	3	180 B.C.	A.D. 120	A.D. 290	300 yr, 170 yr
Jennison Guard	3	A.D. 224	A.D. 398		174 yr
Decco	4	A.D. 320	A.D. 441		121 yr
Harness-28	3	50 B.C.	A.D. 380		430 yr
Newark Campus	2	A.D. 20	A.D. 540		520 yr
Locust	3	A.D. 176			One mode only
Illinois					
Smiling Dan	8	A.D. 50	A.D. 238	A.D. 400	188 yr, 162 yr

[a] Dates are reported by Carr and Haas (1996), Dancey and Pacheco (1997), and Stafford and Sant (1985). Dates taken from Carr and Haas, and Stafford and Sant, have been clustered into distinguishable modes, per procedures described in Carr and Haas. Dates taken from Dancey and Pacheco have been sorted into modes qualitatively, noting their standard deviations and disallowing any overlap among the standard deviations of dates in separate modes. An exception is the Jennison Guard site, where overlap among defined modes is minor. When a mode is defined by a single calibrated date with multiple intersect points, the average of the multiple intersect points has been used as the estimated mode. When a mode is defined by multiple calibrated dates, the average of the dates, and/or their multiple intersection points, has been used as the best estimate of the mode. For example, the calibrated dates reported for the Decco site include one with multiple intersections (A.D. 268/273/338) and three with single intersection points (A.D. 343, A.D. 381, A.D. 441). One mode (A.D. 320) is defined by the average of the three intersection points of the first date and the single intersection points of the second and third dates. The second mode (A.D. 441) is defined by the single intersection point of the fourth date.

and settlement pattern simplification, the concentration of settlement in a few high-yield environments, or both" (Seeman, p. 312a). To this might be added the intensification of farming systems and the increased dietary importance of cultigens compared to wild food resources (Wymer 2003).

There is considerably more evidence of specialized activity areas related to the mounded and enclosed ritual precincts in the Scioto–Paint Creek confluence area. The best-known example is the remains of a series of 8 to 10 formal wooden buildings constructed within the Seip Earthworks (Baby and Langlois 1979). The large size and formal architectural plan of these buildings mark them as something more than everyday domestic structures, and their contents suggest a specialized use (Greber et al. 2002). The layout of the buildings mirrors that of the submound charnel structures at Mound City and other burial sites, but the Seip buildings contained no human remains. All of the buildings had large numbers of bladelets and fragments of mica, but each was unique in other ways apparently related to the manufacture and use of varying kinds of ritual paraphernalia. One building had large quantities of mica and completed mica cutouts. Another

yielded fragmentary mica, crystal quartz, and obsidian, as well as much of the skeletons of a gray fox and a salamander. It had an unusual line of functionally similar pits that ran diagonally across it, most of which contained large cobblestone cores. Two other buildings had, along one wall, a line of equally spaced pits that were each packed with small sandstone slabs and limestone cobbles arranged carefully in layers, and that had sticky black residues in their bottoms. The structures were ultimately taken down and covered with a low mantle of gravel and soil. Nearby are several prepared floors made by removing the topsoil down to the firm, gravelly subsoil. Some of these floors were large enough to be described as "plazas." The floors contain traces of open fires and large posts alternately raised and removed. These spaces, too, were ultimately mantled with a thin lens of gravel and soil (Greber 1997; Greber et al. 2002).

Another type of specialized activity area involved the use and manufacture of Hopewellian blades and cores. Small areas characterized by very high densities of lamellar blades and blade cores have been identified at the Liberty and Baum earthworks (Coughlin and Seeman 1997;

Greber 1997:217; Greber et al. 1981). These specialized sites appear to be found only in association with mounds and earthworks.

Other kinds of specialized activity areas are known from the Hopewell site. Moorehead (1922), and later Shetrone (1926), labeled two areas inside the earthwork wall "village sites". Seeman (1981a, 1981b) evaluated the nature of these supposed villages by controlled surface survey. He did not find debris at densities expectable for large nucleated villages. However, he did find evidence for widespread Hopewellian activity in and around the site, with the highest densities occurring within the earthwork enclosure. In some cases, the nature of the debris—fragments of obsidian, quartz crystal, and exotic Flint Ridge and Harrison County flints—suggests specialized locales devoted to the use or manufacture of ritual paraphernalia.

A recent systematic shovel-test survey directed by Ruby, Pederson, and Burks in the "Eastern Village" at the Hopewell Mound Group confirmed Seeman's conclusion (Burks and Pederson 1999, 2000; Pederson and Burks 2000). Only very low debris densities and two subsurface pit features were observed. Included in the fill of these two pit features were exotic (Southeastern) stamped and footed vessel fragments and modified human remains, suggesting activities beyond the mundane. One of the pits had a massive deposit of fire-cracked rock, suggesting food preparation and food sharing on a scale larger than the individual household. A similar shovel test survey of the "West Village" was directed by Pederson, Burks, and Dancey and documented somewhat higher debris densities, but again, quartz crystal and obsidian debitage point to nondomestic activities (Pederson and Dancey 2002; Pederson et al. 2002a).

Recent work at the Hopeton Earthworks has also identified areas of apparently specialized activities. In 1996 and 1997, the National Park Service sponsored controlled surface collection, resistance survey, and systematic subsurface testing at the Redwing component—one of the three densest concentrations of Middle Woodland debris documented at the site (Ruby 1997b, 1997c, 1997d). Whereas the other two concentrations are located in terrace-edge settings and optimally placed for exploitation of flood plain, riverine, and terrace subsistence resources, the Redwing component is located about 100 meters southwest of Hopeton's large geometric enclosure, apparently oriented toward that feature rather than any clearly identifiable aspect of the natural environment.

When the surface-collected assemblage from the Redwing area is compared to the debris densities reported for other Hopewellian occupations and the early Late Woodland Harness-28 village in the vicinity (Coughlin and Seeman 1997; Seeman 1981), it is apparent that the density of diagnostics is far below that seen on village-scale occupations, and is comparable to that of household-scale occupations. However, the range of utilitarian debris is restricted, and the assemblage includes some exotic raw materials: ceramics are entirely absent, blade cores are virtually absent, and the assemblage has a relatively high proportion of nonlocal materials including obsidian, quartz crystal, and certain cherts. The subsurface investigations identified only one cultural feature: a sheet midden between 20 and 30 centimeters thick and no more than 30 meters in diameter. The cultural materials recovered from this midden are again remarkable for their restricted range. The assemblage is dominated by lamellar blades, whereas bifaces, groundstone tools, and faunal remains are absent, and fewer than a dozen ceramic sherds were recovered. Two conventional radiometric determinations on wood charcoal help to date the component. One, at about A.D. 50, is consistent with other Hopewellian activities in the region (Beta-109963; see Appendix 4.1). The second date, at about A.D. 800, falls within the local Late Woodland period (Beta-109964; see Appendix 4.1) and suggests that some portion of the deposit can be attributed to this later time. In short, the Redwing component appears to represent something other than an ordinary domestic habitation.

Various features related to ceremonial activity have been encountered in recent investigations in and around the earthwork walls at Hopeton. Beneath the earthwork wall at the northwest corner of the great rectangular enclosure are a burned area and a deposit of wood charcoal containing mica flecks atop a prepared

surface composed of thin layers of silt, sand, and clay. These prepared and burned surfaces are interpreted as the remains of ceremonial activities that marked the initiation of construction on this earthwork segment. The charcoal has been dated to about A.D 20 radiocarbon time (Beta-96598; see Appendix 4.1) (Ruby 1997b). A lens of redeposited midden located above the base of the wall on the lower north (exterior) slope of this same earthwork segment has recently been dated to about A.D 110 radiocarbon time (Beta-109962; see Appendix 4.1). This midden may have been deposited at the time of construction from a nearby nonearthwork context, or may have been redeposited by erosion from higher up on the earthwork wall. More recent work has documented additional burning and a prepared clay basin at several locations beneath and adjacent to the west and south walls of the rectangular enclosure (Lynott 2002a, 2002b; Lynott and Weymouth 2001a, 2001b; Weymouth 2002).

Farther afield from the Scioto–Paint Creek area, the DECCO-1 site provides a final example of an apparently specialized, non–domestic site. The site is located in Delaware County, on the flood plain of the Olentangy River, a major tributary to the Scioto river in the Till Plains north of Columbus, Ohio (Aument et al. 1991; Cowan 2003b; Phagan 1977, n.d.a, n.d.b). Mounds and earthworks occur in the general vicinity, but none are directly associated with the site. The Newark complex is the nearest major Hopewellian center, located about 50 kilometers to the east.

Surface survey identified four concentrations within an area of about 60 × 145 meters (0.87 hectare) and diagnostic artifacts indicating multiple occupations from the Archaic through the Historic periods. Excavation revealed a Middle Woodland building: a circular, single-post structure, about 12.8 meters in diameter (Appendix 4.4). The individual posts were large, approximately 20 centimeters in diameter, and spaced at about 1-meter intervals. A bigger post, 30 centimeters in diameter, occupied the center of the alignment, and four other posts are scattered in the interior. The center post was dated to A.D. 370 radiocarbon time (Appendix 4.1), and one of the outer posts was dated to A.D. 270 radiocarbon time (Appendix 4.1). A few other apparent postmolds are scattered outside of the circular alignment in no clear order. Some postmolds were tightly packed with fire-cracked rocks, suggesting that the structure was intentionally dismantled.

A pot containing carbonized hickory nuts was found in a small pit within the post pattern and dated to A.D. 240 radiocarbon time (Appendix 4.1). A second pit within the post pattern contained red ocher, and another pit containing red ocher was found about 15 meters outside the post pattern. A second pot, containing large pieces of mica (up to 12.5 centimeters), was found in a stone-lined earth oven approximately 50 meters east of the structure. This feature was dated to A.D. 250 radiocarbon time (Appendix 4.1). At least three other cooking/heating pits were found in and around the structure. A poorly defined area of dark soil, chert debitage, and ceramics (and some historic pottery and nails), approximately 5 × 10 meters in area and 15 to 40 centimeters deep, may represent a midden deposit located about 15 meters outside the structure. Two burial features were found about 3 meters outside the structure, but a Late Prehistoric radiocarbon date from one of the features calls into question their association with the structure (Appendix 4.1).

Phagan (n.d.a) interpreted the site as a "living site of the 'average' woodland people". However, several lines of evidence argue that the site was used for ceremonial rather than domestic purposes. Only five diagnostic Hopewellian lamellar blades were recovered in an assemblage of more than 4,000 chert flakes and tools—suggesting a relatively short-term or specialized Middle Woodland-period occupation.[18] The presence of considerable quantities of mica and red ocher in cache or deposit contexts points to ceremonial activities. Perhaps the strongest evidence that the site was ceremonial rather than domestic in use is the size of the structure itself. Its floor area—128.8 square meters, capable of accommodating about 18 persons—is larger than all but 1 of the 57 Hopewellian habitation structures measured by B. Smith (1992:figure 9.8), and is more comfortably classed with the larger ceremonial structures in Ohio.

Summary

There is now considerable evidence in support of the most basic tenets of Prufer's vacant center model and Dancey and Pacheco's updated version, the dispersed sedentary community model. Hopewellian settlements in the Scioto–Paint Creek confluence region are clearly small and dispersed, and most of the activity areas directly associated with the major earthwork centers are attributable to ceremonial activities rather than domestic occupations. There is evidence that Dancey and Pacheco's model overstates the degree of residential stability characteristic of Scioto Hopewell habitations. Rather than long-term stability over centuries, this review finds that individual domestic settlements were likely abandoned and reoccupied on scales measured in decades at most.

Community Organization in the Scioto–Paint Creek Confluence Region

Although most of the fundamental features of Prufer's and Dancey and Pacheco's models of Scioto Hopewell community organization now appear to be firmly established empirically, these models are largely silent on two critical issues. The issues are: (1) whether earthwork-mound ceremonial centers were functionally differentiated, and (2) whether at least some centers served multiple local symbolic communities rather than just one. Understanding the dynamics of Scioto Hopewellian community organization requires that both question be answered, one way or another.

Functional Differentiation among Mounds and Earthworks

Historically, researchers in the Illinois valley area have devoted much more attention to variability between ceremonial sites than have archaeologists in the Ohio area. Much of this interest can be traced to the work of Stuart Struever, who proposed a complex typology of nondomestic sites in the 1960s (Struever 1968; Struever and Houart 1972): bluff-crest cemeteries, mortuary camps, and flood plain mound groups that served variously as "local transaction centers" and "regional transaction centers" involved in the exchange of

"Interaction Sphere" goods. This same interest continues among Illinois valley archaeologists, who are actively documenting and seeking to explain and interpret variability among Illinois valley ceremonial contexts (see especially Buikstra and Charles 1999; Buikstra et al. 1998; Farnsworth 1990; Styles and Purdue 1991; Wiant and McGimsey 1986).

In contrast, there has been very little research along these lines in the Ohio region. This is something of a paradox, because the pioneering 19th Century research of Squier and Davis (1848) included an overriding concern with classifying mounds into functional categories: mounds of sepulcher, defensive works, sacred enclosures, and the like. Prufer (1964a, 1997a) continued this concern to some extent, recognizing a functional distinction between the hilltop enclosures and the lowland geometric works. However, there has been very little discussion of possible functional variability beyond this most basic division. In the most recent general formulation of Ohio Hopewell settlement systems—Dancey and Pacheco's (1997a) dispersed sedentary community model—variability among mound and earthwork centers is largely attributed to differences in the timing or duration of earthwork use and construction, and other authors follow suit (e.g., DeBoer 1997; Greber 1997). (For further details on the history of ideas about Hopewellian ceremonial site variation by Illinois and Ohio archaeologists, see Carr, Chapter 3, Previous Models of Hopewellian Communities.)

There are several lines of argument that can be marshaled as evidence for functional differentiation of Hopewellian mound and earthwork sites in the Scioto–Paint Creek confluence region. First, there is evidence that functional differentiation among earthworks has deep roots in ancestral Adena ritual. Clay (1987, 1986, 1991) and others (Niquette et al. 1988; Seeman 1986) have argued that the Adena ritual landscape contained several different kinds of sites, including mounds, paired post wooden enclosures, ceremonial circles (circular earthworks with interior ditches and exterior embankments), and large ditched enclosures. These authors argue that these different site types served various functions, including burial sites, meeting places, loci

for staged mortuary ritual, and specialized centers for the acquisition of raw materials (e.g., clay, galena) and the production of ritual paraphernalia. It is reasonable to expect that the yet wider range of mound and earthwork forms, submound structures, and other ritual features attributable to Hopewellian hands represents an elaboration on the Adena tradition of functionally differentiating ritual spaces.

Second, in Ross County, alone, a bewildering variety of construction is found: single mounds, mounds in groups, mounds in lowlands, mounds on hilltops; conical mounds, loaf-shaped mounds, effigy mounds; enclosures with mounds, enclosures without mounds; geometric earthworks, irregular earthworks; lowland enclosures, hilltop enclosures. The sheer variety of forms and locations of Hopewellian mounds and earthworks almost assuredly reflects some degree of functional differentiation.

Third, recent work at the Spruce Hill Works in the Paint Creek valley has provided additional evidence that the hilltop enclosures of southern Ohio were functionally distinct from the lowland geometric works (Ruby 1998). Very early on, Squier and Davis (1848) and others ascribed to these works a defensive function, owing to their placement on often precipitous hilltops, their often massive encircling embankments, and occasional architectural details such as reentrant gateways and parapets that are reminiscent of a number of well-known European hilltop fortifications of the prehistoric and historic periods. Prufer (1997:313a) has continued to champion the view that "the primary function of the enclosures was defensive, although it is clear, and not especially surprising, that some ceremonial functions were also carried out in the context of these edifices." The Spruce Hill case provides little support for the martial hypothesis. The area enclosed is likely too large, and the walls too low, to have offered much protection, yet the site clearly differs from the geometric Baum earthwork located immediately below it and the nearby Seip geometric enclosure. In contrast to Seip and despite years of amateur and professional exploration, Spruce Hill has never produced evidence of human burials or large quantities of Hopewellian debris—domestic or otherwise. Instead, the evidence amassed to date consists of a small quantity of Hopewellian lithic and ceramic debris focused on the gateways leading into the enclosure, and prodigious quantities of burned, even vitrified, rock and soil—again, in association with the gateways. Activities that involved intense burning appear to be a common characteristic of Hopewellian hilltop enclosures, with similar evidence having been reported at Fort Ancient (Moorehead 1890), Foster's Crossing (Fowke 1902; Moorehead 1890), Fort Miami (Moorehead 1890), Four Mile Creek (McFarland 1887), and the Pollock Works (Riordan 1995, 1996, 2002).

Squier and Davis (1848:181–183), too, noted that many of the most prominent hilltops overlooking the lowland mounds and earthworks bear traces of intense burning, perhaps the remains of signal fires or ceremonial pyres. Christopher Turner (1983, 1999, 2000) recently undertook a systematic survey of the horizons surrounding the Hopeton Works and mapped a number of burned rock piles or "fire cairns." He found that several of these mark locations along sightlines defined by gateways in the Hopeton enclosures. In three cases, burned stone piles correspond with sightlines indexing calendrical solar and lunar rise events: the May cross-quarter sunrise, the minimum south lunar extreme, and the maximum south lunar extreme.

It is far from clear whether this burning is related to some specific ritual activity, to conflict and conflagration, or simply to a construction technique common to these hilltop enclosures and analogous to the timber-laced vitrified forts of western Europe (see Cotton 1955; MacKie 1976). At any rate, similar evidence has not been found in association with the lowland enclosures, which suggests that the hilltop sites hosted an entirely different set of activities.

Fourth, evidence of functional differentiation also comes from at least three sites in south–central Ohio: Cedar Banks and Ginther in the Scioto–Paint Creek area, and Marietta, at the mouth of the Muskingum (Pickard 1996; Prufer 1968:41–45; Shetrone 1925; Squier and

Davis 1848:73–77).[19] These sites are predominated by rectangular platform mounds and apparently represent a nonmortuary ceremonialism similar to that described above for the Mann site platform mounds (Pickard 1996; Prufer 1968: 41–45; Shetrone 1925; Squier and Davis 1848:73–77). Limited testing in one of the Marietta platform mounds has recently yielded a Middle Woodland artifact assemblage in association with charred material radiocarbon dated to the second and third centuries A.D. The internal structure of the mound revealed a series of prepared horizontal activity floors composed of thin lenses of clays, sands, and gravels similar to those documented in Mann mound IU 9 (Pickard 1996). The functional differentiation of Marietta, Cedar Banks, and Ginther from other earthworks in south–central Ohio is also hinted at by the correlation of their flat-topped mounds with embankments that are only square in shape or are dominated by squares. This is also the situation at the Mann site. Farther afield, Middle Woodland platform mounds have also been reported from several locations in the Midsouth and lower Mississippi valley: the Pinson, Johnston, and Ames Plantation sites in western Tennessee (Kwas and Mainfort 1986; Mainfort 1986; Mainfort and Walling 1992; Mainfort et al. 1982; Peterson 1979), the Ingomar site in northeastern Mississippi (Rafferty 1983, 1987), the Walling site in Alabama (Knight 1990b), the Leist site in the Yazoo Basin (Phillips 1970:368–369), and the Marksville site in the lower Mississippi valley (Toth 1974). Taken together, all of these platform mound sites suggest the existence of a particular expression of Hopewellian ceremonialism that was not focused on mortuary processing but, instead, used earthen platforms as stages for ceremonial performance and/or participation.

Several other kinds of evidence that point to the functional differentiation of ceremonial centers in the Scioto–Paint Creek confluence include systematic and significant differences among them in their orientations relative to celestial phenomena; in the age and sex distributions of their burials; in the sizes of their burial populations; in the body treatment (cremation or inhumation) given the deceased; and in the range of social roles of the deceased, as indicated by grave goods. These variations suggest differences among centers in the kinds of rituals enacted at them and/or in the social segments that they served. These and other arguments are presented in detail by Carr (Chapter 3).

In sum, many kinds of archaeological evidence and lines of reasoning suggest that mound and earthwork ceremonial centers in the Scioto–Paint Creek area varied in their functions and the range of activities that occurred at them. An earlier Adena tradition of functionally differentiated earthworks, the great range of shapes and locations of Hopewellian mounds and earthworks, clear evidence for differences among earthworks in the kinds of activities and rituals that did and did not take place in them, such as mortuary activities, and a functional distinction between sites that had platform mounds for stages and those that lacked them and had only burial mounds each point to a complex, richly differentiated, ritual landscape that was constructed by Hopewellian peoples.

Multiple Centers within Residential Communities and Multicommunity Ceremonial Centers

If mound and earthwork centers in the Scioto–Paint Creek region varied in their function, as they seem to have, a question naturally arises as to whether they differed functionally in the specific ways that bluff-top and flood plain ceremonial centers did in the lower Illinois valley. There, each bluff-top mound group served to integrate and define a local symbolic community through burial in a common cemetery, whereas each flood plain mound group was a context for interaction between several of these local communities from up and down the valley, which formed a demographically sustainable community. This multiscalar organization of Havana Hopewell ceremonial and sociopolitical life contrasts with Dancey and Pacheco's model of community organization in the Scioto–Paint Creek area, where mounds and earthworks are envisioned as having functioned in only one

manner, analogous to the bluff-top mound groups in the lower Illinois valley. In the Dancey–Pacheco model, scattered homesteads or small clusters of them, which we call residential communities, were integrated into a local symbolic community, in our terms, through common burial and interaction at a centrally located ritual precinct marked by a mound and/or earthwork complex. In Clay's (1991) parlance, Dancey and Pacheco's model is essentially a "bull's-eye" model. Is it possible that some earthwork-mound complexes in the Scioto–Paint Creek confluence also were gathering places for multiple local symbolic communities, rather than only one?

The most compelling form of evidence that some mounds and earthworks in the Scioto–Paint Creek confluence region did serve as centers for multiple local symbolic communities is that many contemporary earthwork-mound complexes in this region are simply "too close" together to have stood at the territorial centers of distinct local symbolic communities. The tight clustering of earthwork-mound complexes in the Scioto–Paint creek area suggests, instead, an interrelated ritual landscape of functionally differentiated ceremonial centers, at least many of which were each made and used by multiple local symbolic communities, of varying numbers over generations (Ruby 1997c). In other words, we are suggesting that earthworks of multiple functions were found within and/or among the territories of local symbolic communities, and that these earthworks were commonly used by persons from multiple local symbolic communities rather than single ones.

To make this argument requires a rough estimate of the likely catchment sizes of Scioto Hopewellian local symbolic communities. Both cross-cultural and Ohio Hopewell-specific data are useful in this regard. Cross-cultural studies of the travel costs and the sizes of resource exploitation catchments of farmers and hunter–gatherers have been summarized by Varien (1999:153–155) and reported above (see Considering Communities). Most studies have found that farmers that use swidden techniques, which probably are analogous to the ones used by Scioto Hopewell peoples (Wymer 1996, 1997), regularly culti-vate fields at distances of three to five kilometers, with seven to eight kilometers being a good estimate of the maximum distance of travel. We can take these distances also as the practical distances within which swidden farmers might interact fairly regularly and construct a local symbolic community. This catchment size, in turn, matches well with archaeological data on the sizes of Hopewellian local symbolic communities in central Ohio. Some of the best-documented Hopewellian site distributions in the Ohio valley are those in the central Muskingum valley region, as a result of a long-term research program there (Pacheco 1989, 1993, 1996). The data suggest that local symbolic communities in this area had catchment radii of the order of 3 to 5.5 kilometers. A well-defined cluster of small habitation sites, mounds, and a small earthwork in the Dresden subregion of the central Muskingum has a diameter of about 6 kilometers, or a catchment radius of about 3 kilometers (Pacheco 1996:29, fig. 2.11). A second, well-defined cluster of small habitation sites, mounds, and earthworks in the upper Jonathan Creek subregion of the central Muskingum valley has a diameter of about 11 kilometers, or a catchment radius of about 5.5 kilometers (Pacheco 1996:31, fig 2.11).[20] The central Muskingum valley, within the Appalachian highlands, is physiographically similar to the Paint Creek and Scioto valleys.

Comparison of the above ethnographic and archaeological estimates of local symbolic community sizes to the distances between earthwork-mound complexes in the Scioto–Paint Creek region indicates that these complexes were very probably not the centers of distinct local symbolic communities, and that a bull's-eye model of Scioto Hopewell community organization is unlikely. Several ways of presenting the data are relevant, here, to drawing this conclusion. First, the Hopeton Works and Mound City Group provide a well-dated, specific case in point. These two works are directly opposite one another on either side of the Scioto river. They are less than 2.5 kilometers apart, or have a catchment radius between them of only 1.25 kilometers. This radius is substantially less than the 3 to 5 kilometer radii found cross-culturally
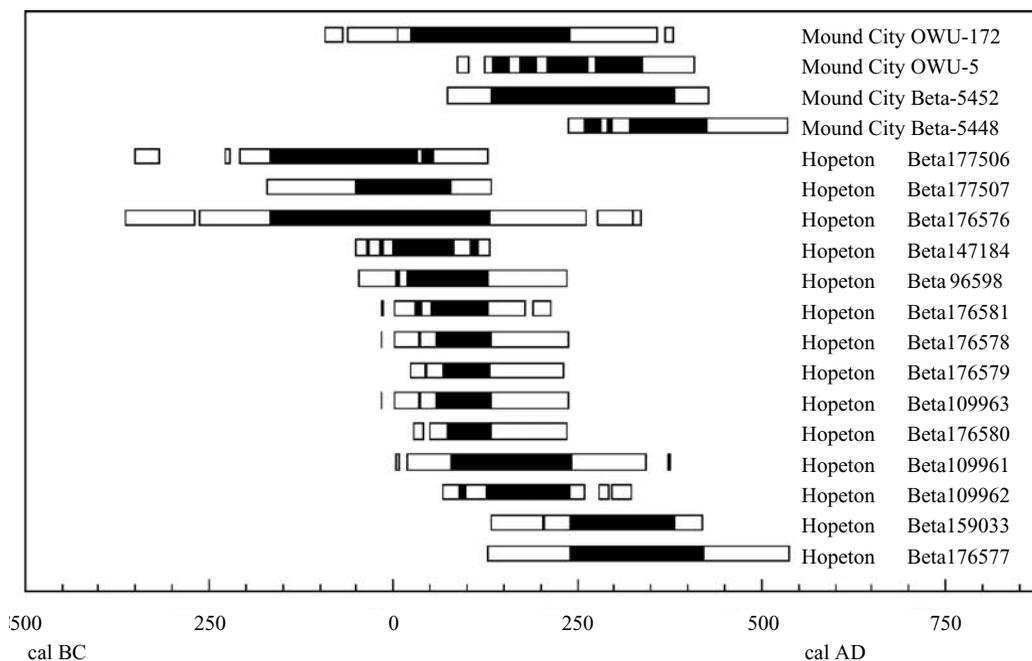
Figure 4.6. Calibrated radiocarbon dates from the neighboring Scioto valley earthwork sites of Mound City and Hopeton. The solid bars indicate the one standard deviation ranges for the dates. The open bars indicate the two standard deviation ranges. Multiple solid or open bars for a date reflect its multiple point estimates on the calibrated time curve (Stuiver and Reimer 1993; Stuiver et al. 1998). See Appendix 4.1 for dates and archaeological proveniences.

and archaeologically likely to have been the rough size of Scioto Hopewellian local symbolic communities, implying that Hopeton and Mound City are too close to have been ceremonial complexes each at the center of its own local symbolic community territory (Ruby 1997c). In fact, the two works are less than an hour's walk apart.[21]

Until recently, it was possible to maintain that the two sites were sequential in time and, hence, explain away their problematic proximity. However, a series of recent radiocarbon dates (Figure 4.6, Appendix 4.1) demonstrates that the two works were built and used simultaneously and probably resided within one local symbolic community.

That earthwork-mound complexes in the Scioto–Paint Creek region are too proximate to have stood at the centers of distinct, local symbolic community territories can be illustrated in a second way, using an approach developed by Adler and Varien (1994; Varien 1999, 2000). They examined the spatial distribution of "great

house" public architecture in the Mesa Verde region of Colorado and found it to be bimodal. Great houses tended to cluster either at distances of less than one kilometer from one another or at distances of between five and seven kilometers from one another. They interpreted the first mode as the spacing of multiple great houses within the territory of a single community, and the second mode as the distances between individual communities (Varien 1999:172–174).

A similar organizational principle appears to hold for the public architecture (earthworks) in the Scioto–Paint Creek confluence region. A histogram of nearest-neighbor distances for 14 major geometric earthworks in the Scioto–Paint Creek confluence region (Figure 4.7)[22] has at least three modes: one at 2–4 kilometers, which would equate to a 1 to 2 kilometer catchment radius; a second at 8–10 kilometers, which would correspond to a 4 to 5 kilometer catchment radius; and a third at 18–20 kilometers, or a 9 to 10 kilometer catchment radius. Clearly, many sites are very closely packed. In fact, all but
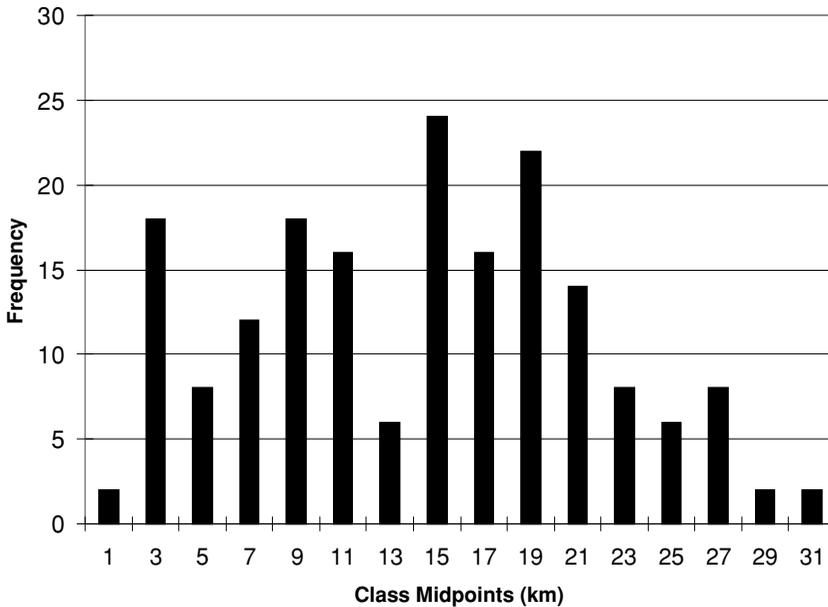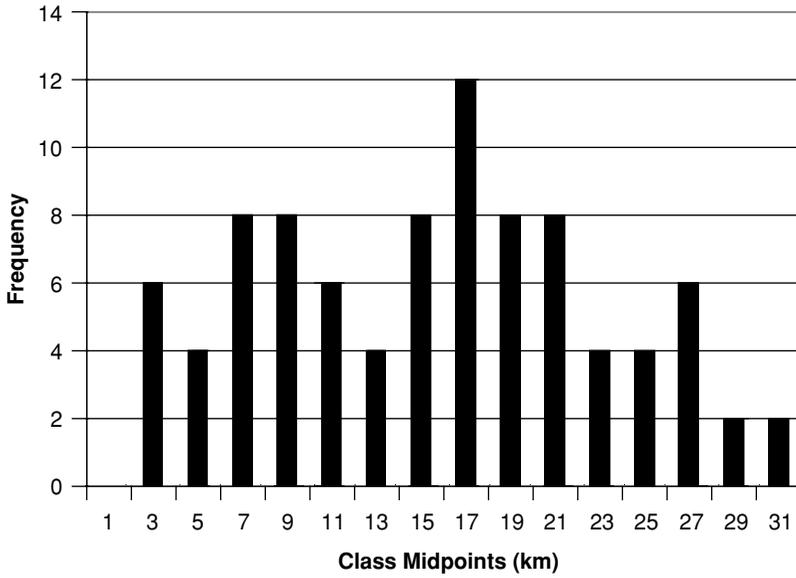
Figure 4.7. Histogram of nearest-neighbor distances for fourteen earthworks in the Scioto-Paint Creek confluence area. First through fourteenth nearest-neighbor distances are included for each earthwork. See Note 22 for a listing of the fourteen earthworks.

three sites (79%) have a neighbor within an hour's walk, less than 4.5 kilometers away, or a catchment radius of less than 2.25 kilometers. These earthwork-mound site catchments are substantially less than the 3 to 5 kilometer-radius catchments found for swidden farmers cross-culturally and for Hopewellian local symbolic communities in the central Muskingum. Only one Scioto Hopewellian earthwork-mound complex has a catchment radius of 4.5 kilometers or greater with a neighbor—Frankfort, at 9.3 kilometers from Hopewell, or a catchment radius of right around 4.5 kilometers. Frankfort is about two hours' walk from Hopewell.

The results of this nearest-neighbor analysis, to follow Varien's lead and the available cross-cultural and central Muskingum information on local symbolic community catchment sizes, suggest that most centers are too close to each other to comprise the centers of local symbolic communities. The first mode in the Scioto Hopewell histogram, with a 1 to 2 kilometer catchment radius, appears to represent multiple earthwork-mound complexes within the territory of a single local symbolic community. The

second mode, with a 4 to 5 kilometer catchment radius, appears to indicate the distances between individual local symbolic communities (see just below). The third mode, with a 9 to 10 kilometer catchment radius, seems to represent the distances between broad, sustainable communities comprised of multiple local symbolic communities (see below, Comparisons: Similarity and Difference).

A third way by which it can be revealed that earthwork-mound complexes in the Scioto–Paint creek region are too close together to represent the centers of individual local symbolic community territories is through the use of Theissen polygons. If Theissen polygons are constructed[23] around each of the 14 works (Figure 4.8), the works are allocated widely varying support areas. The areas range from a low of 9 square kilometers at Mound City to a high of 197 square kilometers at Frankfort (Appendix 4.6). Such widely varying support areas would not be expected for local symbolic communities in similar environmental conditions and of roughly similar sizes.

If analysis is restricted to just those 10 sites for which there is some reason to expect at least
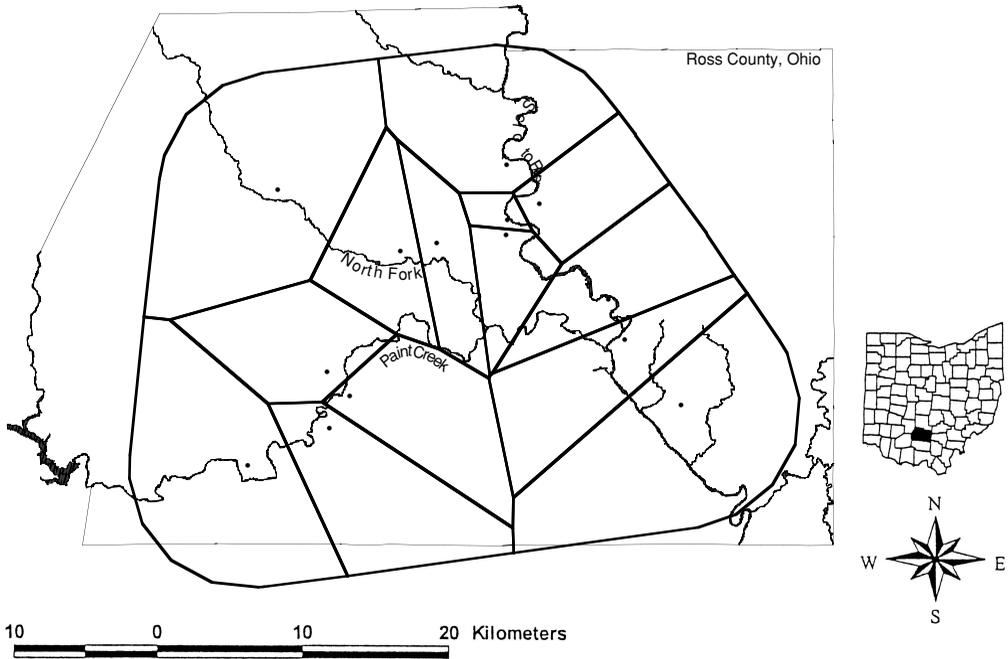
Figure 4.8. Theissen polygons for fourteen earthworks in the Scioto–Paint Creek confluence area. See Note 22 for a listing of the fourteen earthworks.

their partial contemporaneity (whether on the basis of radiocarbon dates, artifact styles, or architectural similarity),[24] essentially the same three modes of nearest-neighbor distances appear: at 2–4 kilometers (i.e., a 1 to 2 kilometer radius), 8–10 kilometers (i.e., a 4 to 5 kilometer radius), and 16–18 kilometers (i.e., an 8 to 9 kilometer radius) (Figure 4.9). If the 10 sites are analyzed within Theissen polygons, then the areas allocated to each work are highly variable: 54 to 205 square kilometers (Appendix 4.6). Neither the close distances between most adjacent earthwork-mound complexes nor their widely varying supporting areas lend credence to the notion that each lies at the center of a local symbolic community, let alone a sustainable community capable of long-term reproduction.

Fourth, to put these results in more tangible terms, almost all of the 10 sites have at least one very close neighbor within about an hour's walk (4.5 kilometers) and many close neighbors within about two hours' walking distance (9 kilometers), and almost all sites could be reached within a half-day's walk (18 kilometers). Even

those sites on the farthest fringes of the distribution are within a single day's walk of their most distant neighbor (< 36 kilometers).[25]

Figure 4.10 illustrates this more tangible picture of the spatial distribution of earthwork-mound complexes in the Scioto–Paint Creek region. Drawing a catchment of 5 kilometers radius around each of the 10 ceremonial centers, which averages the cross-cultural and central Muskingum estimates of the expanse of a local symbolic community, shows the extensive overlap among catchments. Similar overlap is found in the 5 kilometer radius catchments around a more restricted set of 6 earthworks of tripartite or closely related geometry in the Scioto–Paint Creek confluence area (Figure 4.11), which are most easily demonstrated empirically to have been at least partially contemporaneous.[26] Clearly, if Hopewellian local symbolic communities were centered around ceremonial precincts, then each community would have been associated with multiple centers, even at this restricted spatial scale. The multiple centers within a local symbolic

Figure 4.9. Histogram of nearest-neighbor distances for ten earthworks in the Scioto-Paint Creek confluence area and suspected to have been fully or partially contemporaneous. First through tenth nearest-neighbor distances are included for each earthwork. See Note 24 for a listing of the ten earthworks.
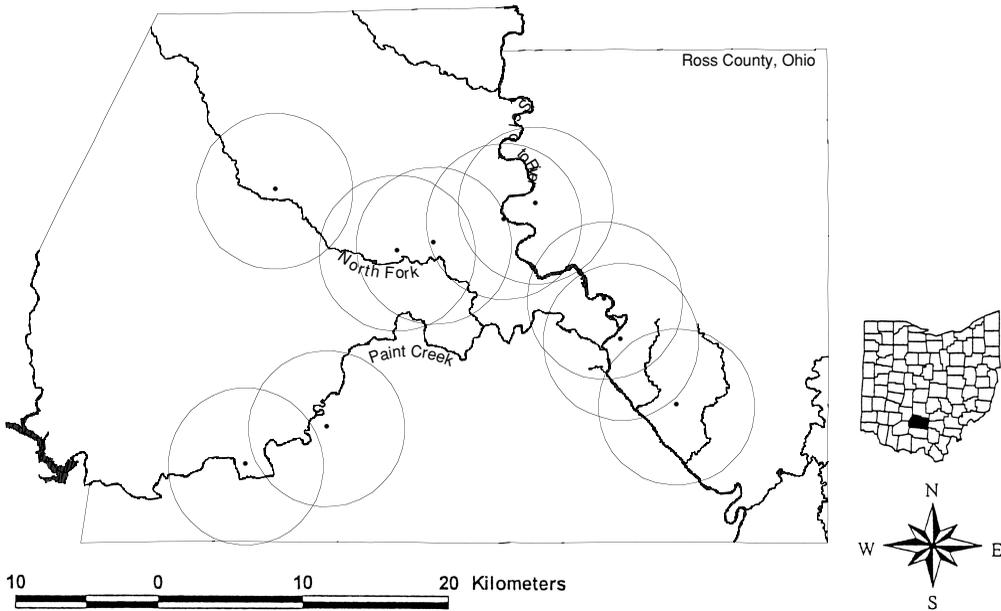

Figure 4.10. Five kilometer radius catchments around ten earthworks in the Scioto–Paint Creek confluence area and suspected to be fully or partially contemporaneous. See Note 24 for a listing of the ten earthworks.
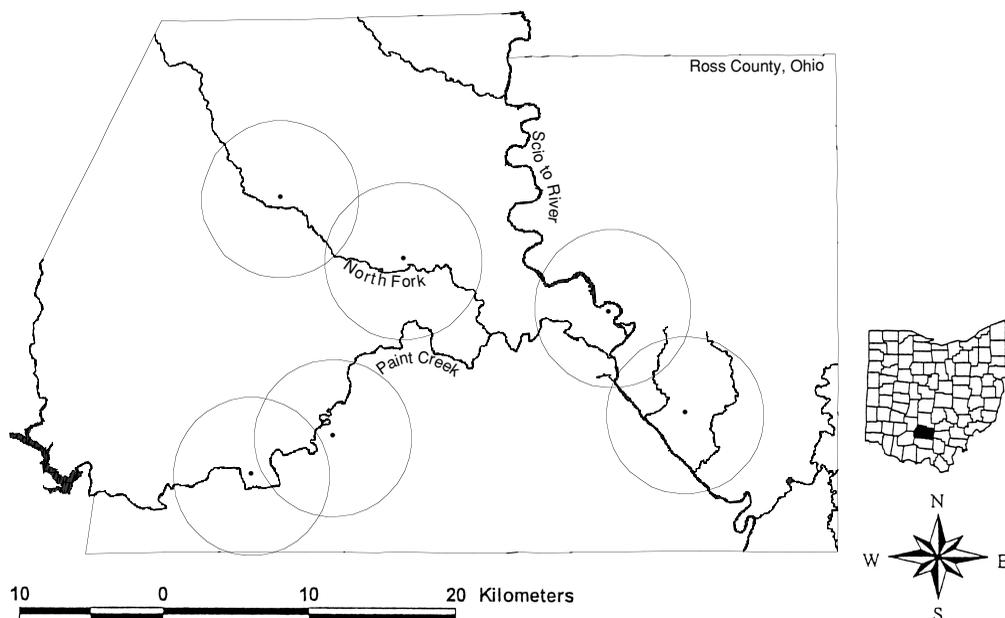
Figure 4.11. Five kilometer radius catchments around six tripartite earthworks in the Scioto–Paint Creek confluence area that are more easily argued empirically to have been at least partially contemporaneous. See Note 26 for a listing of the six earthworks.

community would most probably have been functionally differentiated, and also would necessarily have served multiple local symbolic communities.

The distribution of six coeval sites and their catchments in Figure 4.11 supports a more particular interpretation involving functionally differentiated earthworks within local symbolic communities. The distribution has a number of unique properties. First, the works form three spatial pairs, the members of each pair being spaced at six to nine kilometers apart. Second, each pair is located in a separate drainage—main Paint Creek valley, the North Fork of Paint Creek, and the Scioto valley. None of the three pairs of earthworks overlap with one another. Third, if analyzed within Theissen polygons, then each work is allocated an approximately equal area with relatively little variance (Appendix 4.6; range, 173–209 square kilometers; mean, 195 square kilometers; SD, 15 square kilometers). Importantly, these equivalencies among paired earthworks in the three valleys are expectable if each pair represented a separate local symbolic community, if the communities were similar in nature, and

if each had two functionally differentiated earthworks within it.

This specific conclusion, as well as the more general conclusion that local symbolic communities might have multiple, functionally differentiated earthworks within them, is reiterated by analyses made by Carr (Chapter 7). The two analyses corroborate each other, ours based on regional catchment analysis and his on intrasite burial analysis of some of the same sites we examine here. Carr points out that there are three segregated groups of burials under each of the Seip–Pricer, Hopewell 25, and Edwin Harness mounds, which were built within the Seip earthwork in main Paint Creek valley, the Hopewell earthwork in the North Fork of Paint Creek, and the Liberty earthwork in the Scioto valley, respectively. From analyses of the burials in these mounds, using multiple forms of evidence, Carr concludes that the three burial clusters under each mound represent members from three different communities in the three different valleys, and that each community had within them two functionally differentiated earthwork centers with tripartite symbolism.

A final variant on the argument that earthwork-mound complexes in the Scioto–Paint Creek confluence are too close together for each to be a center of a local symbolic community, with the conclusion that multiple local symbolic communities built and used individual earthworks, is implied in a labor analysis made by Wesley Bernardini (1999; see also refinements in Bernardini 2004). The argument is not as strong as those made above, because it assumes certain conditions that can be estimated only roughly; however, this is balanced by results with wide confidence limits. Specifically, from estimates of the volume of earth used to construct the 11 largest earthworks in the Scioto–Paint Creek area, Bernardini calculated that, on average, 100 people could have built almost any of the large earthworks in one year of 40 workdays. The 40 workday year is based on certain ethnographic records of the time allocated by communities in middle-range societies to their public works. The average construction effort also assumes a five-hour workday and the amount of earth that could be dug up, transported, and deposited in this time. Bernardini then applied this construction model to five of the six earthworks in the Scioto–Paint Creek area that can easily be argued to have been at least partially contemporaneous by their similar tripartite shapes and equivalent acreage—Seip, Baum, Liberty, East Bank, and Frankfort (see Note 26). When a population density of one person per square kilometer is assumed, following estimates by Pacheco and Dancey (n.d.) for the well-documented, neighboring, central Muskingum valley area of Ohio, the labor pools of 100 persons used to build these five sites overlap extensively in space. The overlap implies that many people in the region would have participated in the construction of several earthworks in their lifetime, and that any single earthwork would probably have been built by people from multiple local symbolic communities. The pattern of overlap is extensive enough that this conclusion would hold even if some of these earthworks were functionally differentiated and there were more than one earthwork per local symbolic community. These qualitative conclusions of Bernardini's appear to be quite robust: a reduction in labor pool size or an increase in

the work effort per year by up to a factor of nine would still produce overlap in the labor pools.

Several other strong arguments that some of the mounds and earthworks in the Scioto–Paint Creek confluence region were multicommunity centers are presented by Carr in Chapter 3.

Summary

As in the lower Illinois valley and lower Ohio–Wabash valley cases, there is good evidence in the Scioto–Paint Creek region that earthwork-mound sites were functionally differentiated, and that single local symbolic communities built and/or made use of multiple, functionally differentiated earthwork-mound sites. There is little support for a simple bull's-eye model that portrays a series of local symbolic communities, each focused around its own central mound and/or earthwork center. Moreover, given the short distances that separate most of the major earthworks in the region, it is unlikely that these served as group symbols that identified the territorial claims of individual local symbolic communities, in contrast to the situation in the lower Illinois valley. Further, given that in the Scioto region, multiple local symbolic communities, in all probability, commonly used singular earthwork-mound complexes suggests that these communities could have been relatively fluid in membership. Gatherings of people from several local symbolic communities in these ceremonial centers would have provided contexts for community affiliation to be negotiated. This situation would contrast with the Illinois one, where bluff-top centered, local symbolic communities were probably territorial units and, thus, likely more bound in social composition. Finally, that multiple local symbolic communities in the Scioto area probably used singular earthwork-mound sites suggests that such sites probably served more than one type of community: not only local symbolic communities, but also a larger sustainable community. The Scioto–Paint Creek ceremonial complexes appear to have provided the contexts for performances intended to forge broader, demographically sustainable communities at a much larger scale than a local symbolic community through ritual enactments,

gifting, displays of wealth and prestige, and so on.

COMPARISONS AMONG REGIONS: SIMILARITIES AND DIFFERENCES

This review took B. Smith's (1992) general model of Hopewellian community organization as a point of departure. While the basic tenets and general framework of that model hold true, our review points up a number of subjects where Smith's model glosses over significant interregional variability in community organization. We begin with variability in aspects of community organization pertaining to households and proceed to that involving ceremonial centers.

Households, Sedentism, and the Natural Environment

Although it is clear that the small, largely autonomous household was a constant element in the lower Illinois valley, the lower Ohio–Wabash area, and the Scioto–Paint Creek region, there is considerable variation in the ways in which households related to each other and to ceremonial centers. One way is in their degree of aggregation over the landscape. This is seen most clearly in the anomalous size and density of the domestic occupation present at the Mann site, which indicate significant aggregation of households there. No other contemporary site in any of the three regions approaches this scale of occupation. We have gone to some length to emphasize that this need not and probably should not be interpreted as a well-integrated village or "urban" center. The basic social unit here may still have been a relatively autonomous household unit. Nonetheless, this anomaly highlights that relationships between individual Hopewellian household units in general were driven by a complex web of economic, ecological, social, and political forces that acted both centripetally and centrifugally. In the case of the lower Ohio–Wabash area, it is possible that its relatively higher resource potential—as measured by greater rainfall, a longer growing season, warmer temperatures, and the extensive flood plain, backwater, and riverine resources

that were available—as well as the concentration of resources near the Wabash–Ohio confluence specifically, may have favored aggregation here on at least a seasonal basis to a degree not seen in Illinois and Ohio. In all, despite some broad interregional similarities in the organization of Hopewellian domestic spheres, there was also considerable interregional variability.

Household aggregation also differed in degree between the lower Illinois valley and the Scioto–Paint Creek area, although more subtly. No habitation sites with more than two or three possibly contemporaneous households are known for the Scioto–Paint Creek region. In contrast, the larger of the bluff-base residential communities in the lower Illinois valley (e.g., Apple Creek, Macoupin, Gardens of Kampsville) probably witnessed somewhat larger congregations of households, although their numbers are hard to estimate firmly. At a broader scale, clusters of habitation sites, which string along within a kilometer or so of each other, occur in both regions. Their relative commonality for the two regions is unknown. The range of habitation sites per cluster is similar in the two areas—up to six or seven (Carskadden 1996:374; Seeman 1997:244; Struever and Houart 1972:62)—but the total number of households per cluster may have been somewhat larger in the Illinois case, given the generally large size of bluff-base residential communities there. The contemporaneity of habitation sites within a cluster cannot be judged.

Beyond household aggregation, one can also contrast the "intensity" of occupation of hamlets among regions, intensity being an uncontrolled mix of number of years of occupation and seasonality of a hamlet and, to a degree, the number of households per hamlet. Information on this characteristic is available for the lower Illinois valley and the Scioto–Paint Creek area, and indicates greater occupational intensity in the Illinois case. At a qualitative level, one argument in favor of a real difference between the two areas is that Illinois Hopewell habitation sites never suffered an "identity crisis." Workers in Illinois had no difficulty in locating and excavating relatively large and

substantial Hopewellian habitations, as witnessed by the numerous excavations published by the mid-1960s: Weaver (Wray and MacNeish 1961), Snyders (Montet-White 1963; Powell 1957; Struever 1961; White 1963), Pool and Irving (McGregor 1958), Havana (McGregor 1952), and Clear Lake (Fowler 1952). Several other monograph-length treatments of nonmound Middle Woodland contexts in the lower Illinois valley have appeared in the years since: Smiling Dan (Stafford and Sant 1985), Massey and Archie (Farnsworth and Koski 1985), and Napoleon Hollow (Wiant and McGimsey 1986). In contrast, the first significant excavation of a Hopewellian habitation site in Ohio was not published until 1965 (Prufer 1965), and McGraw remains the only excavated Hopewellian habitation in the Scioto–Paint Creek region proper. Also, only a few clear habitations have been excavated in the much broader southern Ohio region (e.g., Murphy I, Madeira–Brown, Marsh Run, Clarence Ford, Wade). It is true that this difference in site recovery may result in part from the particular institutional history of research in the respective regions: the University of Illinois, the University of Chicago, Northwestern University, the Center for American Archaeology, and the Illinois Department of Transportation have all been active in the Illinois valley for many years, whereas almost all institutional interest in Ross County archaeology has been on the part of the Ohio Historical Society, and their work largely ended before World War II. At the same time, there is also reason to suspect a real difference between Illinois valley and Scioto–Paint Creek Hopewellian habitations, with the Ohio sites having been smaller or less intensively occupied and, hence, harder to find.

This difference between the Illinois and the Ohio situations can be shown quantitatively. Table 4.5 highlights a comparison between the Smiling Dan site in the lower Illinois valley and the McGraw site near the Paint Creek–Scioto confluence. Data from the Murphy I site, located near the Newark Earthworks in a major drainage that neighbors the Paint Creek–Scioto region, are also shown. Murphy is included in the comparison to temper any bias that might be introduced because McGraw was less intensively investigated than Smiling Dan: Murphy was systematically sampled and stripped in a fashion comparable to Smiling Dan. In B. Smith's (1992) model, all three of these would be examples of small farming settlements made up of one to three household units. However, there are significant differences among the three. Smiling Dan contains a midden dump in a stream channel that is up to two meters deep and extends across the north–south span of the Middle Woodland occupation. No refuse deposit of comparable magnitude has been identified at any Ohio Hopewell site. Ceramics and chert debitage are much more frequent at Smiling Dan than at McGraw or Murphy. When standardized to densities per square meter, the density of ceramics at Smiling Dan is nearly 3 times higher than that at McGraw and more than 200 times higher than that at Murphy. The density of chert debitage is 5 to 7 times higher at Smiling Dan than at McGraw and Murphy, and the density of blade tools ranges from almost 2 to 10 times higher

Table 4.5. Comparison of Artifact Density at the Smiling Dan Site, Illinois, versus the McGraw and Murphy Sites, Ohio

	Smiling Dan[a]		McGraw[b]		Murphy[c]	
	Total	**Items/m^2**	**Total**	**Items/m^2**	**Total**	**Items/m^2**
Site area (m^2)	6,705		1,236		10,000	
Ceramics	138,350	20.63	9,946	8.05	858	0.09
Debitage	65,355	9.75	1,691	1.37	>18,000	>1.80
Lamellar blades	2,254	0.34	233	0.19	>300	>0.03

[a] Smiling Dan site data from Stafford and Sant (1985:39, table 11.1). Ceramic total includes minor Late Woodland and Black Sand components, totaling approximately 1,691 sherds. Debitage total includes flakes plus cultural blocky fragments.
[b] McGraw site data from Prufer (1965:10, 60, 85, table 3.1).
[c] Murphy site data from Dancey (1991).

at Smiling Dan than at McGraw and Murphy. This example minimally suggests that sites in Illinois were probably occupied and reoccupied over longer durations than those in Ohio. The probable 25 to 50-year duration of swidden-based cycles of field relocation and possibly household relocation and site reuse in the greater Scioto area is relevant here (see Hopewellian Communities at the Paint Creek–Scioto River Confluence: Households and Hamlets, above).[27] When it is considered that Smiling Dan is a relatively small bluff-base hamlet in the Illinois valley compared to some others there (e.g., Apple Creek, Macoupin, Gardens of Kampsville), the Ohio–Illinois comparison is all the more significant.

The intensity of occupation marked in both Illinois and Ohio habitation records pales in comparison to that evidenced at the Mann site in Indiana. Wide areas of midden accumulation, some very deep midden deposits, and high densities of food processing and storage facilities at Mann all suggest long periods of habitation by more households than in the Illinois and Ohio cases.

There are a number of environmental differences among the three regions that would have influenced patterns of household aggregation and sedentism. The lower Illinois valley and the lower Wabash region are more similar in terms of productivity (Table 4.3). Both regions are marked by extensive backwater lakes and sloughs that serve as concentrated, fixed, and predictable sources of aquatic resources. Both regions also sit astride some of the most important waterfowl migration corridors in North America. These factors would have promoted more frequent, longer, and/or aggregated occupations of favored locales in the lower Illinois and lower Wabash valleys. In contrast, backwater lakes and sloughs are comparatively rare along Paint Creek and the central Scioto, and the major waterfowl migration corridors largely bypass these valleys. Populations in south–central Ohio had fewer opportunities for frequent and extended sedentism in favored locales.

Also affecting household aggregation and sedentism in the three regions would have been the structure of their environments. The lower Illinois valley environment is distinctive among those of the three areas in being highly linear and circumscribed—a trench of very productive bottomlands flanked by less productive upland forests and prairies. This linearity and circumscription of productivity in the Illinois case would have tended to restrict mobility and to distribute populations more closely to each other, up and down the main valley trench. In contrast, the environments in the central Scioto and lower Wabash regions are less markedly linear and circumscribed in their productive areas. The contrast in productivity between the bottomlands and the surrounding uplands in these two regions is more subdued, and populations could have more easily dispersed over these landscapes, if they chose to. This was the case in Ohio (e.g., the upland sites of Clarence Ford, Marsh Run, and Strait) but not at the Mann site in Indiana.

Ceremonial Centers and Community Organization

In the ceremonial sphere, there is a wide range of variability that received little emphasis in Smith's (1992) model. In all three regions examined here, ceremonial centers differed greatly in size and complexity, in the kinds of ceremonies and activities (e.g., mortuary, nonmortuary, or both) that occurred in them, and in the size and composition of the social units engaged there (see also Carr, et al., Chapter 13). All three regions had functionally differentiated ceremonial landscapes. Minimally, each region had relatively small, conical mounds and mound groups with clear mortuary associations that contrasted with other, often larger, constructions with a wider range of ceremonial foci, including strong evidence for nonmortuary ceremonies. Examples of small conical mounds and mound groups are the bluff-top cemeteries in the lower Illinois valley, the Martin site and a cluster of such mounds in the Mann site in Indiana, and small isolated mounds and mound groups in the Scioto–Paint Creek area as well as small mounds within and around geometric earthworks there. These were the gathering places of local symbolic communities or portions of them. More multipurpose

ceremonial centers include those with loaf-shaped burial mounds in all three regions—flood plain mound sites in Illinois, the Mann site in Indiana, and some geometric earthworks in Ohio (e.g., Seip, Liberty, Hopewell). Multipurpose ceremonial centers and facilities also include ones lacking mortuary associations: the platform mounds at the Mann site in Indiana and several sites in Ohio, and the mound-free geometric earthworks and hilltop enclosures in Ohio. These works were likely built and used by multiple local symbolic communities that comprised sustainable communities. A simple "bull's-eye" model of Hopewellian community organization, where one ceremonial center stands at the center of a community and where there is only one kind of community at one scale, does not fit well for any of the regions considered.

In addition to having had ceremonial sites of diverse functions, all three regions share in having had local symbolic communities that used and/or encompassed multiple ceremonial centers. In Illinois, some local symbolic communities included, and all used, both bluff-top cemeteries and flood plain mound complexes. In Indiana, some local symbolic communities

probably used both the Mann site, with its platform mounds, and the huge, loaf-shaped GE burial mound. In Ohio, single local symbolic communities sometimes used both earthworks that had a major presence of burial mounds and those that did not: Seip and Baum, Liberty and Works East, and Mound City and Hopeton, respectively, for example.

Each of the three study areas had communities of multiple scales, including residential, local symbolic, and sustainable communities. The small conical mounds and the earthworks and loaf-shaped mounds that respectively characterized local symbolic communities and sustainable communities were mentioned above. In addition, the geographic scales of both local symbolic communities and sustainable ones corresponded reasonably well between at least the lower Illinois valley and the Scioto–Paint Creek regions, where data for assessing community sizes are available. Table 4.6 summarizes the relevant information taken from earlier portions of this chapter.

However, on a finer level, note in Table 4.6 that the geographic sizes of local symbolic communities in the lower Illinois valley were

Table 4.6. Comparison of Geographic Sizes of Communities of Different Kinds in the Lower Illinois valley and Near the Scioto–Paint Creek Confluence

	Spacing (catchment diameter) in	
Kind of distance	Lower Illinois valley	Scioto–Paint Creek area
Within a local symbolic community		
Ohio: primary mode in histogram of interearthwork distances[a]	n.d.	1–5 km (Mode: 2–4 km)
Between local symbolic communities		
Illinois: between bluff-top cemeteries[b]	5 km	
Ohio: secondary mode in histogram of interearthwork distances[a]		5–13 km (Mode: 8–10 km)
Between sustainable communities		
Illinois: between flood plain mound groups[c]	20 km	
Ohio: tertiary mode in histogram of interearthwork distances[a]		13–25+ km (Mode: 18–20 km)
Ohio: average distance between centroids of paired sites with tripartite symbolism[d]		20.7 km

[a] See Figures 4.7 and 4.9.
[b] From Struever and Houart (1972:61).
[c] From D. K. Charles (this chapter).
[d] Figure 4.11.

somewhat smaller than those in the Scioto–Paint Creek area. This may indicate somewhat higher population densities, and hence more compact local symbolic communities, in the lower Illinois valley. Higher population densities would not be unexpected there, given the valley's greater natural food productivity as well as the circumscription and patchiness of natural food resources, which would have constrained mobility and encouraged sedentism. Also note that sustainable communities in the two regions were of similar geographic scale. This implies that, on average, more local symbolic communities constituted a sustainable community in the lower Illinois valley than in the Scioto–Paint Creek area and, in turn, may reflect the greater geographic breadth and sociopolitical integration of individual local symbolic communities in the Scioto–Paint Creek area. This result is entirely in line with standard interpretations of the greater sociopolitical complexity of Ohio Hopewellian societies than of Havana Hopewellian ones (J. A. Brown 1979; Struever 1965).

In four other ways, however, the ceremonial landscapes in Illinois, Indiana, and Ohio differed. First is in territoriality. Theory outlined by Saxe (1970), Goldstein (1980, 1981), and Charles (1985) predicts that groups are more likely to use formal cemeteries to symbolize the relationship between corporate groups and their customary territory under conditions of restricted mobility. Charles's (1985) argument that bluff-crest conical mound groups served as territorial markers—"corporate symbols"—is compelling for the lower Illinois River valley. The mounds are regularly spaced, are placed along with bluff-base habitation sites at critical food patches in the natural environment, and have burial populations representative of whole communities. The circumscribed and linear nature of the Illinois valley, and the restricted distribution of highly productive, backwater lake food patches there, would have encouraged the territoriality of local groups. This territorial setup is not, however, suggested by the distribution of major mound and earthwork centers in either the Scioto–Paint Creek or lower Ohio-Wabash areas. The Ohio and Indiana regions are characterized by a relatively few, very large geometric earth-

works and large, loaf-shaped mound sites that are centralized within the overall settlement system. The sites are simply too clustered to have served as territorial markers for individual local symbolic communities.[28] Instead, the large, geometric earthworks and loaf-shaped mound sites in Ohio and Indiana were each locations where multiple local symbolic communities congregated and ensured the integrity of a broader sustainable community. This greater social connectivity within the lower Ohio–Wabash and central Scioto valleys, in contrast to the territoriality of local social groups in the lower Illinois valley, was encouraged by the two-dimensional, less circumscribed, and more productively uniform nature of the lower Ohio–Wabash and central Scioto valleys compared to the lower Illinois valley.

The second, and related, way in which the three regions possibly differed is in the fluidity of membership in their local symbolic communities. In Illinois, where local symbolic communities centered on bluff-top cemeteries appear to have been territorial, it would not be unexpected for these communities also to have been fairly bounded in social composition. In the Scioto region, the possibility that local symbolic communities were more fluid in their membership is suggested by the fact that multiple ones probably used single earthwork-mound complexes, providing opportunities for group affiliation to be negotiated. The situation in the Mann phase is unclear.

The third manner in which ceremonial spheres were organized differently in the three regions regards whether single ceremonial centers served as the focus of communities of more than one kind: specifically, a local symbolic community and a sustainable community. In Illinois, these two types of communities were centered at different, spatially segregated sites. Local symbolic communities were centered on bluff-top, conical-mound cemeteries, whereas sustainable communities assembled at flood plain sites, often with loaf-shaped mounds. In the Mann phase, conical and loaf-shaped mounds that marked local symbolic communities and sustainable communities, respectively, were sometimes separated spatially, as in the Martin and GE mounds, and sometimes located together, as at

the Mann site. The same appears to be true in the Scioto–Paint Creek area. Small conical mounds, wherein a few, important persons, probably representative of a local symbolic community or part of one, were buried (e.g., Rockhold, Bourneville), are sometimes found spatially apart from neighboring earthwork complexes where that community and others may have gathered as a broader sustainable community (e.g., Seip) (see Carr, Chapter 3). In other instances, such small conical mounds are found within and just outside earthwork complexes with large, loaf-shaped mounds (e.g., Seip, Liberty, Hopewell), indicating that both local symbolic and sustainable communities used the earthworks.

The final, striking difference in the community organization of the three regions is in the number and spatial arrangement of sites that may be interpreted as ceremonial centers. In the lower Ohio-Wabash area, there are at best three such centers (Mann, GE, and Martin), with the largest and most complex centers (Mann and GE) centrally located within the overall settlement system. Only one center, Mann, includes a geometric earthwork. The whole area was probably integrated into one regional symbolic and sustainable community. In the lower Illinois valley, both the bluff-crest mounds and the larger flood plain mound groups are more frequent and more regularly spaced along the length of the main valley trench. Multiple sustainable communities are indicated. There is only one geometric earthwork in the valley, at its far southern end–Golden Eagle–which again may have integrated the whole area as one large symbolic community. The Scioto–Paint Creek area stands apart from the other two in having more and larger ceremonial centers and more geographically centralized centers than in the Illinois case. At least nine major mound and geometric earthwork centers and several minor earthworks are concentrated within a 30 kilometer radius of the Scioto–Paint Creek confluence. In the later Middle Woodland, six or more of these sites (Seip, Baum, and Spruce Hill?; Hopewell and Frankfort; Liberty, and Works East), with two or three in each of three valleys, were the ceremonial centers used by probably three distinct local symbolic communities that resided in the three valleys. It ap-

pears that the communities were allied ceremonially through the burying of their dead together and constituted a single regional symbolic and sustainable community (Carr, Chapter 7). Community organization at earlier time planes in the region has yet to be defined.

At this point, the reader can appreciate the much greater complexity of Hopewell community organizations compared to the one community–one ceremonial center model posited by Smith for the Woodlands, and Prufer, Dancey, and Pacheco for the Ohio area. The much more marked variation in Hopewellian community organization among regions than recognized in the models posed by these researchers should also be clear.

CONCLUSIONS

Hopewellian communities in the Havana, Mann, and Scioto regions were organized at several spatial and demographic scales. At the smallest scale, individuals in each region were organized into residential communities defined by coresidence or close residence, and regular face-to-face interaction. At the same time, individuals participated in wider symbolic and sustainable communities that served social, political, economic, and demographic ends beyond those that could be met by the local residential community

In each of the three Hopewellian regions examined here, residential communities were comprised of one to a few nuclear or extended family households (hamlets), and occasionally of clusters of two or more hamlets. These residential communities were spread over the landscape, partly in response to the nature of their farming practices. There are differences among regions in the degree of household aggregation and sedentism, but nucleated villages are absent in all three regions. The availability of highly concentrated and predictable resources—especially backwater lake resources and migratory waterfowl—in the Havana and Mann regions promoted larger and longer occupations and reoccupations of favored locales there. In the Havana case, the linear and spatially restricted distribution of highly

productive resources along the narrow, circumscribed trench of the lower Illinois valley favored a relatively rigid and stable partitioning of subsistence territories along the length of the valley. Here, mounded cemeteries sited on prominent bluff tops served to integrate adjacent residential communities into larger, local symbolic communities with common economic interests in the highly productive resource zones. The placement of these cemeteries at prominent points in the landscape served to display and validate these territorial claims vis-à-vis other similar communities up and down the length of the valley. There is little evidence for a similar use of mounded cemeteries as territorial markers in the Mann and Scioto regions.

Although environmental differences among the Havana, Mann, and Scioto regions account for empirically measurable differences in household sedentism and aggregation in the three areas, they alone do not explain the unusual elaboration of social complexity in the Scioto area. The lower Wabash–Ohio area and the lower Illinois valley, not the Scioto–Paint Creek area, had a higher natural food availability, greater potentials for sedentism and population growth, and/or better opportunity for regional social intercourse. The lower Illinois valley had the greatest circumscription of natural food resources and potential for social competition and concomitant social development.

All three study areas contain ceremonial centers that likely served as contexts for the integration of spatially and demographically more expansive communities, which were organized minimally at two different regional scales: that of the local symbolic community and that of the sustainable community. In each area, these centers reflect investments of labor far in excess of that available to individual residential communities. Centers that were the focus of local symbolic communities were comprised of conical burial mounds and were dominated by mortuary ceremonialism. Centers that served sustainable communities included unusually large, loaf-shaped burial mounds for a restricted number and set of persons, but also sometimes platform mounds and geometric earthworks. The sites evidence complex nonmortuary ceremonialism, including feasting and the conspicuous display and consumption of wealth—activities often implicated in the negotiation of status and the building of cooperative alliances.

Our review suggests that the simple "bull's-eye" model of Hopewellian community organization is no longer viable for at least the three regions explored here, despite the fact that it has carried weight in the Scioto case for nearly 40 years and was generalized to Hopewellian societies across the entire Woodlands. In the bull's eye model, a Hopewellian community is portrayed as a community of one unspecified kind that was comprised of dispersed households focused on one centrally located ritual precinct of one kind marked by mounds and earthworks. Instead, Hopewellian social-ritual landscapes in each of the three study regions were populated by communities of multiple scales—residential, local symbolic, sustainable, and sometimes very broad regional symbolic ones. Two or more kinds of ceremonial sites of differing functions were built and used by single local symbolic communities, and multiple local symbolic communities used single ceremonial sites. The three regions vary as to whether some single ceremonial sites were the gathering places of both a local symbolic community and a sustainable community and whether different ceremonial centers were built and used by these different kinds of communities. The regions also may differ in the degree to which their local symbolic communities were fluid in membership, as a function of community territoriality. The concepts of community and the variability in Hopewellian community organization disentangled here hopefully will provide archaeologists a firmer foundation for investigating Hopewellian communities in the future.

Marsh Run, Clarence Ford, and Madeira–Brown habitation sites in Ohio. We appreciate Kitty Rainey's GIS drafting of Figure 4.5.

NOTES

1. As will be seen below, this distinction is particularly relevant to Hopewellian communities.

2. Waterfowl population estimates vary widely from year to year, and modern waterfowl migration corridors are likely shaped by modern agriculture and development. Hence, these figures should be used with caution, placing greater reliance on the general trends than the absolute figures.

3. Asch et al. (1979:82) inexplicably inflate Middle Woodland site sizes, stating that many larger Middle Woodland flood plain settlements "cover 2 to 4 ha., and a few are 15 or more ha. in area." Since no new survey data are cited, and since the numerals correspond well with the data Struever presents, except for the areal units, this may be a typographical error, with hectares substituted for acres. Two large sites at each end of the lower Illinois valley, Naples to the north and Duncan Farm to the south, may cover areas in the 15-hectare range and be the large sites to which Asch et al. (1979) refer. However, the depth, areal continuity, and time span of the deposits have yet to be established. Moreover, both of these are flood plain/ceremonial sites rather than habitations.

4. The clustered distribution of hamlets is not entirely certain, in that it was not defined by Struever through either systematic or representative surface survey. Some between-cluster spaces may have had occupations. However, the tight spacing of those hamlets that are known archaeologically is clear, and these clusters can be compared to the presence or absence and the approximate sizes of hamlet clusters in other regions.

5. In fact, similar use of these flood plain settings stretches back into the Middle Archaic.

6. The perhaps opportunistic and compromised bluff-top and bluff-base locations of the Elizabeth/Napoleon Hollow/Naples–Russell complex gives pause in the attempt to define ceremonial site location as a fully firm, historically deeply rooted, symbolic ingredient for the creating of ceremonial site function (*cf.* Buikstra and Charles 1999). Conversely, since this complex was the earliest of the large, Hopewellian ceremonial sites in the lower Illinois valley (Kut and Buikstra 1998), we may be witnessing the interplay between agency and tradition in the production of the complex. Ultimately, the traditional symbolism of the flood plain locations came to dominate.

   Recent excavations at the Mound House site (Buikstra et al. 1998) also document a situation in which the ritual/ceremonial activities at a site changed over time. In this case, mound/mortuary components were added to a location already serving as an important ritual site.

7. "Ohio style" blades are long and thin compared to the short and wide blades characteristic of the Illinoisan Fulton blade tradition. See Greber et al. (1981) and Montet-White (1963, 1968).

8. At present, funding considerations have not permitted a search for Mann phase components beyond the Indiana side of the Wabash and Ohio rivers. This is not a serious limitation, as there is every reason to believe that the Indiana side encompasses the full range of variability in environment and settlement types that would be encountered if the analysis were extended across the rivers into Illinois and Kentucky.

9. In the archaeobotanical samples from the Mann and Grabert sites, about 80% of the identifiable seeds belong to one of four starchy seeded annual plants believed to have been cultivated in Midwestern premaize agricultural systems: maygrass (*Phalaris caroliniana*), goosefoot (*Chenopodium* sp.), knotweed (*Polygonum* sp.), and little barley (*Hordeum pusillum*). Cucurbit rind fragments are present in the Mann site samples. A common, relative measure of the degree to which a subsistence economy has shifted from a focus on nut resources to the intensive collection and production of seed crops is the ratio of the number of seeds to grams of nutshell in archaeobotanical assemblages. The Grabert site seed:nutshell ratio is a remarkably high 169 seeds per gram nutshell, among the highest values reported for any contemporary Midwestern sample.

   The faunal assemblage from Grabert is small in size and restricted in species diversity, emphasizing terrestrial mammals. In short, the faunal assemblage is characteristic of a small-scale, short-term, warm-season occupation (Ruby 1997; Ruby et al. 1993a). Analysis of faunal remains from two refuse-filled pits at the Mann site is similarly restricted in focus to terrestrial mammals, with seasonal indicators pointing to a late winter/spring occupation (Garniewicz 1993). The small samples from both sites make it difficult to determine whether the restricted assemblages truly reflect short-term domestic occupations or whether they might reflect more specialized ceremonial activities (Garniewicz 1993; Styles and Purdue 1986, 1991).

10. Following Cook: "For measuring space a fair rule of thumb is to count 25 ft.^{2} for each of the first six persons and then 100 ft.^{2} for each additional individual" (Cook 1972:16, as cited in B. D. Smith 1992:figure 9.8).

11. Only 1 of the 26 ceremonial structures reported by Smith (1992:figure 9.8) was smaller than this, and most had floor areas greater than 130.5 square meters.

12. Charles Lacer, Jr.'s Mound 6.

13. The mound contains about 3,139 cubic yards. At approximately four cubic yards per person per day, 25 people could have built this mound in about 30 days.

14. The Kleinknecht Earthwork (12 Vg 454) is a final possible Mann phase ceremonial structure. This circular earthwork, 40 meter in diameter and up to 1 meter tall, is located about 3 kilometers north of the Martin Site.

A lamellar blade fragment similar to those characteristic of the Mann site blade industry was recovered within about 100 meters and is the only clue to the nature and cultural affiliation of the earthwork (see Ruby 1997:418).

15. The precise nature of the burial populations at the GE mound and the two loaf-shaped mounds at Mann, and the degree to which they were analogous to loaf-shaped mounds in the flood plain of the Illinois valley or in the Scioto–Paint Creek area, is unclear. There is too little known about the layout of the deposits and burials on the floor of the GE mound, and neither of the large, loaf-shaped mounds at Mann has been excavated.

16. The Hopewellian age and association of this particular maize have been called into question (Ford 1987), but Prufer (1997c) stands by the original interpretation on contextual and taxonomic grounds. Other studies attest to the presence of maize in Hopewellian contexts (Conard et al. 1984), although it does not appear to have been a staple food until after about A.D. 900–1000 (Bender et al. 1981; Smith 1992).

17. Church and Ericksen's (1995) final report of additional investigations was not available at the time of writing.

18. Artifacts from DECCO 1 have not been fully analyzed to date, and their usefulness for functional interpretation is further complicated by the multicomponent nature of the site.

19. The Marietta site (Squier and Davis 1848:73–77, plate XXVI) is comprised of a large square embankment, a small square embankment, and a small circular embankment and ditch combination. The three geometric forms are not directly conjoined. The large square contains four platform mounds, the small square is empty, and the small circle contains a large conical mound. The Cedar Banks work is a truncated square that contains a platform mound. The Ginther site (Shetrone 1925) is about a third of a mile from Cedar Banks, and is comprised of an isolated platform mound and empty embankment-and-ditch circle. The platform mound had a prepared floor at its base with two pits suggestive of feasting, two hearths, and postholes in a semi-regular pattern. Significantly, the floor had no burials or ceremonial caches of raw materials or artifacts on it. The mound was fully excavated.

20. The upper Johnathan Creek site cluster has five very small earthworks within it, which Pacheco (1996:24) attributes to construction over time rather than multiple communities. The estimate of a 5.5 kilometer catchment radius for this site cluster assumes that no two of these ceremonial centers were contemporaneous. However, even if all of these small earthworks were used simultaneously, representing five residential communities, the average nearest-neighbor distance between earthworks is about four kilometers, equating to catchment radii of two kilometers. The distance between the farthest two earthworks in the area is 10 kilometers, equating to catchment radii of 5 kilometers if only these two centers

were contemporaneous. These various estimates, of 2, 5, and 5.5 kilometer radii, fall close to the 3 to 5 kilometer catchment radii found cross-culturally for swidden agriculturalists and the 3 kilometer radius found for the Dresden subregion of the central Muskingum. A third area within the central Muskingum drainage that Pacheco surveyed for habitation sites, mounds, and earthworks—the Granville subregion—is too close to the gigantic Newark earthworks to assess its probable dimensions (Pacheco 1996:24, fig. 2.3). Newark has a fairly continuous scatter of habitation sites around it, up to 20 kilometers away (Pacheco and Dancey n.d.).

21. Normal human walking speed is about 4.5 kilometers per hour. The Scioto does not pose much of a barrier here: one could easily wade the river here, and several Historic period fords cross the river at this point.

22. The 14 sites are Baum, Frankfort, High Bank, Hopeton, Hopewell, Liberty, Mound City, Seip, Works East, Anderson, Dunlap, Shriver, Spruce Hill, and Bourneville Circle. The Universal Transverse Mercator coordinates (UTM Zone 16, North American Datum 1927) for these sites are listed in Appendix 4.5.

23. In this study, Theissen polygon boundaries are limited along the edge of the study area to a maximum distance of eight kilometers from the center. Given the time and energy constraints on movement, this likely represents an upper bound on the area regularly exploited from the center.

24. The sites for which there is chronological information and that are included in the study are Baum, Frankfort, High Bank, Hopeton, Hopewell, Liberty, Mound City, Seip, Works East, and Anderson. For their chronology, see Figure 4.6 and Appendix 4.1 (on Mound City and Hopeton) as well as Carr (Chapter 7), Greber (1983, 2000), Prufer (1961, 1964a), Ruhl (1996), and Ruhl and Seeman (1998).

25. These estimates are based on unrealistic assumptions of level ground, straight-line journeys, and the like, but nonetheless, the implications hold true.

26. There are six sites in the Scioto–Paint Creek confluence area that are uniquely associated with one another by virtue of a common architectural element: a rectangular enclosure of approximately 300 meters on a side, with openings at the midpoints and corners of each wall. The sites are Seip, Baum, Frankfort, Hopewell, Works East, and Liberty. All but Hopewell also share a basic tripartite geometry composed of a square, a large circle, and a smaller circle or polygon. The six sites are located in three different valleys: the Scioto valley, the main Paint Creek valley, and its North Fork. For the chronology of these sites, see Carr (Chapter 7), Greber (1983, 2000), Prufer (1961, 1964a), Ruhl (1996), and Ruhl and Seeman (1998).

27. The durations between the means of three statistically distinguishable radiocarbon modes at Smiling Dan (162 and 188 years) fall within the lower end of the range of the durations between the means of distinguishable

radiocarbon modes in single sites in Ohio (121–520 years) (Table 4.4). Thus, the radiocarbon dates from Smiling Dan and Ohio habitation sites do not indicate significantly shorter cycles of reoccupation of habitation locations in Illinois than in Ohio. Lengths of cycles of habitation site reoccupation, of course, are distinct from lengths of occupation of habitations, which together describe the degree of mobility of a group of people.

28. In Ohio, this concentration is also true for smaller, isolated mounds and mound groups (Seeman and Branch n.d.).

Chapter **5**

The Nature of Leadership in Ohio Hopewellian Societies

Role Segregation and the Transformation from Shamanism

CHRISTOPHER CARR AND D. TROY CASE

Within the Interpretive Center at Hopewell Culture National Historical Park, Chillicothe, Ohio, is a realistic style, oil painting mural by Louis S. Glanzman, entitled *A Hopewell Indian Burial Ceremony* (Figure 5.1). The mural depicts a shaman dancing with an effigy human face rattle in one raised hand and a dagger in the other, with gaze fixed on the Above. The shaman wears a robe adorned with large, shell-beaded geometric designs like ones known archaeologically from cutouts of copper (Moorehead 1922), and a leather headdress and mask with copper spangles like that reconstructed by Baby (1956). Surrounding the shaman are twelve men, most ornamented only with a single- or double-stranded necklace of copper or shell, with one kind or another of pendant. Four of the men, however, are more elaborately costumed. One is topped with a copper deer antler headress and has a necklace of animal claws. A second has a fur headdress with erect animal ears and a necklace of animal teeth. A third man has a breast covering of strung shells, and a fourth has a copper bead necklace of many strands over his chest.

The mural is remarkable in two ways. First, it gives serious attention to the leaders of a Hopewellian society, whereas contemporary archaeological literature has offered few lines to this topic. Second, the mural depicts leaders of several different kinds—some shaman-like in their costumery, others not obviously so—suggesting a differentiated and decentralized political system, probably with several bases for gaining power. This image, which we will show empirically to be essentially correct, stands in contrast to contemporary, homogenized views of Hopewellian leadership as either singularly Big Man-like (e.g., Braun 1986; Ford 1974; Smith 1986), shamanic (J. A. Brown n.d.; Buikstra and Charles 1999), or the now seldom cited chiefly (Seeman 1979b). Nevertheless, Glanzman's picture in some way speaks with a manner of credibility to contemporary archaeologists, for it is repeatedly shown nowadays at professional conference talks, at that point when something of Ohio Hopewell society and ritual needs to be said, though an exact statement on social organization and religion is wanting.

Figure 5.1. Oil painting by Louis S. Glanzman, entitled *A Hopewell Indian Burial Ceremony*. Black and white rendition of color original. Reproduction by permission of Louis S. Glanzman.

This chapter attempts to define the nature and organization of leadership in Ohio Hopewell societies by placing its study on a firm, substantial, and diversified empirical foundation. Ohio Hopewell leadership is explored here with artistic representations of Hopewell elite; forms of ceremonial costumery and paraphernalia from mortuary contexts; patterns of association and dissociation among these items across many hundreds of burials within and across multiple ceremonial centers; and, more generally, from the nature of the style of Hopewell material culture and the qualities of the raw materials used to manufacture elite items. Aspects of leadership that are defined here include the range of roles played by leaders, the sacred or secular nature of their power bases, the degree to which leadership roles were centralized in one or a few persons or segregated among many, changes in role segregation over time, the degree to which such roles were institutionalized, and whether any leadership roles had domains of power beyond the local community.

The chapter begins with a broad-based, explicit definition of leadership and five of its dimensions that are central to this study. Next,

basic ethnographic information on the nature of shaman as leaders and the many social roles they fill is reviewed, because these topics are not well covered in contemporary archaeological literature,[1] yet they are necessary to understand certain anthropological theories of leadership development and they turn out to be essential to interpreting the Ohio Hopewell material record. Following this, anthropological theories on the nature of leadership within societies of middle-range complexity and the development of leadership roles with supralocal power in such societies are summarized. The theories span material–secular and socioreligious viewpoints, such as Sahlins's (1968, 1972) characterization of Big Men and Netting's (1972) ideas about divine leadership. Winkelman's (1989, 1990, 1992) model of the segregation and specialization of shamanic roles as a society grows in size and complexity is also introduced, and later shown to have strong applicability to the Ohio Hopewell case. The chapter proceeds with a brief, historical review of the interpretations of leadership that archaeologists have offered for Early and Middle Woodland societies of the Eastern Woodlands, as

a prelude to the remainder of the chapter, which focuses on the Ohio Hopewell empirical record of leadership and its analysis and interpretation.

Detailed evidence of Ohio Hopewell leadership is considered and analyzed next. The images of leaders that have been uncovered in Ohio Hopewell mortuary sites, and the generally (but not completely) shaman-like nature of Ohio Hopewellian material culture, are presented. Also, artifact classes that indicate various shamanic or other leadership roles are specified. Finally, a very large database of 767 burials from 60 Hopewellian burial mounds at 15 ceremonial centers around Ohio is analyzed for patterns suggesting the nature and structure of leadership and temporal shifts in these within Ohio Hopewell societies. The previously summarized anthropological understandings of the diverse kinds of leadership structures possible in middle-range societies are applied at this point to help interpret the archaeological patterns found.

By analyzing diverse aspects of the Ohio Hopewell material record, a clear picture of Ohio Hopewell leadership is rendered. Although depictions of shaman as classically defined—in trance and soul flight and using the powers of nature—are known from Ohio Hopewell and earlier Adena contexts, and although shaman-like qualities are pervasive in the styles and raw materials of Ohio Hopewell ceremonial artifacts, classic shaman constituted a small proportion of the leaders in Ohio Hopewell societies. Much more prevalent were "shaman-like" leaders, who were considerably more specialized in the shaman-like tasks that each performed and the paraphernalia that each used, and who may not have employed the method of soul flight. Other kinds of leaders drew on religious symbology but lacked obvious shaman-like referents, and a small proportion was involved in the more secular domain of warfare, but in combination with shaman-like or other sacred duties. This variety in kinds of leaders, and their segregation rather than centralization, are evidenced to some extent by artistic representations of elite, but especially by twenty-one different sets of elite paraphernalia and/or elements of costumery that can be defined from their patterns of association and dissociation across the 767 burials and 15 ceremonial centers studied. The artifact sets mark distinct roles of leadership and importance or bundles of such roles: shaman-like and apparently non-shaman-like leaders of public ceremony, war or hunt diviners, other kinds of diviners, body processors/psychopomps, healers, high achievers in warfare, high achievers in sodality organizations, and several unknown kinds of roles. Ninety-one percent of the burials with markers of these roles had only one or two roles, indicating strong role segregation. Eighteen of the twenty-one defined roles were shaman-like or otherwise sacred in nature, and no role was fully secular. The average strength of association found among artifact classes in the same set, considering all sets, suggests that most of the roles were institutionalized to only a moderate degree. The shaman-like nature of most of the roles, their segregation, and the moderate degree to which they were institutionalized accord well with Winkelman's (1989, 1990, 1992) cross-culturally derived model of the development of leadership in middle-range societies. Winkelman found that as small-scale hunting–gathering and horticultural societies develop into larger-scale horticultural and agricultural ones, classic shaman as generalized leaders with multiple functions are commonly replaced by a diversified and specialized set of shaman-like practitioners. Leadership diversification accommodates societal growth. In addition, when burial artifact sets and the leadership roles that they indicate are tracked through time in Ohio Hopewellian cemeteries of different age, the sets and roles are found to have partitioned increasingly, following Winkelman's model. Also, the percentage of burials with markers of only one or two elite roles steadily increased through time, from 73% to 100%. The end point of Winkelman's model, where a powerful, public chief–priest and a suite of individual client-oriented religious practitioners of lesser power have crystallized and segregated, was not reached by the end of the Middle Woodland period. However, certain roles of public ceremonial leadership lacking shaman-like symbolism had become fully segregated from other shaman-like roles, and apparently had attained supralocal,

multicommunity influence as well. Finally, the commonly sacred and seldomly secular nature of the power bases of Ohio Hopewell leaders indicates the applicability of primarily certain socio-religious models of supralocal leadership development (Netting 1972; Peebles and Kus 1977) to the Ohio Hopewell case, but not to the full exclusion of material and secular-focused ones (Sahlins 1968, 1972; Flannery 1972). A single culture–historical tradition can combine, to some degree, elements of these multiple, anthropological models.

Ohio Hopewell societies are found to not have been run by leaders of one kind—shaman, Big Men, or clan heads. Rather, each society was run by multiple kinds of leaders, who complemented each other in function, domains of power, and the kinds of shaman-like techniques, paraphernalia, and symbols that they used, if any. Moreover, the particular structuring of leadership roles in Ohio Hopewell societies shifted and became more complex over time.

The approach taken in this chapter to explore the nature of Ohio Hopewellian leadership diverges from most contemporary archaeological treatments of leadership in middle-range societies. Instead of focusing analysis on static "social positions" or "social identities" or generalized "elite" with "status symbols" of undifferentiated nature (e.g., Binford 1962:219; 1971:17; Braun 1979:67; Brown 1981:29; Hohmann 2001; Loendorf 2001; Peebles and Kus 1977:431; Struever 1964:88; Struever and Houart 1972:49), we explore the dynamic roles involved in differentiated social positions of importance–the rights and duties of positions relative to others that define their domains and forms of action in given social contexts (Goodenough 1965:312; Nadel 1957:28, 29; see Carr, Chapter 1, for details; for similar critiques see Bayman 2002:70, 74; Pearson 1999:84). This we do for both the artistic and mortuary records of Ohio Hopewellian societies. The approach has the advantage of personalizing Hopewellian archaeological records–one goal of this book (Carr, Chapter 1). It also provides the framework necessary to address certain dynamic characteristics of Ohio Hopewellian leadership, including the power bases of leaders, their means of recruitment, the degree of centralization and institutionalizing of their roles, and the formation of leaders with supralocal domains of power.

LEADERSHIP WRIT LARGE

In order to understand the nature of Ohio Hopewellian leadership and its development over time, we take a broad view of the term. By a leader in a society, we mean a person of importance who influences joint social action. A leader may be a person in an institutionalized, socially recognized position of power and authority, be that position social, political, and/or religious in its basis. War chiefs, peace chiefs, priests, and classic shaman are examples. Leaders may also be prestigious, influential persons who hold no socially formalized or institutionalized position and have no authority in the strict sense, but have sway because they command social, political, religious, and/or economic resources through their character, personal capabilities, family of birth, residence of birth, or other ascribed or achieved qualities. Self-recruited Big Men, self-made war heros, and spiritually called visionaries, diviners, and other spiritual specialists are examples. Recognizing the diverse kinds of leadership that may occur in a society is essential to an unconstrained exploration of the social personae from which leadership roles can originate, and the processes by which they can originate and develop over time.

Throughout the subsequent theoretical and empirical sections of this chapter, five dimensions of leadership are considered. These are (1) the range of roles played by leaders, including duties, tasks, and domains of action such as military or subsistence operations; (2) the nature of the power bases of leaders, including relationships with the sacred and with more secular arenas such as military achievement and kinship ties; (3) the degree to which leadership roles are centralized in one or a few persons or segregated among a wider cast of individuals; (4) changes in role segregation with increases in societal size over time; and (5) the degree to which leadership roles are institutionalized, that is, standardized in their bundles of duties, tasks, domains of action, and symbology. An exploration of these

five dimensions requires the robust definition of leadership that we take.

As preparation for reviewing some socioreligious theories on the nature and development of leadership within societies of middle-range complexity, we now provide some basic information on the nature of shaman and the many social roles they filled. This information is especially important to understanding Winkelman's (1989, 1990, 1992) model of segregation and specialization of shamanic roles with societal growth, which in turn has a key part to play in interpreting leadership in Ohio Hopewell societies.

THE NATURE OF SHAMAN AND THEIR SOCIAL ROLES

Who Is a Shaman?

The term *shaman* has been applied narrowly to certain magicoreligious practitioners in Siberia (Kehoe 2000:102; see also Price 2001:4, 6); somewhat more broadly to practitioners in the historically related cultures of far northern Eurasia, Greenland, and America (Kehoe 2000:8; Price 2001:6); yet more generally to those in hunting–gathering, fishing, pastoral, and simple horticultural societies (Harner 1980; Winkelman 1989, 1990:325, 1992:53; but see Townsend 1997:429); and, by some, very broadly to certain religious personnel in complex archaic societies (Gershom 1987; King 1987) and contemporary urban ones (Dossey 1988; Hammerschlag and Silverman 1997; Harner 1988a; Lawlis 1988; Mehl 1988; Swan 1987; Wallace 1966:86). Most broadly, it has been applied to all magicoreligious practitioners that use trance states (Peters and Price-Williams 1980). In its etymology, the modern anthropological word shaman is rooted in *sᵛam*, *kam*, *gam*, *xam*, and related words of northern and central Asian tribal languages (Eliade 1972:4; Grim 1983:15–16; Townsend 1997:430),[2] although the professional meaning of a term need not equate with the native term from which it is borrowed. Price (2001:4) clarifies that the word, shaman*ism*, denoting a collective pattern of religious beliefs and practices, has no correlate in native Asian languages, and derives instead from Christian missionaries who be-

gan identifying pagan "religions" in Siberia and attempting to convert their followers (see also Townsend 1997:431).

In this chapter, we use the words "shaman" or "classic shaman" for one kind only of a wide spectrum of "magicoreligious practitioners" that also includes medicine men, healers, curers, witch doctors, witches, sorcerers, wizards, mediums, magicians, and priests. Shaman are uniquely characterized by the intersection of three fundamental attributes. (1) Shaman take what are perceived to be soul journeys, or less commonly mind journeys, out of the body to alternative realities while in an altered state of consciousness. (2) Shaman use powers and information in nature rather than their own faculties to accomplish their tasks, such as healing and divining. These resources are found and harnessed through journeying. (3) Shaman are defined by their community, and the tasks they do to serve it, rather than by self-declaration. They are more or less altruistic, in the sense that they make journeys on behalf of their community members in need, or to gain power or information for themselves that can be used to help others. In this regard, they are also social leaders. The first characteristic was emphasized by Eliade (1972:4–5) and Wallace (1966:86, 126, 145) in distinguishing shaman, the third again by Wallace (1966:86, 126), while all three are seen as critical by Harner (1988b). All three researchers arrived at their definitions through extensive, crosscultural comparison.

To the extent that shaman are defined in part as those who use soul journeys to accomplish their tasks, shaman may also be said to be found primarily in hunting–gathering and fishing based societies, and occasionally in pastoral and simple horticultural societies. In an extensive, cross-cultural survey by Winkelman (1989, 1990, 1992), the method of soul journeying was found to be used by magicoreligious practitioners only in simple societies relying on these means of subsistence.

As societies increased in complexity, some kinds of magicoreligious practitioners that initially evolved from shaman continued to harness power and information from nature to achieve their ends, used trance states, and retained

elements of the basic cosmology of classic shaman defined by Eliade (1972:259–287). However, such individuals often did not make soul flights as a routine part of their practice and typically fulfilled more specialized ranges of social roles than the classic shaman. A recent, well-documented example would be the Siouan holy man, Frank Fools Crow (Mails 1979, 1991). Winkelman (1989, 1990, 1992) has documented this transformation in magicoreligious practitioner types with increased social complexity in great detail through crosscultural analysis. To distinguish these emergent personae from the classic shaman, we use the term *shaman-like practitioner*. The adjective *shamanic* we retain here for referencing the classic shaman. Wallace (1966:86) drew a similar distinction between "shaman proper" and other, more specialized, shaman-like practitioners. We hesitate to use here Winkelman's term "shaman-healer", for magicoreligious practitioners that became differentiated from the classical shaman because the term implies a whole suite of characteristics bound together typologically, only some of which we can track archaeologically in Hopewellian records. We would not want to attribute characteristics that we cannot observe archaeologically to Hopewellian magicoreligious practitioners by labeling them shaman-healers.

Eliade (1972:7–8, 12–13) discusses two additional aspects of shamanism that are important to this chapter but not to defining shamanism uniquely. First, shamanism, as the set of practices and beliefs of a shaman, is seldom the religion of a community. The shaman is privileged in the range of his or her capabilities to access and manipulate other realities to the betterment of this one. Community members may experience nonordinary realities through dreaming, spontaneous visions, vision quests, near-death experiences, and the like, and in this way may have beliefs that are shared with a shaman and make his or her practice more understandable to them. However, trips to other worlds with great frequency and depth, and the abilities to systematically induce, control, utilize, and interpret them, rest with the shaman. The private religious experiences of the shaman are usually "far from exhausting [of] the religious life of the rest of the community" (Eliade, p. 13).[3] The archaeology of such communities can therefore be expected to produce religious symbols and remains of ceremonies pertinent to both shamanic practices and other community religious affairs. This we will see in the case of the Ohio Hopewell.

A second important aspect of shamanism is that, although the position of community shaman may be institutionalized in its traditional presence and means of recruitment in a society, this need not be so for many of the practices, beliefs, and symbols, as well as the extent of power, of persons holding that position. A shaman is "separated from the rest of the community by the intensity of [his] own religious experience" (Eliade 1972:8). The ultimate teachers of a shaman in his practices and beliefs, and the final authority of what is to be done and how in a particular circumstance, rest with what the spirits of nature and the nonordinary cosmos say (e.g., Halifax 1979; Harner 1980; Mails 1991). The experiential and personal dimensions of the shaman thus bring to the position ways that always are novel and idiosyncratic and, in this sense, not institutionalized. The degree of consistency in shamanic ways over the generations depends on the specific means of recruitment of shaman, and the extent to which direct tutelage is involved and moderates the experiential basis of their practices and beliefs. If the material remains of a society show its religious symbols and practices to have had a shaman-like bent, but they are highly standardized within the society and over time, then one can infer that classic shamanism as defined by Eliade and Harner and as discussed here was not operative. Again, the Ohio Hopewell case is illustrative.

Roles of Shaman

Knowing the range of tasks that a shaman typically is responsible for performing for his community is essential to interpreting any archaeological remains of shamanic practices. Here, we briefly classify and inventory the broad range of roles commonly played by shaman. This discussion is harnessed later to help define the probable ritual functions of certain Ohio Hopewellian

artifact classes with a ceremonial bent—the ritual tasks for which they were used, individually or in sets.

Although shaman are most commonly envisioned in the roles of the healer and the diviner, their functions are much broader. Shaman work on behalf of their community at four levels: the individual community member, the community as a whole, the ecosystem of which the community is a part, and the material–spiritual universe in which the community exists (Table 5.1). At each level, the shaman performs multiple tasks, all of which commonly involve the shaman making journeys to nonordinary realities. For example, at the level of the individual, to heal a person, a shaman may journey within the body of the patient, in order to "see" a manifestation of the illness and determine what remedy is required, or may journey to a spirit power animal or teacher to be told what is wrong and what to do. At the level of society, a shaman may act as a keeper of mythology and serve as the community's vital link to the mythic realm through his or her journeys to The Beginning and its mythological

Table 5.1. Roles of the Classic Shaman

Level of the individual

As healer
        Journey to diagnose an illness
        Journey to recover a patient's lost power animal
        Journey to recover a patient's lost soul or part of it

As diviner
        Journey for information to help a client make a decision
        Journey to find a lost object

Level of society

As diviner, political leader, and war leader
        Journey for information to resolve intrasocietal disputes through compromise
        Journey to find out who is the guilty party
        Journey to another shaman of an enemy group to work out a compromise through spiritual communication
            before meeting in person physically

As philosopher
        Journey to obtain knowledge about the "perennial wisdoms"
          (a) The connectedness of everything
          (b) What happens at death
          (c) The nature of alternate realities
          (d) The nature of time and space

As keeper of cultural mythology
        Journey to mythological realms, such as the Beginning, and their mythological characters

Level of the ecosystem

As a regulator and healer of ecological relations
        Journey to find out proper times to plant and harvest
        Journey to find out the locations of game and ripe plant foods
        Journey to find out what species should not be harvested so that they can rejuvenate

Level of the material–spiritual universe

As spiritual ecologist, dealing with the circulation of spirit and matter, i.e., as psychopomp
        Journey to help a dying person release the soul from the body
        Journey to guide a stuck soul (i.e., ghost) to a Land of the Dead
        Journey to bring in souls to be born to This World

As a communication link between This World and Other Worlds
        Journey to the dead or spirits to allow communication between them and the living
        Journey with clients to help them meet their power animal, become it, and dance it

characters (e.g., the Australian Aborigine's Dreamtime). At the ecosystem level, a shaman helps a community to have healthy relations with its natural environment by journeying to determine appropriate times, places, and species for harvesting, or to determine what taboos on human–animal relations have been violated and must be righted to restore productive hunting or fishing. At the broadest level, that of relations with the whole material–spiritual universe, a shaman may journey to help the soul of a dying person leave the body, a ghost to pass over to the other world, or a child spirit to be born. Shaman typically play a vital role in communication between the living and the dead by journeying back and forth between them with messages, in order to keep relations in this larger "society" in balance.

The classic shaman as defined is a generalist—responsible for helping individuals and a community meet their needs in all of these arenas. In other words, the various roles of the shaman are "centralized" in his or her person. In more complex societies with greater numbers of individuals needing attention, these multiple roles tend to become distributed or "segregated" among different kinds of magicoreligious practitioners, who specialize in the tasks they perform (Winkelman 1989, 1990, 1992; see below). This evolutionary trajectory we now consider in the context of broader anthropological theory on leadership.

ANTHROPOLOGICAL THEORIES ON THE NATURE AND DEVELOPMENT OF LEADERSHIP ROLES IN SOCIETIES OF MIDDLE-RANGE COMPLEXITY

The nature of leadership in Ohio Hopewellian societies can be reconstructed in part empirically with archaeological and ethnographic information. A detailed examination of the material symbols and paraphernalia that were richly placed with the dead—including their forms, materials, distributions among persons of different ages and sexes, associations with each other, and other contextual information—can be joined with ethnographic records of the Woodlands and elsewhere to infer, in many cases, the kinds of activities and roles that Hopewellian leaders performed. A synchronic view of the functions and structure of leadership positions, and the activities, rights, and duties of the roles associated with them, can be assembled, and we do this below. At the same time, a broader, diachronic, processual understanding of the transgenerational changes that were occurring in the structure of Ohio Hopewellian leadership over the Middle Woodland period can also be developed. This view can be brought into focus by placing chronological information on shifts in Ohio Hopewell leadership roles within a larger, cross-cultural perspective, as summarized by contemporary anthropological theory on the rise of institutionalized, supralocal leadership positions. To this body of theory, we now turn.

Over the past 40 years, American archaeology and ethnology have had a continued interest in the evolution and institutionalizing of supralocal leadership roles, ranking, social stratification, and social complexity (e.g., J. A. Brown 1981; Earle 1990; Flannery 1972; Fried 1967; Johnson and Earle 1987; Kottak 1974; Leach 1954; Renfrew and Shennan 1982; Sahlins 1968, 1972; Service 1962; Steward 1955). Archaeological and anthropological theory is quite clear about the many kinds of *stressful conditions* that can encourage the evolution of institutionalized supralocal leadership. These conditions include: social and ecological circumscription; regional population packing; competition for natural resources, mates, and labor; internal and external conflict; and information overload in egalitarian decision making (see references just cited). However, there is less certainty about the actual *processes* by which supralocal leadership develops, especially the role played by philosophical–religious beliefs and socioreligious processes compared to material–secular ones.

Sahlins (1968, 1972), Flannery (1972), and Chagnon (1979), for example, have each emphasized the development of leadership positions through processes that are largely material, secularly focused, and/or biological. For Sahlins, leadership and social hierarchy arise

from a Big Man manipulating the labor and resources of his kinsmen through a calculated generosity, by which he places them in debt to him. Flannery proposed that supralocal leadership and social hierarchy can be traced to the expansion of the domains of power of temporary war leaders or other managers during periods of repetitive stress, followed by retention of that power when normalcy returns, even though the broadened domain of power is no longer required. Flannery called this process "promotion." Chagnon, in response to Sahlins, proposed that supralocal leadership and social hierarchy stem from the power differentials that develop among lineages and leaders having greater and lesser reproductive success and, thus, larger and smaller pools of labor, women for marriage exchange, and material resources upon which to draw. Finally, Earle (1990:81), following these older arguments, has seen beliefs as only legitimizing supralocal leadership already based on economic differentials among social groups and individuals.

An alternative, or perhaps complementary, socioreligious view has been offered by Netting (1972) and Peebles and Kus (1977:424–427). They describe numerous ethnographic cases of how philosophical–religious beliefs are used by a local leader to gain acceptance by social groups beyond those in which he or she has membership, and then to gain leverage and power over them. Ties to the spiritual world are effective in this regard. In particular, a spiritual leader such as a shaman or priest may convince extralocal groups that he or she can assure their well-being by employing the supernatural in healing, obtaining food, settling internal disputes, keeping peace regionally and in public gathering places, facilitating trade, bringing success to war parties, and/or regulating relations with the recently deceased, more remote spirit ancestors, and non-human spirits (Netting 1972; Wiessner and Tumu 1998, 1999).

This socioreligious process of supralocal leadership development is commonly evidenced in societies of middle-range complexity where a religious head comes to symbolize a society as a whole and its well-being. The process may involute to the point where the leader becomes equated with the society as a unit, and his or her own physical well-being reflects and affects the good or ill health of the society at large (e.g., Frazer 1935(4):14, 21, 27; 1959:125–126, see also 224–237; Metcalf and Huntington 1979:123–124, 153–183). The essential role that philosophical–religious beliefs and personae may have in supralocal leadership development is also empirically evidenced for the Eastern Woodlands, in particular, in Feinman and Neitzel's (1984) cross-cultural survey of 18 early-contact tribes in the eastern United States. They found that heading-up religious ceremonies was among the three most common functions of social leaders there.

For Netting, one essential aspect of the process of an individual gaining leadership at a supralocal level is distancing himself from his local identities, such as an affiliate of a particular kin group and certain residence group, and developing an independent identity that is supralocal in scope and also linked to power. In our view, Boehm's (1993) research reveals the reason why such a re-identification is required. His cross-cultural survey of 48 societies found that in simple band-level through incipient chiefdom-level societies, ascension to leadership and expansion of leadership powers and domains of power are very commonly and effectively curbed by followers. In societies of these kinds, "one person's attempt to dominate another is perceived as a common problem" (Boehm, p. 239) and is reversed by followers together using one or more of a variety of leveling mechanisms. These were found to include public opinion, direct criticism, ridicule, outright disobedience and ignoring, desertion, and sometimes the execution or exile of the leader. Bridging Boehm's findings to Netting's theory, we would argue that these leveling devices are easy to call into play when the leader has the identity of being a member of one's kin and/or residence group—when the leader is still seen as "one of us". In contrast, when a leader creates for himself, and demonstrates through service, a supralocal identity linked to spiritual powers that have no particular kin or residence group referent, the leader has at the same time distanced himself to some degree from kin and neighbors and the criticisms and other leveling

devices that they might employ to moderate or remove his domination.

A good example of the process of leaders forming independent identities and distancing themselves from kin and neighbors—albeit an incipient one—is the transformation of an ordinary person within communities into a shaman. This occurs first at an experiential level within the shaman-to-be, when he may have visions of being fundamentally altered by an animal guardian or other spirit teacher: for example, being dismembered to a skeleton and reassembled with a body with new powers or having his eyes removed and being given new eyes with special capability to see the spirit world (Eliade 1972:34–66; Halifax 1979; Walsh 1990:59–69).[4] The initiate may also have quartz crystals or other magical objects implanted in his skin, head, or belly, or be requested to drink quartz crystals by his initiating spirits or shaman-teachers of this world in order to bring special powers to the shaman-to-be (Eliade 1972:45–57; Harner 1980:140). Significant to the socioreligious theory of leadership development, some of these alterations to the initiate's identity may then be expressed vividly to his community in the symbols placed permanently on his costumery. A common example is a Siberian shaman's tunic, decorated with ribs, arm bones, liver, heart, and other internal organs, which recall that he has been dismembered and reassembled, making him distinct from others (Eliade 1972:149, 159; Walsh 1990:69). An Inuit shaman may also use a specialized language to speak of bodily parts and other technical aspects of his trade (Eliade 1972:62), which further separates him from his community and its opinions.

A final nuance of the socioreligious perspective on supralocal leadership development is that spiritual/religious leaders are not only commonly respected for the services they render through their spiritual powers, but also feared for the antisocial behaviors of which they are thought capable, using those same powers (Winkelman 1990, 1992). An element of fear can provide a spiritual/religious leader with augmented social respect, power, and authority and, in some cases, successfully offset community leveling mechanisms against long-term, systematic domination

(see cases cited in Boehm 1993:235). The particular balance between the altruistic and the antisocial aspects of power that a leader carries in the eyes of a society depends considerably on the traditional tone of that society's worldview—whether or not the cosmos, interpersonal relations, and the individual are seen as basically neutral or friendly, as sources of competition and danger, or as some combination of these poles.[5] The balance also depends on the personality of the particular practitioner, as in the contrast between, for example, the historic shaman-like leaders, Fools Crow (Mails 1979,1991) and Geronimo (Haley 1997:66, 368), respectively. Cross-culturally, warrior-style shamanic traditions, where shaman consistently face spiritual dangers and can cause them, are the more common (e.g., Basso 1969; Harner 1980).

The idea that philosophical–religious beliefs can provide a pathway to institutionalized, supralocal leadership is supported by a systematic cross-cultural Human Relations Area Files survey made by Winkelman (1989, 1990, 1992). Winkelman found statistically, for a stratified, 47-culture subsample of the Standard Cross-Cultural Sample, that magicoreligious practitioners naturally fall into several types—most importantly, shaman, shaman/healers, mediums, and priests. Shaman were found to play a great diversity of roles. Some were publically oriented, such as leading public ceremonies, resolving internal social disputes, divining information for raiding parties, and controlling weather and species reproduction. Other roles were individual/family client-oriented with community support, and included healing the sick, divining for personal lost objects, and guiding souls of the deceased to a land of the dead. All of these public and individual-focused tasks were performed primarily for single communities. In contrast, shaman/healers, mediums, and priests were found to have more limited sets of roles, and priests commonly served multiple communities, sometimes in the form of the priest–chief.

Significantly, Winkelman found that the four types of magicoreligious practitioners correlate strongly with social–evolutionary stages. The implication is that as a society increases in

size and complexity ("over time"), the many roles played by generalized shaman tend to become increasingly *segregated* among more *specialized* kinds of magicoreligious practitioners, including healers of various kinds, diviners, mediums, and priests. Most important, priest–chiefs who serve multiple communities as publically oriented, religious–political leaders become differentiated from local healers, diviners, and others who serve individual clients. Thus, in some cases, the rise of institutionalized supralocal leadership is closely intertwined with socioreligious development. In turn, these developments may involve the use of widely shared beliefs to gain social acceptance and/or advantage supralocally, as documented ethnographically by Netting and others.

It seems likely that the material–secular theories posed by Sahlins, Flannery, and Chagnon and the socioreligious theory of Netting, Peebles and Kus, and Winkelman are complementary. They appear to describe alternative pathways to institutionalized, supralocal leadership, which occur in different cultural–ecological settings. The varied ethnographic case studies provided by these authors suggest this complementarity. It is also logically possible that a single cultural–historical tradition might combine elements from both the material–secular and the socioreligious theories. The Ohio Hopewell case presented below sheds light on this possibility.

A HISTORY OF VIEWS ON OHIO HOPEWELL LEADERSHIP

As a prelude to analyzing and interpreting the Ohio Hopewell empirical record of leadership, we begin with a brief, historical review of interpretations of leadership that archaeologists have offered for Ohio Hopewell societies and closely related Early and Middle Woodland societies of the eastern United States. Leadership in these societies has been characterized in diverse ways, spanning both secular and sacred-focused personae. The leaders have been called kings, chiefs, priests, Big Men, shaman, and magicians. Equally significant, each previous description of leadership in Ohio Hopewell and related societies has considered only one form of leader to

have existed, rather than entertained the possibility that multiple kinds of leadership roles existed side by side, in complementarity. In contrast, the data and analyses we present below show that neither the forms of leadership nor the singularity of leadership that have been offered in previous interpretations has much direct empirical support.

Our divergence from previous interpretations derives in part from their having been based, for the most part, on indirect, qualitative arguments that infer sociopolitical organization from only rough measures of it: the scale of Ohio Hopewell earthworks and mounds, the refinement of Hopewell ceremonial artifacts, the long distances from which raw materials were obtained, gross differences in the richness of burials, the assumed agrarian economy of Ohio Hopewell peoples, and other contextual information. Systematic studies of the material remains of Ohio Hopewell leaders themselves, including their costumery and paraphernalia in mortuary contexts, associations among these items across large burial populations, and artistic renderings of elite persons—all of which provide direct, essential data on the social tasks and roles performed by leaders and role organization—have not been pursued.

The great size and regular geometry of the earthworks built by Ohio Hopewell peoples easily evoke mental images of well-organized societies run by influential elite who could initiate and coordinate the labors of substantial numbers of people. These pictures of Hopewell leadership are enhanced by the shiny, exquisitely designed artifacts that were found in graves and ceremonial deposits within the earthworks and that have been taken as markers of sociopolitical position and power. This "awe effect" (J. A. Brown 1997a) led Shetrone (1936:197) to call Burial 248 in Mound 25 at the Hopewell site a "king." The person had a tall copper effigy elk antler headdress with four tines—more tines than most other effigy antler headdresses known from Ohio Hopewell mounds[6] and a mark of maturity. The person wore, from head to knees, a garment sewn with several thousand beads, some extremely large, and with copper buttons. Many cut and split bear canines may have comprised a necklace

or decorations on the garment. Accompanying the person were three copper breastplates, which normally occur one per grave, several copper earspools, an agate spearhead, and a platform pipe, which more typically would have been decommissioned in a ceremonial deposit than buried with the deceased. In a more sophisticated way, Webb (1941:231–235, 241–242) associated a rare form of Adena burial found at the Morgan Stone Mound, in neighboring Kentucky, with the manner in which late 16th Century Timucan chiefs and priests were buried. The deceased had been laid out in textiles, bark, and logs in a building interpreted to have been his/her house[7] and partially cremated when the house was then burned to the ground.

Environmental, subsistence, and settlement data on Ohio Hopewell communities have been used by three archaeologists to indirectly support the interpretation that Ohio Hopewell societies were organized as chiefdoms. Seeman (1979b) documented the kinds and quantities of faunal and floral remains found in 15 Ohio Hopewell ceremonial centers and inferred that their charnel houses were the foci of feasts administered by chief–priests who redistributed food, especially meat, much as had been the case historically in the Natchez, Taensa, and Choctaw chiefdoms.[8] Seeman (1979b:45–46) held that meat was a critical, scarce resource in the Woodlands historically and prehistorically, and became a more problematic resource, requiring ritual regulation through chiefly redistribution, as agriculture intensified and facilitated population increases during the Middle Woodland in Ohio. Seeman (1979a:406–407) also saw a chiefly organization of Ohio Hopewell societies to have been the outcome of population growth in an environment that inhibited the easy budding-off and geographic expansion of Hopewellian communities, and that thereby fostered increasing local population densities and, concomitantly, greater sociopolitical complexity. Circumscribed arable land, limited to major valleys, and high secondary stream gradients that did not afford good communication between inland locations and the major valleys, are two aspects of the natural environment that Seeman saw as discouraging spatial expansion of populations. Seeman pointed to the clustered

distribution of Ohio ceremonial centers as evidence for the ecological constraints. He contrasted all of these situations to ones in Illinois that Hall (1973:62–63) had seen as allowing community budding and making developments in sociopolitical complexity unnecessary.

Prufer (1964a:70–71, 1964b:94) likened the dispersed farmstead–vacant ceremonial center setup of Ohio Hopewell communities to ones in classic Mesoamerica, which we know today were led by kings and chiefs of kinds. He, like his predecessors, noted that

> the construction of most of the burial mounds and of the elaborate earthworks—the largest of which, Newark, covers four square miles—must have involved large numbers of people. Moreover, they must have been well organized and well disciplined; and the society as a whole must have had a sufficient—no doubt agricultural—surplus to permit liberation of enough manpower for the construction of mounds and earthworks as well as for the manufacture of the quantitatively and qualitatively impressive burial furniture. (Prufer 1964a:71).

Prufer went on to conclude that those buried in the large Ohio Hopewell mounds were all "special" and "privileged" people (Prufer, p. 74) and mentions their "retainers" (Prufer, p. 73)—a word implying chiefly or kingly authority over the life and death of others (Service 1962: 141,163). However, Prufer did not make explicit his interpretation of the exact nature of Ohio Hopewell leaders.[9]

Struever (1965:212–213) has given the most detailed arguments for why Ohio Hopewell societies had leaders of a given kind—in his view, chiefs. These arguments include (1) the hundreds of people that were given preferential mortuary treatment in each of several, big charnel houses and that he equated to a rank group in a chiefdom; (2) the sharp variation in the qualities and numbers of grave goods that were placed with the deceased and that he interpreted as a pyramidal distribution of statuses within a chiefdom; (3) the great diversity of status-communicating artifact types, which is necessary in a chiefdom; (4) the large ceremonial deposits of raw materials and artifact blanks that were found on charnel

house floors and that he interpreted as evidence of chiefly redistribution; (5) the scale and networking of earthworks, which indicated to him an authority to deploy labor beyond that of a local kin group; (6) the spatial clustering of ceremonial centers, which suggested to him the political integration of people over a broad area; and (7) finely crafted artifacts and elaborate styles, which he attributed to craft specialization associated with the rise of chiefdoms. In each of these cases, Struever contrasted the Ohio situation with that in Illinois, where he concluded that only a tribal sociopolitical organization had emerged. As in Seeman's and Prufer's interpretations, Struever's did not rely on detailed studies of the mortuary remains of leaders themselves or depictions of them in artworks.

Shryock (1987) used a characteristic of chiefdoms complementary to those evoked by Struever and concluded that an Adena community represented by the Wright Mound in Kentucky was a simple chiefdom. Shyrock estimated the labor required to construct tombs in the mound, the values of shell, copper, and mica artifacts buried with the dead, and variations in labor and value over the history of the mound's use. He concluded that these variations indicated the characteristic expansion and contraction of a chiefdom as its dominance over surrounding populations cycled over time. The implication of this conclusion would be that certainly more materially complex Ohio Hopewell ceremonial centers represented more complex chiefdoms.

In contrast and reacting to these chiefly views of Ohio Hopewell are the interpretations made by Braun (1986), Ford (1974), and Smith (1986), who followed the ideas of Sahlins (1968, 1972) on Big Man societies. Ford's (1974:394, 402) interpretive framework for the Middle Woodland, which is drawn for the Midwest at large, rests on his view of ecological developments during the Archaic. As post-Pleistocene landscapes of the Midwest became stable and fertile, hunter–gatherers became less mobile. Increases in population ensued, with the packing of bands into smaller territories, a reduction in the number of alternative patches of food resources available to a band, and a concomitant increase in local food supply variability. This subsistence

risk, according to Ford, was ameliorated by inter-band exchanges of food, which were made reliable through the regular exchange of copper and marine shell. In the Late Archaic, headmen administered these exchanges, while in the Middle Woodland, exchanges of more varied materials and their manipulation for influence (presumably Ford meant through competitive displays) fell into the hands of Big Men. Ford saw variability in tomb construction, demography, and settlement patterns during the Middle Woodland as all supporting a Big Man model, with societies organized along lineage lines, for both the Illinois and the Ohio areas. Braun (1986:121) continued Ford's idea that exchange during the Middle Woodland in the Midwest was a form of social banking against uncertainty in local food production. He elaborated Ford's view of the role of the local leader to include management of increasingly complex subsistence schedules in addition to the negotiating of supralocal exchange of valuables. Although Braun spoke of possible increased demands for production beyond subsistence needs in order to fuel competitive displays during the Middle Woodland, in line with Sahlins's (1972) discussion of Big Man political economies, Braun never used the term Big Man. Braun (1986:118, 119) did characterize Midwestern Hopewell leaders as having had dominance without authority and having operated in a social milieu lacking institutionalized grades of social hierarchy (i.e., ranking). Finally, Braun did not distinguish Hopewell sociopolitical organization in Ohio in any way from that of Illinois, like Ford and unlike Struever. Braun essentially homogenized the midwestern sociopolitical landscape, using the situation in Illinois, where he had done his research, as the overarching model, without any empirical discussion of the Ohio archaeological record.

Bruce Smith's (1986:43–50) view of Middle Woodland leadership, though focused on the Southeast United States and only indirectly relevant to the Ohio area, offers interesting variations of the interpretations of Ford and Braun. Smith started with the notion that Southeastern Middle Woodland societies were segmentary tribes based on their settlement patterns. The small sizes of riverine villages, with houses

arranged in either discrete clusters or linear patterns, suggested to him villages comprised of respectively lineage segments or a single descent group—the weak lineage organization and lineage organizational diversity expectable among segmentary tribes. Smith found similar diversity in the mortuary programs of Southeastern societies, which supports his point. Some societies had small mounds for a few households with little burial differentiation (e.g., McLeod, McQuorquodale), others had mounds that served larger lineage-village units but still showed little burial differentiation (e.g., Pharr, Bynum), others had mounds for a lineage-village and distinguished burial tracks (e.g., Crooks), and yet others separated out limited numbers of individuals for specialized treatment through preinterment processing, location, or grave goods (e.g., Kolomoki D crypt burials, Copena canoe burials) or through mound burial itself (e.g., Mandeville, Tunacunnhee, Helena Crossing, Pinson). Only in the last situation, social partitioning through mound burial, did Smith infer the presence of a Big Man and his cluster of followers. In this way, his interpretation is more discriminating than Ford's and Braun's, and correctly separates notions of gross societal organization (i.e., the segmentary tribe) from a specific form of sociopolitical leadership (i.e., the Big Man). Smith noted, after Sahlins (1963), that Big Men have the opportunity to develop where lineage integration and corporateness are weak, as was the case throughout the Southeast, but weak lineage organization does not ensure that Big Men will arise. Smith went on to follow Ford and Braun's view that Hopewell Big Men in the Southeast served as managers of balanced reciprocity among communities, but emphasized the exchange of valuables and services over food. Smith did not evoke Ford's long-term ecological chain of sedentism, population increases, societal packing, subsistence risk, and the necessity for supralocal exchange to offset that risk in his interpretations of either the Archaic or the Woodland sequences in the Southeast.[10]

The view that Ohio and other Northeastern Hopewell leaders were Big Men has indirectly met with three criticisms made by Clay (1992:79–80). These Clay proposed to explain why Adena fancy log-tomb burials were not Big Men, but his points arguably might be extended to the Ohio Hopewell case. First, the Melanesian Big Man's power is founded on his ability to amass a surplus of food and distribute it. Most of the Ohio Middle Woodland domestic sites known through excavation have no storage pits (e.g., Campus, Jennison Guard, Nu-way, Wade [Church and Ericksen 1997; Kozarek 1997; P. Pacheco and D.A. Wymer, personal communication, 2002]) and two habitations have one possible storage pit each (Murphy, DECCO I [Dancey 1991:43; Phagan 1979]). The evidence as a whole suggests, at most, storage for family consumption, alone.[11] Second, Melanesian Big Men networks of reciprocal exchange of valuables and reciprocal feasting are based on productive local agricultural economies where all locales have abundant food supplies on average and are thus capable of reciprocating food regularly over time. The combined productivity of agriculture, hunting, fishing, and gathering for Ohio Hopewellian communities has yet to be estimated, but many would place it at considerably less than that for Illinois Hopewellian communities (Ruby et al., Chapter 4; Seeman 1979a, 1979b:46). Third, the exchanges of valuables, mortuary events, and feasts administered by a Melanesian Big Man are staged in his own village near his own house, creating an essential identification among a Big Man, place, and power. Such a process of identification would not have been possible in the dispersed settlement system of the Ohio Hopewell, where places of personal residence (scattered homesteads) and places of ceremony (earthworks) did not coincide.

Clay (1992:80) offered instead that Adena fancy burials and their variability—and here one might substitute Ohio Hopewell fancy burials and their variability—represent the negotiation of mortuary rituals attended and run by multiple local groups who sought and maintained alliances with each other, and the gifts reciprocally exchanged among groups and deposited with the deceased in order to preserve symmetry. Fancy burials were the by-product of alliance-making efforts rather than direct statements of a person's social importance, such as having been a Big Man. Buikstra and Charles (1999) make a similar

argument for the origin of fancy tombs in Illinois Hopewell flood plain cemeteries. For Ohio Hopewell burial mounds, the argument finds support in some single burials and many ceremonial deposits having large and redundant numbers of fancy artifacts of a single kind, but would not hold for the great majority of burials that have singular occurrences or functional sets of fancy items, as if they were owned by the deceased (see Carr et al., Chapter 13). Although Ohio Hopewell leaders may not have been Big Men, according to Clay's triple logic, we would not agree with a strictly alliance and gift-giving interpretation of Ohio Hopewell fancy burial assemblages.

The idea that Ohio Hopewell societies included classic shaman was proposed by Baby (1956), and the same interpretation was made of earlier Adena societies by Webb and Baby (1957) and Otto (1975). Their conclusions are different in nature from most of those above in that they are based on the paraphernalia and artistic renderings of social leaders, rather than rough measures of sociopolitical organization. Baby (1956) reconstructed a mask-headdress made of human bones and spangles found at Mound City and later (Webb and Baby 1957:71) interpreted it as the costumery of a shaman, used much like the earlier Adena wolf and cougar/puma skull masks to impersonate. Webb and Baby (1957) examined 12 engraved clay and stone tablets from Adena sites in Ohio, Kentucky, and West Virginia and concluded that the iconography on two of them represented dancing shaman who were impersonating birds. Webb and Baby went on to say that the tablets "were the personal property of the most important men in the Adena community, those who controlled the ceremonial-religious life as well as their social and governmental activities"—shaman, priests, or chiefs (Webb and Baby, p. 96). From two of the tablets that had red stains in their grooves, they conjectured that the tablets had been used to stamp their designs on clothing or the body, that the designs showed affiliation to a cult of the dead, and that stamping was done by the shaman, priest, or chief. Later, Otto (1975) described a 13th Adena tablet that also mixes bird and human elements in its carved designs. She interpreted the designs as a shaman—possibly a bone picker—impersonating a raptorial bird or as a mythological half-human/half-raptor being. Carr's more recent identifications of classic shamanic animal impersonators in the Adena tablets are summarized below (see The Classic Shaman in Ohio Hopewellian Society). J. A. Brown (n.d.) has taken the occurrence of smoking pipes, trophy skulls, quartz crystals, concretions, deer and horn headdresses, and snake imagery in Ohio Hopewell material culture as evidence of the operation of classic shaman in Ohio Hopewell societies, as well as the insemination of classical shamanic beliefs into wider cultural and ritual settings.

In sum, archaeologists have interpreted the material records of Ohio Hopewell and related societies of the Eastern Woodlands to indicate the operation of leaders of a broad range of kinds. Relatively complex chiefs with authority to redistribute, Big Men, classic shaman, and less powerful individuals whose grave accompaniments reflect reciprocal gift-giving among social groups expressing alliances, rather than the roles of the deceased, have each been claimed. In addition, leaders of only one kind have been proposed in each of the above interpretations. However, because the data used to make these interpretations have been largely indirect measures of sociopolitical organization generally and not precise reflections of leadership form itself, further and pointed study of Ohio Hopewell leadership is required. The remainder of this chapter assembles and analyzes such directly relevant data and provides different conclusions about the nature of Ohio Hopewell leadership.

MATERIAL REMAINS OF SHAMANIC, SHAMAN-LIKE, AND NON-SHAMAN-LIKE LEADERSHIP IN OHIO HOPEWELL SOCIETIES AND RELATED GROUPS

Although Eastern Woodland archaeologists have differed in their characterizations of Ohio Hopewellian leaders, drawing upon different anthropological theories, ethnographic analogs, and pieces of evidence, the directly relevant material record when assembled is actually fairly

clear on the topic. Ohio Hopewellian leaders included multiple, complementary kinds of leaders, including a small proportion of shaman in the classic sense described above, many other personae with some shaman-like or other religious qualities, and a small proportion without any clear shamanic or shaman-like features.

This section has three purposes. First, we illustrate that shaman as classically defined did operate in at least some contexts and times in Ohio Hopewellian societies. This has not been recognized by the material–secular reconstructions of Ohio Hopewell leadership that have dominated archaeological thought. Second, we demonstrate the shaman-like tone that pervades much of Ohio Hopewellian public and elite ceremonial material culture, with the implication that much of Ohio Hopewellian leadership had some shaman-like attributes. Finally, we show that in spite of this shaman-like orientation, leaders of other religious and religious-secular kinds also operated in Ohio Hopewellian societies. Leadership roles were diversified in nature and segregated structurally. These conclusions are reached by examining four forms of evidence: representational art, costumery, the nature of the raw materials used to manufacture public and elite artifacts, and the forms and probable functions of such artifacts. Making these three points shows the relevance of primarily socioreligious anthropological theories of leadership development, and secondarily material-secular ones, to the Ohio Hopewell case.

The Classic Shaman in Ohio Hopewellian Society

In the opening of this chapter, we defined the shaman, following Eliade, Wallace, and Harner, as one who performs a variety of services for his community and its members by taking soul or mind journeys out of his body, and by using animals, plants, and spirits of nature. In the Ohio Hopewellian material record, there are two pieces of representational art that illustrate the shaman in this classic sense. One is a pipe excavated by Squire and Davis (1848:247; Fowke 1902:592) from the Mound City earthworks (Figure 5.2A), which depicts a bird-man: a man's

Figure 5.2. (A) Bird-man in flight. Smoking pipe from the Mound City site, Ohio (Squire and Davis 1848:247). (B) A bear shaman. The "Wray" figurine, limonite and schist, from the Newark Site, Ohio (Dragoo and Wray 1964). Photo by permission of the Ohio Historical Society, Columbus, OH.

head with the body of a bird. The bird-man appears to be in flight, because when the pipe is held for smoking, the bird's body is oriented fully horizontally rather than in perched position and the head of the man faces forward as would the head of a bird in flight rather than perched. When one considers that, cross-culturally in shamanic practice, soul flight is most commonly experienced as transformation into a bird that flies or as being carried by a flying bird (e.g., Eliade 1972:474–482; Halifax 1979:16–18), then this pipe quite directly depicts soul flight. Significantly, the representation is made on a smoking

pipe—an implement for inducing trance states in which shamanic soul-flight is experienced. The eyes of the man are closed and his mouth is drooped, as in trance.[12]

The pipe form may have a double significance in that rising smoke has commonly been conceived of as a means of communication and travel between this world and realms Above, Below, and in the Four Directions by historic and contemporary Eastern Woodlands and Plains Native Americans (Hudson 1976:318; Mails 1978:101; 1979:92). Among Siouan tribes, smoke from a pipe specifically represents everything that flies and lives above (Mails 1978:101), symbolically tying together pipe smoke, bird, and soul flight. In sum, the Mound City pipe clearly evidences the classic shaman, in the midst of soul flight, and using one or more aspects of nature (a bird, smoke) to achieve it.

The second instance of Ohio Hopewellian art that illustrates a classic shaman is the stone "Wray figurine" (Dragoo and Wray 1964), found in the Newark earthworks (Figure 5.2B). The figurine illustrates a human largely enveloped by the image of a bear. The hands and arms of the man are fully transformed and one with the paws and forelegs of the bear, and the man's feet have a clawlike appearance (Dragoo and Wray, p. 197). The bear's image may represent a bear costume that the man is wearing, or the coming of a bear spirit from behind to merge with the body of the man. Merging with a power animal and "becoming" it is an essential practice in the shamanic arts of many traditions around the world (e.g., Harner 1980:73–88; Halifax 1979).[13] The man is in trance, indicated by his closed eyes and drooped mouth, as one would expect of an outfitted shaman doing work or a shaman in the process of transforming into an animal helper spirit. The awkward, asymmetrical positioning of the bear-man's arms, behind the head and on the chest, is in general reminiscent of certain traditional hard-to-hold postures meant to help induce trance and known from around the globe (Goodman 1990). On the lap of the bear-man is a human head, with hair extending straight from the scalp. Like the bear-man, the head wears earspools. This head, and what is being shown about the bear-man's identity, can be interpreted in two ways, depend-

ing on how the figurine is oriented. If stood upright, in a seated position, the head could represent a severed head—perhaps a war victim, or a community member whose skull is being prepared for curation or for crushing for burial, cremation, or intact burial[14] and perhaps whose soul is being guided to another world. In this case, the bear-man would be a shaman in the role of a war leader and/or a body processor and psychopomp (see also Dragoo and Wray 1964:198). As a psychopomp, the bear-man would be in the state of soul flight. If the figurine is placed on its back, with legs up, then the head on the lap of the man could indicate his soul in the process of leaving his abdomen at the initiation of soul flight (R. Zurel, personal communication, 2000). The abdomen is one of several common locations of soul departure from a body cross-culturally. In this regard, it is significant that the head has earspools that echo the earspools and identity of the man in trance. Also, the eyes of the head are open, which would be true of a soul disembodying, and less likely of the skull of a beloved community member, whose eyes would be put to rest. In either specific interpretation of the identity of the bear-man depicted in the Wray figurine, his trance state, the possibility of soul flight, and his working with the powers of nature all suggest a classic shaman.

The representations found in the Mound City pipe and the Wray figurine echo other images of classic shaman from related Adena cultural contexts, perhaps somewhat earlier or close in time. Adena mounds in southern Ohio and adjacent portions of West Virginia and Kentucky have yielded 13 carved tablets of stone or clay, primarily bas-relief in form (Otto 1975; Penney 1980; Webb and Baby 1975). The majority of these artifacts depict birds, bird impersonators, bird impersonators in magical flight, or mammal impersonators (Carr 1997, 1998, 1999a, 1999b, 2000a, 2000b). Four of the tablets (Berlin, Lakin A, Meigs, Wilmington), and possibly a fifth (Lakin B), have human faces with long, hanging hair and looking forward, which, when rotated 90 degrees, become the stylized heads of raptors in profile (Figure 5.3A). Rotation seems to have served as an artistic metaphor for transformation, here from human to bird and back again. A fifth tablet (Cincinnati) has two stylized human
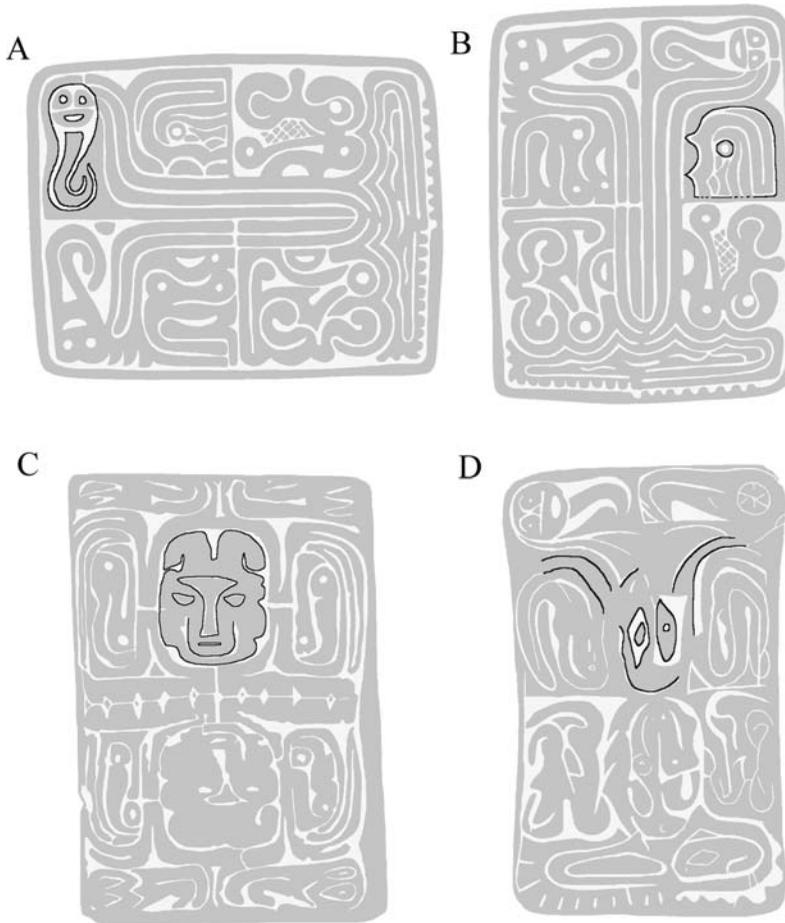
Figure 5.3. Portions of representations in some of the Adena tablets (Otto 1975; Webb and Baby 1975). (A) An example of a human face with long hair that becomes a stylized head and beak of a raptor when rotated 90 degrees clockwise. The Wilmington tablet. (B) A short-beaked bird (mask?) with a human head inside. The Wilmington tablet. (C) A human face with mammal ears. The Low tablet. (D) A human face with mammal horns. The Meigs tablet. (E–H) The World Tree with bird impersonators and/or birds on top. Respectively, the Wilmington, Meigs, Lakin A, and Cincinnati tablets. (I–K) The World Tree with birds making their way up it. Respectively, the Lakin A, Lakin A, and Gaitskill tablets.

faces in profile with eye-surrounds in the form of raptor heads in profile. One tablet (Wilmington) has a short-beaked bird with a human head inside, apparently rendering a person in bird mask (Figure 5.3B). Two tablets (Low, Meigs) depict human faces with mammal ears or horns of a kind (Figures 5.3C and D). Five tablets (Cincinnati, Gaitskill, Lakin A, Meigs, Wilmington) show the World Tree with its trunk, bifurcating roots below, and bifurcating branches above. The World Tree is one form of expression of the *axis mundi*—a vertical structure by which a shaman

can take magical flights to nonordinary worlds above and below this one, and which is recognized in nearly all shamanic traditions around the globe (Eliade 1972:259–274, 487–494). Four of the five specimens (Cincinnati, Lakin A, Meigs, Wilmington) show bird impersonators and/or birds that have flown to the top of the World Tree, while two (Gaitskill, Lakin A) depict birds making their way up the World Tree (Figures 5.3E–K). All of these images, in rendering humans transformed or transforming into birds and mammals, and bird-men that are in the

E
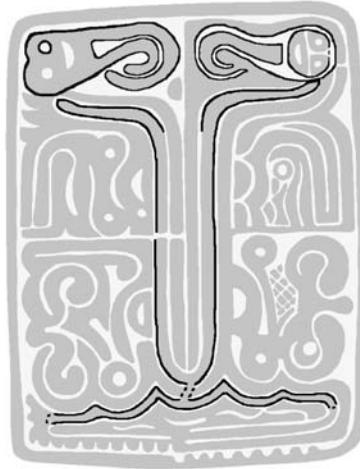
F
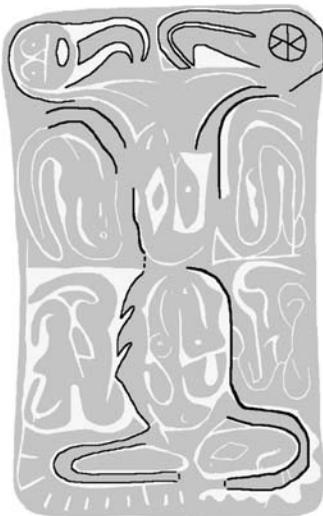
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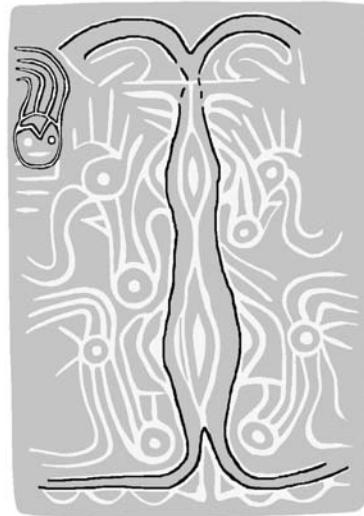
Figure 5.3. (*continued*)

process of taking magical flights, fit the defini-
tion of a classic shaman who takes extraordinary
journeys and uses the powers of nature to do his
or her work.

The broad distribution of the Adena tablets,
across and beyond the area of Ohio Hopewell so-
cieties, indicates the firm foundation of classical
shamanism from which Hopewellian beliefs, art,
and leadership continued and evolved. This con-
tinuity is tellingly found in two of the earliest ex-

amples of Ohio Hopewellian copper breastplates,
found in Mound City, Mound 7, Central Grave
(Mills 1922:534–535). Each plate has four rap-
torial birds of the same design as those found on
five of the Adena tablets, positioned at the plate's
corners as in the Adena cases. A vertical axis up
the center of the plate mimics in simplified form
the World Trees found on the Adena tablets.

A final, key image of a classic shaman in
an Adena context comes from the core Scioto
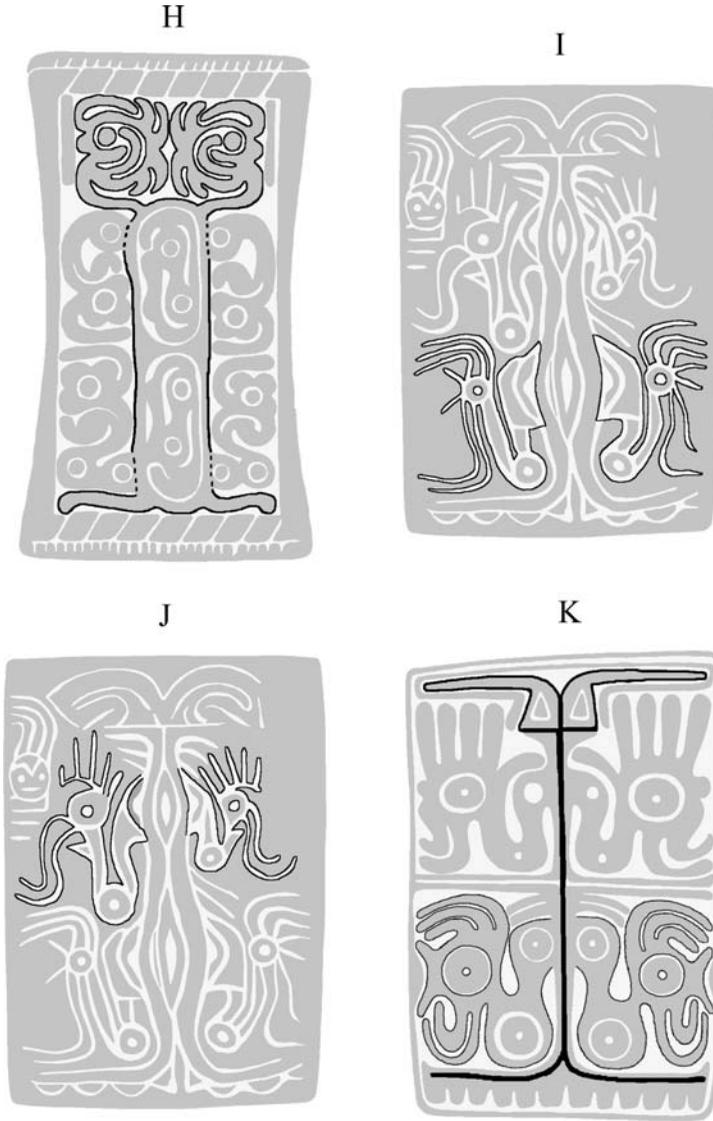
Figure 5.3. (*continued*)

Hopewell region itself. This is the "Adena pipe" figurine, recovered from the Adena site, Skeleton 21 (Mills 1902:474–479) (Figure 5.4). The figurine depicts a male, achondroplastic dwarf (Snow 1957:55)—significant because, cross-culturally, shaman not infrequently have a physical defect of one kind or another that helps to separate them from their society in looks or capabilities (Hollimon 2001:129). Several aspects of the figurine suggest that the man is in trance. His eyes are hollow and without pupil. Also, the man is poised in an awkward posture, with knees partially bent and hands pressed against his thighs, where they would not be useful for his balancing and compensating for his bent knees. The awkwardness of the posture again recalls the traditional, hard-to-hold postures for inducing trance, which are found around the globe and documented by Goodman (1990). In this case, the posture closely resembles one found to induce an experience involving the World Tree or Tree of Life (Goodman, p. 146–148). The posture requires one to stand with partially bent knees, hands on the thighs, and mouth open—all

Figure 5.4. Probable shaman in a trance posture. The "Adena pipe," from the Adena site (Mills 1902:474479). Photo by permission of the Ohio Historical Society, Columbus, OH.

true for the Adena figurine. Consistent with the World Tree theme, and recalling the Adena tablets' depiction of bird-men climbing or on top of the World Tree, the dwarf wears a breach cloth bearing a design of a raptor's head on the front (upside down) and fanned bird feathers on the back. On the man's abdomen is a trident bird's foot form, common in Eastern Woodlands art. The trance state depicted by the pipe is consistent with the function of the pipe for smoking—one manner of inducing trance, communicating with other realms, and soul-traveling to them, in historic and contemporary Eastern Woodlands and Plains Native American practices and beliefs

(Hudson 1976:318; Mails 1978:101; 1979:92). All of these features of the figurine indicate a classic shaman in the act of making a soul journey with the help of the powers of nature—in this case, a bird.

Classic Shaman or Shaman-like Practitioners

Beyond the two Ohio Hopewellian artworks and several Adena ones that undeniably illustrate classic shaman, there are other representations that may depict either classic shaman or more specialized, "shaman-like" practitioners (Table 5.2). A deer skull and horn headdress from an Ohio Archaic-period site (Converse 1979:35), three wolf and two bear skull masks from Ohio Glacial Kame sites (Converse 1979:31–35), three wolf and one cougar/puma mandible or maxilla mouth inserts from Ohio and Kentucky Adena sites (Webb and Baby 1957:61–71), two cougar masks and one bear mask from Ohio, Kentucky, and Indiana Adena sites (Webb and Baby 1957:66; Mills 1917:255), and one human skull with three deer tooth replacements for human teeth from the Ohio Hopewell Edwin Harness mound, each indicate animal impersonation and calling upon the powers of nature. This is also the case for Ohio Hopewell who wore copper headdresses with animal parts, in order to impersonate deer, elk, bear, cat, and bird, and for the mica cutout and bone carvings that depict bird impersonators and a deer–"rabbit" impersonator (Table 5.2).[15] In each of these instances, part of the impersonation process could have involved the shaman-like practice of the impersonator dancing his or her power animal while in trance (Harner 1980:73–88). However, the classic shamanic art of soul flight is not directly evident in these elements of costume, and the precise nature of the magicoreligious practitioners is unclear.

A final relevant depiction is a terra cotta figurine from the Turner site, Mound 4, Altar 1 (Brose et al. 1958:61; Willoughby and Hooton 1922:plate 20e). The figurine shows an adult male with a forward hair bun, indicating his status (Keller and Carr, Chapter 11). The man is seated, in trance, which is indicated by his closed eyes, drawn lips, and uncomfortable placement of his hands below his knees, similar

Table 5.2. Artistic Images and Costumery of Important Persons in Ohio Hopewell Societies and Related Groups

Early Woodland images of humans with clear characteristics of a classic shaman

Raptor impersonators on top of the World Tree	Wilmington, Cincinnati, Lakin A, and Meigs Adena tablets (Carr 1999a, 1999b)
Birds climbing the World Tree	Lakin A and Gaitskill Adena tablets (Carr 1999a, 1999b)
Nonraptorial bird impersonator	Wilmington and Meigs Adena tablets (Carr 1999b)
Achondroplastic dwarf bird impersonator in trance posture	The "Adena pipe" (Mills 1902)

Archaic and Early Woodland images of humans with shaman-like characteristics

Eared mammal impersonator	Low and Meigs Adena tablets (Carr 1999b)
Deer skull headdress for impersonation	Unionville Center site, Archaic period (Converse 1981:35)
Wolf and bear skull masks for impersonation	Clifford Williams site, Logan County & Williams site, Wood County, Ohio; Glacial Kame (Converse 1981:31–35)
Wolf and cougar/puma mandible and maxillary mouth inserts for impersonation	Ayers mound, Wright Mound 6, Wolford Mound Group, Dover mound, Chilton Mound 77, Buckam Stone Mound 1, Westenhaver mound; Adena in Ohio, Kentucky, Indiana (Webb and Baby 1956:61–71; Mills 1917:255)

Early Woodland images of humans without obvious shaman-like features

Human face in masks	Meigs Adena tablet (Carr 1999b)
Human face with forward-flowing headdress	Meigs Adena tablet (Carr 1999b)

Ohio Hopewell images of humans with clear characteristics of a classic shaman

Bear impersonator, stone figurine	The "Wray figurine," Newark site (Dragoo and Wray 1964)
Bird's body with human head, in flight; pipe	Mound City (Fowke 1902:592)

Ohio Hopewell images of humans with shaman-like characteristics

Bird impersonator with multilayered headdress, mica cutout	Turner site, Mound 3 (Willoughby 1922:plate 15)
Bird impersonator carved on a human femur	Turner site, Great Enclosure (Willoughby 1922: plate 2c)
Deer–"rabbit" impersonator carved on a human femur	Hopewell site, Mound 25, Burial 278 (Moorehead 1922: 128)
Cat impersonator, stone figurine	Mound City (Shetrone 1936: 122)
Copper effigy deer antler or deer ear headdresses	Mound City, Mound 13, Burials 3, 4; Hopewell site, Mound 25, 243, 260–261 (Mills 1922: 545; Moorehead 1922:109; Shetrone 1926:177)
Copper effigy elk antler headdress	Hopewell, Mound 25, Burial 248 (Moorehead 1922: plate XLIX)
Copper effigy "bear" or mythological creature headdress	Mound City, Mound 13, Burial 3 (Mills 1922:543)
Copper headdress, cat paw cutout design	Hopewell site, Mound 25, Burial 4 (Shetrone 1926: 176)
Copper headdress, feather outline	Hopewell site, Mound 7 (Shetrone 1926:37, 176)
Skull with three deer teeth replacements for human teeth in the lower jaw	Edwin Harness Mound (Ohio Historical Society accession no. 7/51)
Human skull mask (dismemberment theme?)	Mound City, Mound 7, Baby 1956)

Ohio Hopewell images of humans without obvious, shaman-like features

Human heads with curvilinear face painting, tattooing, or scarification	Edwin Harness Mound (Greber 1983:33); Hopewell site, Mound 25, 1 or 2 (Moorehead 1922:169)
Human face with a tall headress, copper cut out	Hopewell site, Mound 25, Burial 35 (Shetrone 1926:214)

to a cross-culturally identified trance posture for evoking metamorphosis into an animal (Goodman 1990:131–140). This image may represent a classic shaman or shaman-like leader in the act of trance or transformation, or simply a person of prestige following a wider, community religious practice complementary to shamanism, to follow Eliade's (1972:7–8, 12–13) dichotomy. At least one other terra cotta figurine found in Altar 1 (Willoughby and Hooton 1922:plate 20g) also appears to be in a cross-culturally identified trance posture, possibly for travel to a land of the dead (Goodman 1990:155–160).

The Pervasiveness of Shamanic and Shaman-like Features in Ohio Hopewellian Leadership

The few, clear images of Adena and Hopewell classic shaman described above for the greater Ohio area, and the handful of additional shaman or shaman-like practitioners, indicate the presence of these kinds of leaders in Ohio Hopewellian society. The representations do not, however, suggest how common classic shaman or shaman-like practitioners may have been. To approach this issue, the nature of Ohio Hopewellian public and elite artifacts and artworks can be examined.

The following paragraphs describe how most Ohio Hopewell public and elite artifacts and artworks were made of raw materials that are transformative in nature, come from distant places, which implies a logic of transformation, and/or have an artistic style that implies transformation (see also Turff and Carr, Chapter 18). A related quality of many of the raw materials from which Ohio Hopewell public and elite artifacts were made pertains to seeing. The pervasiveness of material culture having these qualities, we will argue, suggests the common work and leadership of classic shaman or shaman-like practitioners within Ohio Hopewell society. We also explore the functions of public and elite artifact classes and the social roles they suggest, which are predominated by shaman-like ones. Finally, we point out a number of very large, ceremonial deposits of artifacts with shamanic or shaman-like functions, which imply the commonness and significance of such practices in Ohio Hopewellian life.

Transformation. A primary theme of shamanism cross-culturally is transformation. It is intrinsic to shamanic tasks: the sick person is cured and made well; the lost object, power animal, or soul is divined, found, and returned; the living soul is guided to the souls of the dead; the unborn soul is brought into flesh; the disgruntled spirit(s) of an animal species are appeased and hunting or fishing is made good again; and the paradoxical dualities of this world are at least integrated and balanced, if not made one. Cross-culturally, the shaman's initiation almost always emphasizes transformation: his death and rebirth into a new identity psychologically, physically, and socially (Wallace 1966:152). This is commonly accomplished through envisioned bodily dismemberment and reassembly (see Theory, above, and Note 4), and more locally, in Siberian and Ngadja Dyak societies, through undergoing a change in gender in several stages. The male shaman initiate becomes a "soft man" or "one similar to a woman[16] (Eliade 1972:257–258; Halifax 1979:22–28)—a third gender that is neither male nor female (Hollimon 2001:124).

The central theme of transformation in the shaman's tasks and initiation relates to the role of the shaman as mediator (Hollimon 2001:127–128) for society and individuals—an intermediary between cosmological realms, spirits, the spiritual and material, species, sexes, social groups, and individuals in a universe that is partitioned rather than a whole. To communicate among categories of the universe, to work with them, and/or to go back and forth among them, requires the shaman to transform and attune himself to them.

Transformation Implicit in Raw Materials. The raw materials from which Ohio Hopewell public and elite artifacts were manufactured almost always have the quality of being transformative (Table 5.3), suggesting a common shaman-like social presence (Carr and Case 1995, 1996). The particular transformation evident in the materials selected by Ohio Hopewellian peoples is between the poles of light

Table 5.3. Transformative Materials Used by Ohio Hopewell Peoples

Substance	Light or shiny state, aspect, or variety	Dark or dull state, aspect, or variety
Materials that transform between light and dark		
Mica	Milky white to silver naturally	Black–brown when heated
Copper	Shiny when polished	Dull, dark brown–red when first corroded
Silver	Shiny when polished	Dull, dark when tarnished
Meteoric iron	Shiny when polished	Dull, dark brown–red when rusted
Steatite	Shiny when polished, with shiny fleck inclusions	Dark, dull body naturally
Chlorite	Shiny when polished, with shiny fleck inclusions	Black–green body naturally
Ocher	Yellow in oxidized state	Dark red to red–brown in reduced state
Clay for pottery	Light orange in oxidized state, shiny when burnished	Brown to black in reduced state, dull when roughened
Human bone	White naturally	Black when cremated in reduced atmosphere
Materials that are simultaneously "light" and "dark"		
Obsidian	Shiny, glassy surface; also, translucent when a thin piece is held to light	Dark color; Dark color in the form of thick pieces
Knife River flint	Translucent when a thin piece is held to light	Dark color in the form of thick pieces
Local mollusks	White internal shell before exterior coating removed	Dark exterior coating
Pearls	White, shiny exterior	Dull, tan interior
Human body	Naturally light bones on interior	Dark flesh on exterior
Hummingbird feathers	Iridescent surface	Dark color
Mallard duck feathers	Iridescent surface	Dark color
Materials paired archaeologically		
Special stones made into projectiles	Light quartz	Dark obsidian
Cherts at the Mount Vernon Site, IN	Light cherts	Dark cherts
Soils in earthworks	Yellow	Red, brown, or black
Sands for mound construction at the Mann Site, IN	Light sands	Dark sands
Versus		
Cedar	Defies transformation	

and dark, or the poles of shiny and dull. For example, shiny and light copper corrodes to dull and dark (red–brown) cuprite. Shiny and light silver tarnishes to dull and black silver oxide. Shiny and light meteoric iron rusts to dull and dark iron oxide. Significantly and "magically", these transformations and those of some other Ohio Hopewellian materials are fully reversible. Corroded copper, tarnished silver, and rusted iron can each be polished, renewing their previous brilliance.

The materials selected by Hopewellian peoples to make their public and elite artifacts are transformative in three different senses (Table 5.3). Some, like copper, silver, and iron, can change or be changed from light and shiny to dark and dull and back again. Others, like obsidian, translucent chalcedonies, and some feathers and snake skins, simultaneously display both poles. If, in Ohio Hopewell worldview and language, shiny was interchangable semantically with light in hue, and dull with dark in hue, as it is in some Native American languages (Reichel-Dolmatoff 1978; Roe 1995:67), then obsidian is magically both shiny and dark, some translucent chalcedonies may transmit light yet be dark in hue, and some feathers and snake skins can be dark yet iridescent at the same time. Such color

ambiguity appears to be associated with shamanism (Reichel-Dolmatoff 1978; Roe 1995:67). The final manner in which Hopewellian favored materials were transformative is in the complementary way in which light/shiny and dark/dull materials were placed in graves, ceremonial deposits, mounds, and earthworks relative to each other. Thus, for example, large numbers of light- and dark-colored flint ovate bifaces were manufactured and deposited together on the floor of the Mount Vernon mound, Indiana (Seeman 1995:128-129). Light yellow and darker red, brown, or black soils were commonly used to form complementary, adjacent layers of mounds in Ohio and Illinois, and the inside versus outside positions of earthwork embankments in Ohio (e.g., Buikstra et al. 1998:84–88; Greber 1998; Hall 1979; Lynott and Weymouth 2002:3, 5; Ruby 1997b).[17]

Seeing. A theme of shamanism that is related to transformation, particularly the transformation of darkness into light, is seeing within, through, or beyond (e.g., Halifax 1979; Harner 1980:27–31). A shaman has the ability through journeying to see and "bring to light" other, nonordinary realities that remain unknown, that is, "in darkness", to others. These realities include layers of the cosmos above and below this world and spatially remote parts of this world, as well as the past, the future, and the timeless era of Creation. The shaman also has the power to see in trance, with his/her "strong eye," the nonordinary aspects of this world, including spiritual representations of diseases within ill physical bodies, ghosts, other spirits, and lies in a dishonest person. With these special powers to see, the shaman accomplishes the tasks of healing, divining, determining guilty parties for dispute resolution, and shuttling needed information, souls, and spirits back and forth between this world and others.

A shaman's special power to see typically results from the reworking (transformation) of his physical body over the course of his initiation by his spirit helpers and/or shaman-teachers of this world. A shaman's eyes may be replaced by special ones during dismemberment, quartz crystals may be implanted within him, or he may be required to drink quartz crystals (Eliade

1972:34–66; Halifax 1979; Harner 1980:140; Noll 1987:50; Walsh 1990:59–69; see also Note 4). A particularly relevant example of shaman attaining special sight is described by Knud Rasmussen for *angakok* (shaman) of the Iglulik Inuit, around Hudson Bay, Canada. In this culture, acquiring the ability to see the nonordinary is likened to experiencing an inner light:

> It consists of a mysterious light which the shaman suddenly feels in his body inside his head, within the brain, an inexplicable searchlight, a luminous fire, which enables him to see in the dark, both literally and metaphorically speaking, for he can now, even with closed eyes, see through darkness and perceive things and coming events which are hidden from others: thus they look into the future and into the secrets of others.
>
> The first time a young shaman experiences this light . . . he sees far ahead of him through mountains, exactly as if the earth were one great plain, and his eyes could reach to the end of the earth. Nothing is hidden from him any longer; not only can he see things far, far away, but he can also discover souls, stolen souls, which are either kept concealed in far, strange lands or have been taken up or down to the Land of the Dead (Rasmussen 1929:112–113; cited in Noll 1987:50–51).

Seeing Implicit in Raw Materials. Many of the raw materials from which Ohio Hopewell public and elite artifacts were made mimic the shaman's power to see within, through, and beyond. These materials include shiny ones that reflect an image and can be gazed into, translucent ones that let light through their darkness, and transparent ones, which represent solidified light or water in some worldviews (Harner 1980:29 and references therein) and may also be gazed into. Shiny, reflective raw materials that were used or worked by Ohio Hopewell peoples include thick sheet mica, galena, silver, and meteoric iron, all of which have the additional spiritual referent of a water's reflective, shiny surface (Hall 1976), as well as copper, polished chlorite, steatite, and pipestone. A translucent material that was used is chalcedony, one form of which was Knife River flint. The transparent materials known to Ohio Hopewellian peoples include quartz, thin sheets of mica, thinned

obsidian, amethyst, and fluorite. These diverse and abundant materials in the Ohio Hopewell archaeological record again suggest a common shaman-like presence in Ohio Hopewell society.

The Distant Sources of Raw Materials and Their Relation to Transformation. The uniformly distant origins of the copper, mica, silver, meteoric iron, obsidian, and other materials used by Ohio Hopewellian elite to make their ceremonial artifacts and costumes is also consistent with the proposed prevalence of a shaman-like worldview and shaman-like leaders there. Specifically, Helms (1976:133, 136, 176) concluded from cross-cultural research that in prestate societies with modest means of transportation, traveling a long distance, beyond the lands of known peoples, is commonly equated with approaching the sacred or supernatural. The near–far axis and the ordinary–supernatural axis may be confounded philosophically. Consequently, those who seek to gain supernatural powers and knowledge may do so by making travels to far-away places. The shamanic vision quest and power quest to distant places in nature (e.g., Halifax 1979:87–91; Mails 1979:49–54, 181–185; Park 1938:27–28), from which powerful raw materials are extracted, is one variant of this practice. It turns out, in several empirical ways, to be an effective means for explaining the transport of many kinds of exotic raw materials to Hopewellian societies in Ohio (Carr, Chapter 3; Bernardini and Carr, Chapter 17; Turff and Carr, Chapter 18). Thus, the large quantity of fancy, exotic raw materials found in Ohio Hopewell sites conforms with the interpretation of a common shaman-like ideology and social presence there.

Significantly, far journeys such as shamanic quests, and the spiritual powers and knowledge obtained from them, transform the quester internally through the experiences had, and in social prestige (Gill 1982:101–105). The fancy raw materials brought back from such journeys evidence this transformation. Thus, the distant origins of the raw materials from which Ohio Hopewellian elite artifacts were manufactured translate as transformation, and dovetail with their physically transformative qualities. Both qualities point to shaman-like practices and leadership.

Transformation in Artistic Style. Another quality of Ohio Hopewell material culture that recalls transformation and shamanism is the "positive–negative play" or "perceptual–mental ambiguity" of the curvilinear art style of this culture. Roe (1995:64) defines these terms as the capacity in an artistic rendering to shift visual attention back and forth between two aspects of the work, seeing one part as figure and the other as background, but also the latter as figure and the former as background. The result of this visual uncertainty is a sense of change of one thing into another, or transformation. In Ohio Hopewell art, three forms of perceptual–mental ambiguity are found. One is true figure–ground reversal, which is rare. It is seen, for example, on the femur baton carving from the Hopewell site, Mound 25 (Moorehead 1922:126) (Figures 5.5A–D). The work depicts a costumed person whose drooping animal ears with spots in the positive view become a masked figure with upright ears in the negative. The second, more common form of perceptual–mental ambiguity that occurs in Ohio Hopewell art is complex, curvilinear designs, where multiple images are internested in the positive and can be seen only by tracing out and concentrating on one at a time. The femur baton design is also constructed with this trick (Moorehead 1922:126) (Figures 5.6A–C), as is a decorated human parietal rattle from the Turner site, Mound 3, Central Altar (Willoughby and Hooton 1922:58) (Figures 5.6D and E), for example. The third form of perceptual–mental ambiguity in Ohio Hopewellian art, also rare, is where the same thing is rendered in both positive and negative space on the same object. The positive pair and negative pair of raptor heads in mirror reflection within the copper cutout breastplate from Mound City, Mound 7, Central Grave, are an example (Mills 1922:535) (Figure 5.7). The relevance of transformative-style art, such as these three kinds, is that it is associated cross-culturally with animistic shamanism and trancing (Cordy-Colllins 1980; Roe 1995:68; see also Lewis-Williams and Dowson 1988; Reichel-Dolmatoff 1987). In its broad spread through Ohio Hopewellian elite art, it suggests the pervasiveness of shaman or shaman-like leaders in Ohio Hopewellian society.[18]
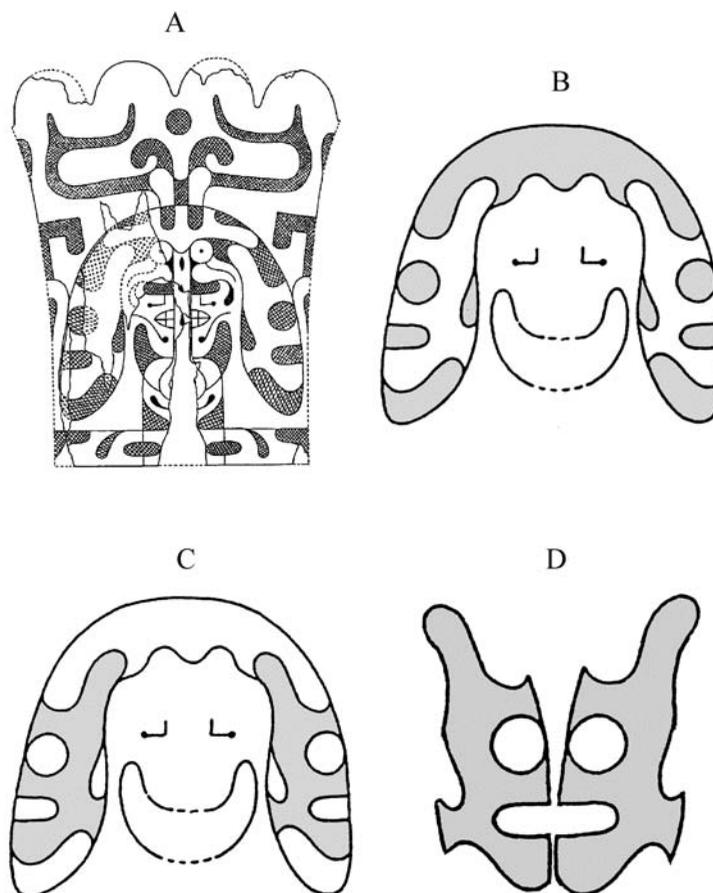
Figure 5.5. A femur baton carving from the Hopewell site, Mound 25, Burial 278 (Moorehead 1922:128). (A) The full carving. (B) Drooping, spotted animal ears depicted in the positive. (C, D) A masked figure with upright ears depicted in the negative.

Shaman-like Paraphernalia and Costumery. Table 5.4 lists most of the "fancy" kinds of artifacts that were buried in Ohio Hopewellian mounds and were likely used by leaders of a kind, rather than for utilitarian or decorative purposes by ordinary persons or to mark ordinary clan membership. The artifact classes are grouped by the social roles in which they were probably used, as determined by Carr (n.d.). Form, analogy to ethnohistoric artifact classes in the Eastern Woodlands and elsewhere, the opinions of contemporary Native American medicine persons and shamanic practitioners, archaeological context, and detailed analyses combining these lines of evidence were all used in making the probable role assignments.[19] Artifact classes

used in additional, prestigious personal and ordinary clan roles are listed by Carr et al. in Chapter 13 (Appendix 13.2).

The list of artifact classes in Table 5.4 clearly shows the working of shamanic or shaman-like practitioners in Ohio Hopewellian societies. Many of the common roles of the classic shaman (Table 5.1) are easily identified among the range of artifact classes—performing war or hunt divination and other divination tasks, healing, keeping cosmological knowledge, tending to corpses, and leading public ceremonies. In addition, trancing equipment or effigies referring to trance states, including rattlers, tinklers, mushroom effigies, musical instruments, and possibly copper nostril inserts suggestive of

A

B
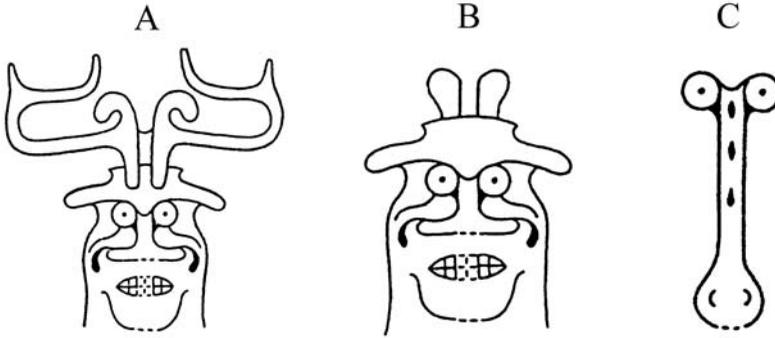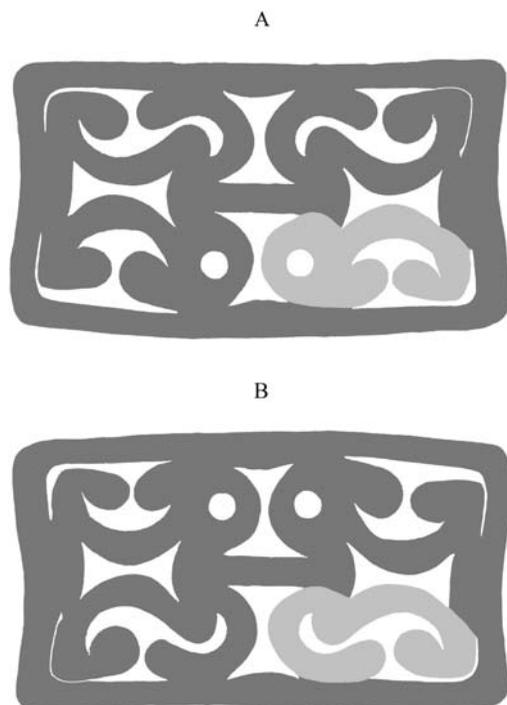
Figure 5.7. A copper cutout breastplate from Mound City, Mound 7, Central Grave (Mills 1922:357). (A) Raptor head in the positive. (B) Raptor head partially in the negative; plate has been flipped over.

breath, may indicate the taking of soul journeys. However, other forms of trance used by magicoreligious practitioners of other than the classic kind of shaman may also be indicated. Moreover, the list of artifact classes alone does not tell the degree to which the shaman-like roles in which the artifacts were used were centralized in one persona—the classic shaman—or segregated into more specialized shaman-like practitioners.

The pervasiveness of shamanic or shaman-like ideas and practices in Ohio Hopewellian societies is, however, evident in Table 5.4. A high number and proportion of those fancy artifact classes that we have identified as possibly or probably having been used by leaders of a kind at Ohio Hopewell sites, and that are listed in the

table, are shamanic or shaman-like in nature. This finding concords with the heavy thrust toward shamanism implied by the nature and sources of raw materials and the art styles used in Ohio Hopewell societies.

Large Ceremonial Deposits of Shamanic or Shaman-like Artifacts. A final form of evidence that points to the predominance of shamanic or shaman-like practitioners in the leadership of Ohio Hopewellian societies is the very large, ceremonial deposits of artifact classes useful in shamanic work that were buried in some Ohio Hopewellian sites. Nearly all such deposits were found at the sites of Hopewell and Mound City (Carr et al., Chapter 13, Table 13.2). This is significant because both of these sites have been argued, through multiple lines of evidence, to have been locations for the burial of a disproportionately high number of leaders compared to commoners (Carr, Chapter 7; Carr et al., Chapter 13). The locations of the deposits in these two particular sites thus link them to the social arena of leadership. Additionally, the large sample of leaders buried at these two sites presumably provides a good view of the spectrum of leaders in Ohio Hopewellian societies.

Tables 13.2 and 13.3 in Chapter 13, by Carr et al., list all the large ceremonial deposits found in Hopewell and Mound City. Large deposits of artifact classes used predominantly by shaman or shaman-like practitioners outnumber those with artifact classes that mainly marked other kinds of leaders or persons of import, on the order of 13 to 4. Also, the classes of deposited artifacts themselves used by shaman or shaman-like practitioners outnumber the classes that marked other kinds of leaders, approximately 11 to 4, depending on one's typology. Finally, the sheer numbers of shamanic or shaman-like equipment found in some of the deposits suggest the heavy influence of shaman and shaman-like practitioners in Ohio Hopewell

Figure 5.6. (A–C) The femur baton carving shown in Figure 5.5. Three nested images within the carving: a deer impersonator with a full rack of antlers, a deer impersonator with newly emerging antlers, and a spoonbill duck impersonator. (D, E) A carved, complex, curvilinear design on human parietal rattle, from the Turner site, Mound 3, Central Altar (Willoughby and Hooton 1922:58), combines a turtle in profile (D) with an imaginary creature looking straight ahead (E).

Table 5.4. Paraphernalia Probably Used in Shaman-like and Non-Shaman-like Leadership Roles and Found in Ohio Hopewell Burial Contexts

Shamanic paraphernalia

War[a] and/or hunt divination, or sending or pulling power intrusions
    Points made of quartz, other translucent gems, obsidian, cannel coal, aventurine ("goldstone")
    Effigy point forms of copper, mica

Other divination
    Quartz crystals, raw or worked
    Mica mirrors, sheets
    Cones and hemispheres, quartz or other stones
    Boatstones (with or without pebbles), quartz or other stones
    Disks, quartz
    Cups, quartz
    Pebbles, quartz, or brightly colored stones
    Marbles
    Copper balls
    Fossils and concretions
    Plummets
    Owl or owl-eye effigies, including pipes, boatstones

Philosopher
    Geometrics of copper, mica, tortoise shell, bone, in forms symbolic of the cosmos and directions—rings, annuli, circles,
        pinwheel designs, star shapes, four-armed shapes, swastika, grid or bosses on a circle, flying human

Healer
    Small, triangular wands of dark or light color with snake crosshatching on the shaft, topped with a pearl
    Possibly small points made of quartz, other translucent gems, obsidian, cannel coal, micaceous schist ("goldstone"),
        copper, and mica

Body processor and/or psychopomp
    Awls of bone (not antler)

Public ceremonial leader
    Headplates with animal parts—antler stubs, antler rack, feline paw cutout, feather form, deer ears, or hummingbird wings
    Copper effigy antlers without preserved headplate
    Barracuda jaw scratchers
    Shark teeth possible scratchers
    Ocean shell containers, with or without shell spoons
    Large batons of human or bear femur, antler, horn, or copper rods
    Large baton in shape of a hallucinogenic mushroom (*Amanita muscaria*)
    Big, community (Copena) smoking pipes

Manufacture with "transformative" materials (see Table 5.3)
    Raw copper, mica, galena, meteoric iron, silver, gold, pyrite, graphite, cannel coal, obsidian, micaceous schist, hematite,
        red ocher, malachite, tortoise shell, pearl
    Flake knives and blades of translucent stones (quartz chalcedony) for working materials

Items used in trancing and ceremony, including musical instruments and painting equipment
    Rattles and tinklers of tortoise shell and copper
    Small mushroom effigy
    Effigies of a flying human & pipe and copper geometric
    Copper nostrils (suggesting breath)
    Fan effigies (suggesting smudging)
    Dish of mica schist
    Cup and pestle
    Pallet and tablets of stone and tortoise shell
    Spoon with paint
    Spatula of tortoise shell
    Panpipes

(Continued)

Table 5.4. (*continued*)

Flutes
Whistle made of a human radius
Tubes of unknown function (music or sucking)
[Smoking pipes are excluded because they appear to have belonged to a wide range of persons rather than primarily to shaman-like practitioners; see Thomas et al., Chapter 8]

Possible shamanic equipment used for unknown tasks

Tortoise shell pendants, scrolls
Alligator teeth, real; some drilled, some copper effigy
Frog effigy copper cutout
Animal and human effigies of copper and mica—hand, raptor claws, birds, bear
Tortoise shell swan
Human bone carved with animals, creatures, designs
Animal bone carved with designs
Effigy composite creatures and supernaturals

Paraphernalia not clearly shamanic

War[a] leadership
Trophy skulls and jaws and effigy fingers, ears, and hands of cannel coal, leather, copper, and mica
Weapons—a mace, effigy atlatls of copper, mica

Positions of leadership or high prestige marked by symbols
Headplates without animal parts
Celts, adzes, and axes of copper, meteoric iron, and cannel coal
Reel-shaped gorgets of copper, shell, calcite
Crescents of mica, copper
Teardrop and other forms of pendants and gorgets of copper and mica
Teaspoon-shaped pendants of shell, cannel coal, and calcite
Geometrics of copper, mica, and shell having forms other than of the cosmos or directions—pear-shaped eyes, G-clefs, keyholes, strips, and flowers

Prestigious clan roles marked largely by metal/mica effigy power parts (see Thomas et al., Chapter 8)
Effigy power parts (jaws, teeth, claws, talons) of raptors, deer, fox, bear, feline, canine, raccoon, elk, beaver, and opossum, made of copper or mica

Sodality membership and/or achievement rather than leadership (see Carr, Chapter 7)
Breastplates of copper, copper and silver, and iron
Earspools of copper, copper and silver, and meteoric iron

[a]Whether projectile points and weapons made of fancy materials and supposed trophy jaws, skulls, and effigy human parts indicate warfare is unclear. The forms, themselves, of these artifacts suggest the possibility of persons marked for their leadership or achievement in warfare. However, two facts suggest otherwise. First, the fancy points and weapons, as potential implements of warfare, do not associate in burials or ceremonial deposits with the takings of war—supposed trophy human parts (Table 5.5, below). Second, osteological and forensic study of supposed trophy jaws and skulls (Johnston 2002:105–113) indicates that few, if any, were trophies of war, and instead, indicate the revering of ancestors and probably other cultural practices. The alternative possible functions listed for fancy projectile points and weapons–hunt divination, sending of power intrusions and spiritual-level fighting among individual shaman-like practitioners, or the removing of power intrusions–seem more likely at this time.

society. These numbers, by individual deposit, include, approximately, several hundred obsidian bifaces, more than a bushel of quartz bifaces, 50–100 limpid quartz bifaces, hundreds of mica mirrors, 3,000 mica sheets/mirrors, a 20-foot crescent of mica sheets/mirrors, a 7 × 6.5-foot-area of mica sheets/mirrors, about 200 mica geometric cutouts, 109+ copper geometric cutouts, 80 cones and hemispheres of chlorite and pyrite, 30 to 40 chlorite disks, 30 pounds of galena in 2-ounce to 3-pound pieces, 25 pounds of galena crystals, 12 galena cubes of 12 to 15 pounds each, 300 pounds of obsidian debitage, 8,000 ovate point preforms of Indiana hornstone, and dozens of quartz crystals. The synchronous burial of the many specimens in any one of these ceremonial deposits implies a large number of shaman or shaman-like practioners, almost certainly from multiple communities (Carr et al., Chapter 13).

In sum, a great variety of evidence indicates the pervasiveness of shaman and/or shaman-like leadership in Ohio Hopewell societies. The transformative nature and distant sources of the raw materials found in Ohio Hopewellian cemeteries, the metaphorical relationship of these materials to seeing, the perceptual–mental ambiguity of Ohio Hopewellian art, and the wide range and commonness of shamanic and shaman-like artifact classes among the "fancy," public, elite kinds of artifacts and raw materials interred in Ohio Hopewell mounds each point to the commonness and significance of shamanism and/or shaman-like practices and ideas in Ohio Hopewellian life.[20]

But Not All Ohio Hopewell Leaders Had Shamanic or Shaman-like Features

The evidence reviewed thus far for shaman and shaman-like practitioners in Ohio Hopewell societies would lead one to conclude the relevance of simply the socioreligious theory of leadership development to them. However, the situation is more complex. Several images of persons of import who have no obvious attributes of a shamanic or shaman-like practitioner, as well as some elite and public artifact classes without shamanic or shaman-like ties, indicate additional religious and/or secular forms of leadership in Ohio Hopewell societies.

Artistic Images of Leaders without Shamanic or Shaman-like Attributes. Among the depictions of leaders that Ohio Hopewell artists produced are two or three that lack characteristics of shaman or shaman-like practitioners (Table 5.2). Two human heads, one

depicted on an effigy pipe fragment from the Edwin Harness mound (Greber 1983:33) and the second carved on the end of an ivory or shell baton from Hopewell Mound 25 (Moorehead 1922:169), show individuals with curvilinear face decorations—either tattooing, scarification, or face painting (Figures 5.8A and B). The individual from the Hopewell site wears a headdress without animal parts. The broken top of the head of the individual from Edwin Harness makes it impossible to say what kind of headgear he or she may or may not have worn. A complementary terra cotta figurine from the Mann site, Indiana (Carr and Case, Chapter 1, Figure 1.4c; Keller and Carr, Chapter 11, Appendix, Figure 11.1B), has linear, horizontal decorations on his cheeks and forehead and wears no headgear. Interpreting the precise social role(s) of these depicted persons is not possible. However, it is probably relevant that in the Southeast United States at the time of contact, tattooing was a common means, especially among men, for displaying leadership positions of several kinds, earned titles, and exploits of war (Hudson 1976:30, 230, 328–333, 380). Shamanic and shaman-like practitioners are not mentioned as the bearers of tattoos.

A final artwork that perhaps depicts other than a shamanic or shaman-like Ohio Hopewellian elite person is a copper cutout of a human face, possibly with a very tall and forward-flowing headdress (Figure 5.8c; A. Trevelyan, personal communication), which was found at the Hopewell site. Unfortunately, the reconstruction of the pieces into which the cutout had been broken, and whether a headdress is really represented, are unclear.[21]

→

Figure 5.8. (A) A human head with curvilinear facial decoration, depicted on a pipe fragment, from the Edwin Harness mound (Greber 1983:33). Photo by permission of the Peabody Museum of Archaeology and Ethnology, object catalog no. 84-6-10/35002. (B) A human head with curvilinear facial decoration, carved on the end of an ivory or shell baton, from the Hopewell site, Mound 25 (Moorehead 1922:169). (C) A copper cutout of a human head, possibly with a tall, flowing headdress, approximately as reconstructed by Amelia Trevelyan (personal communication, 1995). Shetrone (1926:214) reconstructed the pieces as a human head on an insect body, which would make the piece an example of shamanic transformation and soul flight. Photographed object by permission of the Ohio Historical Society, Columbus, OH. (D) A human face in profile wearing a forward-flowing headdress, carved in the Meigs Adena tablet (Webb and Baby 1975:86). (E) A human face wearing a mask without animal parts, carved in the Meigs Adena tablet (Webb and Baby 1975:86).

A

B
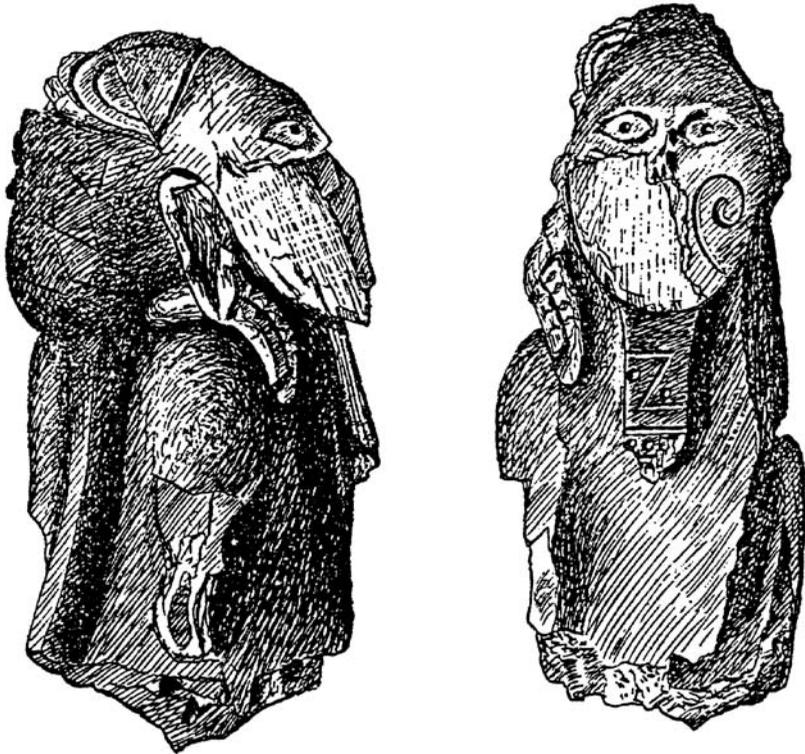
Figure 5.8. (*continued*)

These Ohio and Mann phase Hopewellian images of important persons lacking shamanic and shaman-like features were preceded by two complementary images carved on the Meigs Adena Tablet. One human face in profile wears a headdress that flows forward (Figure 5.8D), analogous to Trevelyan's reconstruction of the copper cutout, just described. The second human face wears a mask without animal parts (Figure 5.8E).[22]

Paraphernalia Lacking Shamanic or Shaman-like Attributes. Important positions in Ohio Hopewell society that were not shamanic or shaman-like in nature are indicated by a variety of fancy, elite, public artifact classes without shamanic features (Table 5.4). Achievement or leadership in war was possibly marked by some trophy skulls (Johnston 2002; Seeman 1988), effigy human trophy bodyparts, a large stone mace, and effigy atlatls.[23] Community-wide leadership without shamanic or shaman-like overtones would have been symbolized naturally by headplates lacking animal parts. The low frequency and almost completely adult male distribution of these items also support this role identification (see Carr, Chapter 7). Clan leadership or prestige may have been marked by copper and mica effigy power parts of clan totems, which are relatively rare, in distinction from ordinary power parts, which are fairly frequent (Thomas et al., Chapter 8). Other leadership roles were probably symbolized by several other infrequent, fancy artifacts, including reel-shaped gorgets, crescents, teardrop and teaspoon-shaped pendants, and geometrics without cosmological referents.

In total, the above-listed roles include at least one that was fundamentally material–secular in its activities and power base—war achievement or leadership. However, later we show that this role commonly was bundled with others that were shaman-like or religious within the same social persons. The other roles listed above may also have been primarily material–secular in nature, but more likely involved a mixture of secular and religious duties, and were founded on a mixture of secular and religious sources of power. A religious vein in these other

roles is suggested by the materials from which their insignia were made. Headplates, some effigy animal power parts, crescents, pendants, noncosmological geometrics, and reel-shaped gorgets were made of copper, mica, and/or calcite. These materials all have intrinsic transformative properties and were obtained from afar, implying a religious worldview inspired by shamanism and the religious practices of making quests or pilgrimages, although not necessarily classic shamanic or shaman-like ideas and quests, themselves. Here, recall from the beginning of this chapter that the religious knowledge, beliefs, and practices of a community having a shaman usually are not synonymous with the shaman's knowledge, beliefs, and practices.

Three other well-known Ohio Hopewellian artifact classes are less clearly or certainly not markers of shamanic or shaman-like leadership. Copper celts were usually buried with few enough persons per large ceremonial center (3%–5%) that they could have represented a community-wide leadership position (Carr, Chapter 7; Case and Carr n.d.).[24] However, their form has been related to several possible shamanic meanings (see Bernardini and Carr, Chapter 17). Metallic breastplates and earspools were too widespread among persons to have indicated leadership positions. Their age and sex distributions and other characteristics suggest the marking of sodality membership and/or achievement instead (cf. Carr, Chapter 7). All three of these artifact classes, having been manufactured from copper, have religious overtones.

Large Ceremonial Deposits of Non-Shaman-like, Fancy Artifacts. Compared to shamanic or shaman-like artifact classes, those that do not clearly reference such behavior but imply leadership or social importance occur in many fewer, large ceremonial deposits (4 versus 13). Also, of the artifact classes that occur in large ceremonial deposits and that potentially mark leaders or persons of import, many fewer are non-shaman-like than shamanic or shaman-like (4 versus 11). Finally, the numbers of markers of non-shaman-like social positions of leadership or importance found in most large deposits are meager compared to the numbers of

shamanic or shaman-like artifact classes (Carr et al., Chapter 13, Tables 13.2 and 13.3). The numbers of such non-shaman-like artifacts of a class found in individual ceremonial deposits include 25 calcite reel-shaped gorgets, 17 copper pendants, 8 mica crescents, and, perhaps to be included as non-shaman-like, 66 copper celts (see statistics above for shaman-like artifact classes).

This picture of ceremonial decommissioning and depositing of markers of important social positions and activities, like the evidence from art works and leadership paraphernalia, indicates the clear presence of other than shamanic and shaman-like leaders in Ohio Hopewellian societies, but their more minor frequency than shamanic or shaman-like practitioners. All of the deposited artifact classes have a religious quality, however, referenced by their copper, mica, or calcite materials.

The Question of Priests. Winkelman (1989, 1990:344–347; 1992:69–74) found good evidence crossculturally that the role of the priest arose from that of the classic shaman early on, as societies increased in size and complexity. By a priest, Winkelman means a magico-religous specialist who is a centralized political, legislative, judicial, military, and/or economic authority, serves an entire community primarily through public ritual rather than individual clients in private, and does so without using altered states of consciousness. A priest's power comes from his or her communion with spirits and deities rather than the spiritual essences of animals of nature. Priestly practices are typically well institutionalized and standardized compared to those of shaman because priestly training and practice is normally through formally organized groups of them rather than individually based.

It is possible that some of the above-mentioned artistic images and paraphernalia of elite lacking indications of altered states of consciousness or animal transformation represent priests in Winkelman's terms. However, two crosscultural characteristics of priests that contrast with pervasive characteristics of the Ohio Hopewellian archaeological record would suggest otherwise. First, where priests occur in the same society as shaman-like practitioners—specifically shaman-healers in Winkelman's terms—the social prestige and social power of the latter are depreciated (Winkelman 1990:334, 338; 1992:56). In contrast, in Ohio Hopewell societies, specialized shaman-like practitioners commonly had ceremonial paraphernalia that were materially flamboyant and difficult to obtain and that attest to their social power. Second, across cultures, priests are almost exclusively the kinds of magicoreligious practitioners who lead ancestor worship rites (Winkelman 1992:70; see also Service 1962:162). Contrary, Ohio Hopewell charnel houses and mound construction show little evidence for ancestor worship in the form of transgenerational, frequently repeated tomb visitation or mound capping (Carr, Chapter 12; Greber 1979a:41; 1979b:28, 32; 1983:89–90; 1997:215: Konigsberg 1985:131). Thus, doubt is cast on the interpretation that classic priests are represented in the Ohio Hopewellian material record by artistically rendered elite and by paraphernalia that lack shaman-like attributes. The endpoint of Winkelman's developmental model, where a strong, public priest or chief-priest and a suite of individual, client-oriented religious practitioners of diminished power have formalized and segregated, seems not to have been reached in Ohio Hopewellian societies. At the same time, detailed, diachronic analysis of patterns of bundling and segregation of Ohio Hopewell leadership roles to be presented below (see Results: Changes in Role Organization over Time) does suggest that, by the end of the Middle Woodland period, practitioners who resembled incipient priests or priest-chiefs in apparently not having employed animal powers, and in having served as public ceremonial leaders for multiple local communities, had formally segregated in their roles from shamanic and shaman-like practitioners.

THE NATURE AND ORGANIZATION OF OHIO HOPEWELL LEADERSHIP AND ITS CHANGE THROUGH TIME

The review of elite Ohio Hopewell material culture presented above has revealed a variety

of kinds of social leaders, including shaman, shaman-like practitioners, secular leaders, and important personae of likely mixed sacred and secular character. Many specific kinds of leadership roles have also been uncovered in the material record (Table 5.4). This section proceeds to explore these and other details of Ohio Hopewell leadership: whether sacred or secular leadership roles predominated, whether leadership roles were centralized in one or a few persons or dispersed more widely among persons, whether sacred or secular roles were combined or segregated, changes in the degree of role segregation over time, the extent to which roles and their bundling were institutionalized, and whether any leadership roles were supralocal (i.e., multicommunity) in their domains of power. These topics collectively address the relevance of Winkelman's (1989, 1990, 1992) model of development of magicoreligious practitioners to the Ohio Hopewell case and, more broadly, the applicability of the material–secular and/or socioreligious theories of leadership development. We will examine these topics first with qualitative data on large-scale patterns in the Adena and Hopewellian material records, and then with a detailed, quantitative analysis.

A Qualitative, Diachronic View of Adena-Hopewell Leadership Development

Winkelman (1989, 1990, 1992) proposed in essence that the multiple, magicoreligious, community leadership–service roles of the classic shaman became segregated over time among different personnel as the size and overall complexity of societies increased from hunter–gatherers through simple horticulturalists. This differentiation and specialization process eventually led to the development of publicly oriented, religious–political leaders who serve multiple communities as priest–chiefs, i.e., the development of supralocal leadership, in contrast to individual client-oriented religious practitioners responsible for local healing, divination, and other specialized spiritual tasks. The model dovetails with Netting's (1972) and Peebles and Kus's (1977) more general socioreligious theory of the ori-

gins of supralocal leadership, which posits that philosophical–religious beliefs can be used by a local leader to gain acceptance by and power over social groups beyond those in which he or she has membership (see Anthropological Theories on the Nature and Development of Leadership, above).

Two strong patterns in the Adena and Hopewell material records indicate the applicability of Winkelman's model of role segregation to the Woodland Period Ohio sequence. First, very telling is the increasing variety of distinct shaman-like practitioners that developed over time, from Ohio-area Glacial Kame and Adena societies of the terminal Archaic and Early Woodland periods through Hopewellian societies of the Middle Woodland period. Known kinds of Glacial Kame and Adena animal impersonators are limited to raptorial and nonraptorial birds, canines, and felines (Table 5.2) (Converse 1979; Webb and Baby 1957). In contrast, documented Ohio Hopewellian animal impersonators spanned these species and more—additionally, bear, deer, elk, and composite creatures (Table 5.2; see also Carr 2000c). This diversification through time in the symbolized identities of shaman-like practitioners is what Winkelman's theory would predict, although we do not know specifically what roles the various animal impersonators played or did not play, and how roles were partitioned among them.

The second strong piece of evidence that supports the applicability of Winkelman's model to the Ohio Hopewell case is the large-scale decommissioning of different artifact classes, which were used in different shamanic, shaman-like, or non-shaman-like roles, separate from one another. This pattern is indicated by the contrasting artifact contents of burials and ceremonial caches having many items, and is documented in detail in Chapter 13 by Carr et al. (especially Tables 13.2 and 13.3). Specifically, one finds that the following shamanic, shaman-like, and other religious-to-secular artifact classes were deposited largely or fully separately from each other in different ceremonial deposits and burials: obsidian bifaces, quartz bifaces, mica mirrors, cones and hemispheres, chlorite disks, copper cutouts, mica cutouts, community (Copena)

pipes, galena cubes, quartz crystals, Indiana hornstone disks, obsidian debitage from biface manufacture, copper celts, stone celts, calcite reel-shaped gorgets, mica crescents, and certain copper pendants.

Homogeneous deposits of these segregated artifact classes indicate a social recognition of the distinctness of the roles in which these artifact classes were used and, probably by extension, the separation of these roles among different, socially recognized, institutionalized kinds of leaders and persons of importance. In Chapter 13, the material evidence is interpreted further as indicating ceremonial gatherings of different purposes, social compositions, and participants who gave gifts or decommissioned items for interment.

The support found here for the applicability of Winkelman's model of magicoreligious role segregation to the terminal Archaic through Middle Woodland periods in the Ohio area, in conjunction with the pervasiveness of shamanic or shaman-like elements found in Ohio Hopewellian leadership generally, has a clear implication. They suggest that if institutionalized, supralocal leadership positions were developing in Ohio Hopewell societies, the origins of those positions were primarily shamanic and their bases for power were primarily in the sociosreligious realm, following Winkelman's and, more broadly, Netting's and Peebles and Kus's ideas. In addition, the qualitative archaeological evidence explored thus far suggests that the process of leadership development in Ohio Hopewell societies was yet incipient. Many kinds of leaders with materially spectacular paraphernalia and displays filled Ohio Hopewell ceremonial life, rather than one or a few centralized leaders. This stage of development can be documented in finer grain through quantitative analysis of the degrees and patterns of association among artifact classes that marked various leadership roles. To this study we now turn.

A Quantitative Study of the Nature and Organization of Ohio Hopewellian Leadership and Its Development

In order to model how specifically leadership roles were organized in Ohio Hopewellian so-

cieties, a quantitative study was made of the patterns of association and dissociation among 55 artifact classes that marked leadership and other important roles. The units studied for their artifact associations were 767 burials from 60 mounds in 15 large and small Hopewell cemetery–ceremonial centers across Ohio (Figure 5.9; see also Table 5.5, footnote *a*). The data were taken from Case and Carr's (n.d.) computer inventory of burials across Ohio, excluding sites that had only one or no burials with 1 or none of the 55 artifact classes. The analytical approach taken was similar to that of intrasite spatial analysis, where one of the goals is to define "activity sets" and other "depositional sets"—tool and debris classes that typically were deposited together and that represent the remains of past activities or other formation processes (Carr 1984). In our application, the goal was to find kinds of artifact role markers that repeatedly occurred together in burials, indicating a given role or bundle of roles, and those artifact role markers that seldom or never occurred together, indicating role segregation. The patterns found were then used to address whether leadership roles and role bundles in Ohio Hopewell societies were predominately sacred or secular, centralized in one or a few persons or dispersed more widely among persons, whether sacred or secular roles were combined or segregated, the extent to which roles and their bundling were institutionalized, and changes in the degree of role segregation over time.

Two kinds of analyses were performed. The first provided a view of the most fundamental patterns of leadership role organization in Ohio Hopewellian societies by considering all 767 burials from all 15 cemetery–ceremonial centers at once. The large sample helped to ensure statistically significant and stable results. The second analysis focused on leadership role patterning within each of four cemeteries that form a temporal sequence, so that changes in role segregation and centralization could be tracked over time. The four sites are Mound City, Hopewell Mound 25, Seip-Pricer Mound, and Ater Mound. (These same sites are also used in Chapter 13 to explore variations in the size and social composition of mortuary gatherings over time.)
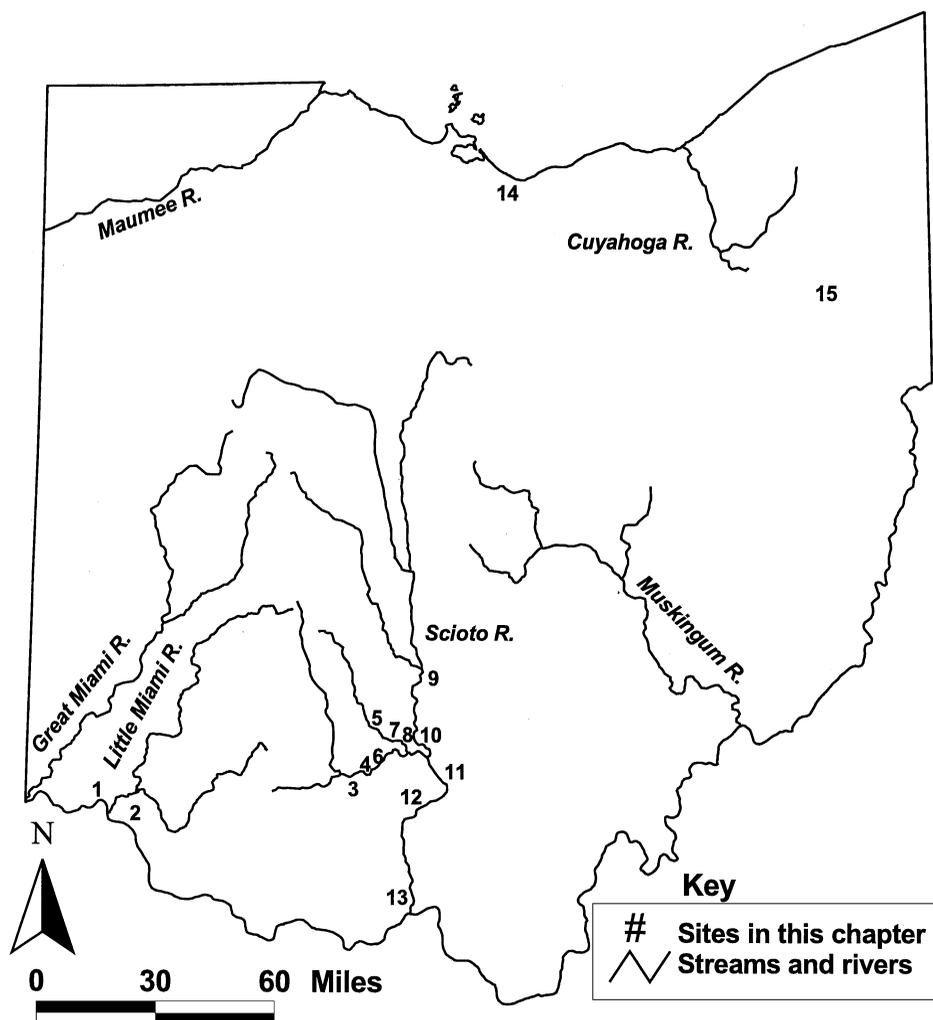
Figure 5.9. Fifteen archaeological sites having burials used in this study: (1) West Mound, (2) Turner, (3) Rockhold, (4) Seip, (5) Ater, (6) Bourneville, (7) Hopewell, (8) Mound City, (9) Circleville, (10) Shilder, (11) Liberty, (12) McKenzie, (13) Tremper, (14) Esch, and (15) North Benton.

Methods

Sets of associated and dissociated artifact classes that marked leadership or other important roles were defined using quantitative grouping procedures that formed sets with socially reasonable, role-organizational properties. These properties include sets that overlapped in the artifact classes (i.e., roles) they contained, sets that were poly-thetic in organization (see Carr 1984) and occasionally somewhat stringy when the data were structured in this manner, and sets with only one artifact class (i.e., role). The Jaccard similarity coefficient, ordinal-scale multidimensional scal-

ing based on this coefficient, and subsequent re-finement of sets by hand sorting the coefficients in order to permit the above properties were used. These methods were employed for both the one, pan-Ohio analysis and the four, site-specific analyses. Details of the analytical procedures are noted below.[25]

Results: The Pan-Ohio Study

Thirteen roles of leadership or importance, or bundles of such roles, were revealed by the meth-ods described above, using data from all 15 sites. Each role or role bundle is marked by a set of

Table 5.5. Global Organization of Roles at 15 Ohio Hopewell Ceremonial Centers[a]

Abbreviation for artifact class[b]	Artifact class
Role 1: Shaman-like public ceremonial leadership (median Jaccard = .181; median pairwise co-occurrence = 1 in 2–3 burials)	
Headsham	Headplate, copper with shaman-like-animal referents
Copcutsham	Cutout, copper with shaman-like-cosmos symbolism (shared)
Cutother	Cutout, copper and mica with unknown symbolism
Baton	Baton of bone, antler, or copper (shared)
Ironraw	Iron, raw (shared)
Silverraw	Silver, raw (shared)
Copraw	Copper, raw (shared)
Role Bundle 2: Non-shaman-like (?) and shaman-like public ceremonial leadership (median Jaccard = .182; median pairwise co-occurrence = 1 in 2–3 burials)	
Headlead	Headplate, copper, without shaman-like-animal referents
Baton	Baton of bone, antler, or copper (shared)
Celtstone	Celt, stone
Copcutsham	Cutout, copper with shaman-like-cosmos symbolism (shared)
Ironraw	Iron, raw (shared)
Silverraw	Silver, raw (shared)
Copraw	Copper, raw (shared)
Role 3: Public ceremonial leadership (median Jaccard = 0.95; median pairwise co-occurrence = 1 in 4–5 burials)	
Conch	Conch shell (shared)
Spoon	Spoon, shell
Role Bundle 4: Sodality achievement and non-shaman-like leadership recruitment (median Jaccard = .102; median pairwise co-occurrence = 1 in 4–5 burials)	
Breastpl	Breastplate, copper (shared)
Earspother	Earspool, copper, placed elsewhere than in hand (shared?)
Celtmetal	Celt of copper or iron
Conch	Conch shell (shared)
Role Bundle 5: Sodality and war (?) achievement (median Jaccard = .078; median pairwise co-occurrence = 1 in 6 burials)	
Breastpl	Breastplate, copper (shared)
Earsphand	Earspool, copper, placed in the hands (shared?)
Trophyjwsk	Trophy jaw or skull, human
Gemprism	Prismatic blade, gem (shared)
Role Bundle 6: War or hunt divination or sending or pulling power intrusions, other divination, and non-shaman-like(?) public ceremonial leadership (median Jaccard = .170; median pair-wise co-occurrence = 1 in 2–3 burials)	
Obsidbiface	Biface, obsidian
Qzgembiface	Biface, quartz or gem
Galena	Galena, raw
Micasheet	Mica sheet
Sharktooth	Shark tooth
Headlead	Headplate, copper, without shaman-like animal referents
Copraw	Copper, raw (shared)
Pyriteraw	Pyrite, raw (from analysis of caches)
Owleffigy	Owl effigy (from analysis of caches) (shared)
Marble	Marble (from analysis of caches) (shared)

(*Continued*)

Table 5.5. (*continued*)

Abbreviation for artifact class[b]	Artifact class
Role 7: Divination	
(median Jaccard = .091; median pair-wise co-occurrence = 1 in 5 burials)	
Boatstone	Boatstones, any material
Conehemi	Cones and hemispheres, any material
Barracuda	Barracuda jaw
Crescent	Crescent, copper (shared)
Nosecopper	Nose insert, copper
Tortshorn	Ornament, tortoise shell
Button	Buttons, copper
Qzcup	Cup, quartz (from analysis of caches)
Owleffigy	Owl effigy (from analysis of caches) (shared)
Marble	Marble (from analysis of caches) (shared)
Role 8: Body processor and possibly psychopomp	
(median Jaccard = .113; median pair-wise co-occurrence = 1 in 4 burials)	
Awl	Awl
Pipesmall	Pipe, small
Role 9: Healing, sucking energies, and possibly sending energies	
(median Jaccard = .200; median pair-wise co-occurrence = 1 in 2 burials)	
Tubefuncunkn	Tube, function unknown
Alligtooth	Alligator tooth
Role 10: Healing and sending and/or removing power intrusions	
(median Jaccard = .060; median pairwise co-occurrence = 1 in 7–8 burials)	
Fancypoint	Fancy points, copper, mica, or schist
Panpipe	Panpipe
Crescent	Crescent (shared)
Tortraw	Tortoise shell, raw
Plummet	Plummet (from analysis of caches)
Role Bundle 11: Shaman-like leadership: Philosophy, divination, and war achievement(?)	
(median Jaccard = .100; median pairwise co-occurrence = 1 in 4–5 burials)	
Copcutsham	Cutout, copper with shaman-like-cosmos symbolism (shared)
Micacutsham	Cutout, mica with shaman-like-cosmos symbolism
Conehemi	Cones and hemispheres, any materials (shared)
Trophy	Trophy body parts, effigy human finger or hand, of mica, copper, or stone
Role 12: Unknown kind	
(median Jaccard = .125; median pairwise co-occurrence = 1 in 3–4 burials)	
Painttab	Painting equipment (cup, pestle, ocher, grinder) and/or tablet of stone
Fancypot	Pottery, fancy surface treatment and decoration
Role 13: Divination(?)	
(median Jaccard = .167; median pairwise co-occurrence = 1 in 2–3 burials)	
Copball	Balls, copper.
Gemprism	Prismatic blade, gem (shared)
Roles 14–21: Independently distributed artifact classes	
Reelgorget	Reel-shaped gorgets
Flute	Flute.

(*Continued*)

Table 5.5. (*continued*)

Abbreviation for artifact class[b]	Artifact class
Qzcolpebbles	Pebbles, quartz and colored
Fossconcret	Fossils and concretions
Othertranslpt	Points, translucent but not quartz or gem
Obsidprism	Prismatic blade, obsidian
Obsidraw	Obsidian, raw
Fan	Fan of feathers, effigy of copper or stone

[a] The 15 ceremonial centers and 60 of their mounds upon which the analysis is based are as follows: Ater; Bourneville; Circleville; Esch Mounds 1 and 2; Hopewell Mounds 2, 3, 4, 7, 8, 11, 16, 18, 19, 20, 23, 24, 25, 26, 27, 29, 30; Liberty's Edwin Harness mound and Russell Brown Mounds 1, 2, and 3; McKenzie Mounds A, B, and C; Mound City Mounds 1, 2, 3, 7, 8, 9, 10, 12, 13, 15, 18, 20, 23, 24; North Benton; Rockhold Mounds 1, 2, 3,; Seip–Pricer; Shilder; Tremper; Turner Mounds 1, 2, 3, 11, 12, Enclosure, Turner–Marriot; and West.
[b] Items in this column are the abbreviated names of the artifact classes listed here. The abbreviations are used in Table 5.7.

artifact classes that were associated with each other in burials and were segregated from artifact classes in other sets. In addition, eight roles each marked by one artifact class that was fully independent of any others were found (Table 5.5). The artifact classes that co-occur and form sets often pertain functionally to one arena of social leadership, such as divination or healing, giving credibility to the derived role sets—they make cultural sense.[26] From Table 5.5, as well as from the Jaccard coefficients calculated between artifact classes and more detailed studies of the burials themselves, five questions about the organization of leadership roles in Ohio Hopewell societies are addressed. The answers to the questions determine the relevance of Winkelman's, Netting's, and Peeble and Kus's theories of leadership development to Ohio Hopewell societies.

(1) Were Individual Leadership Roles and Role Bundles in Ohio Hopewell Societies Predominantly Sacred or Secular in Nature? The fancy artifact classes that indicate roles of leadership or importance and that are found in burials in the 15 cemetery–ceremonial sites examined (Table 5.4) are clearly weighted in number toward sacred over secular social positions. Of the 62 artifact classes listed, 42 are assessed to definitely have been shamanic or shaman-like paraphernalia. An additional 8 classes may have had shamanic or shaman-like functions, and only 12 do not have ethnographic, shamanic or shaman-like analogs. Of these 12 artifact classes, it is unknown how many were nevertheless sacred

in nature and how many were fundamentally secular.

These quantitative data suggest the prevalence of shamanic and/or shaman-like practitioners in Ohio Hopewell societies and the predominance of sacred bases to power and leadership, in line with social–religious theories of supralocal leadership development. However, the statistics could be misleading, because they count artifact classes rather than social roles, and social roles may vary widely in the number of artifact classes they involve, giving more weight to some roles of a sacred or secular kind than to others. This potential source of bias is overcome in Table 5.5, where artifact classes have been grouped into roles of leadership or importance and counts of roles of different kinds can be made.

The 21 roles and role bundles in Table 5.5 can be divided into three general kinds, according to the artifact classes that define them. Shaman-like roles indicated by their paraphernalia and symbols can be distinguished as a unit from other sacred roles indicated by artifact classes that are not obviously shaman-like in nature and that may have referenced the religious beliefs and lives of a community, following Eliade's (1972:7–8, 12–13) distinction between shaman-specific and community-wide religious practices. Further, these shaman-like and sacred roles can be separated from secular ones, which are indicated by artifact classes that have no apparent religious overtones in their functions or in the materials from which they are made. Using this

tripartite classification, the 21 roles in Table 5.5 break down more specifically into 11 that are fully or largely shaman-like, 2 that are fully or largely of another sacred nature, 4 that are either shaman-like or otherwise sacred, 1 that is equally both, and only 3 that are secular combined with shaman-like or other sacred roles.[27] Thus, on a role basis as well as an artifact class basis, it strongly appears that positions of leadership and importance in Ohio Hopewell societies were primarily shaman-like, or more generally sacred, in their foundations, largely following social–religious theories of the rise of leadership positions.

(2) Were Leadership Roles in Ohio Hopewell Societies Centralized, Falling Together in the Hands of One or a Few Persons, or Segregated from Each Other and Filled by Many Different Persons?   Artifact classes marking roles of leadership or other importance divide into 21 different, dissociated sets of single or multiple classes, rather than one or a few sets (Table 5.5). This pattern clearly shows that the roles of leadership and importance were largely segregated, having been filled by many different persons. Roles concerned with leading public ceremonies, war or hunt divination, other divination, body processing, healing, war achievement, sodality achievement, and a number of unknown kinds of roles marked by fancy artifact classes of uncertain function were largely distinguished from each other in Ohio Hopewell social–ceremonial life. Because the segregated roles include a large number of shaman-like ones, the segregated pattern suggests the applicability of Winkelman's model of development of magicoreligious practitioners to Ohio Hopewell societies.

At the same time, some roles that are discernible by the nature of the artifacts used in them nonetheless were found to associate. These instances of role bundling include Role Bundles 2, 4, 5, 6, and 11 (Table 5.5). The role bundles join shaman-like public ceremonial leadership with possibly non-shaman-like public ceremonial leadership; sodality achievement with a non-shaman-like form of leadership and with possible war achievement; and generalized divination, war or hunt divination, non-shaman-like public

leadership, and/or the shaman-like philosopher in various combinations. These associations can best be characterized as minor arenas of fluid organization and combination of some important roles within a broader milieu of role segregation.

The highly segregated nature of roles of leadership and importance in Ohio Hopewell societies is also indicated by the low percentage of burials that contained artifact classes marking several distinguishable roles compared to the percentage that contained artifact classes indicating only one or two roles. Of 272 Ohio Hopewell individuals that had at least some artifacts marking leadership or importance, and for which the artifacts were clearly associated with one individual rather than shared ambiguously among jointly buried individuals, 64% had only one role as defined in Table 5.5, and 91% had only one or two roles. No individual had more than four roles (Appendix 5.1) .

(3) Were Leadership Roles with Shaman-like, Other Sacred, and Secular Bases of Power Combined Together or Segregated from Each Other in Ohio Hopewell Societies?   Although the roles of leadership and importance in Ohio Hopewell societies were strongly segregated (see Question 2, above), shaman-like and other sacred roles were not separated systematically from the secular ones known. Artifact classes having a secular character, such as war trophies, occur together with shamanic/shaman-like artifact classes and other sacred antifact classes, such as copper and mica cosmological cutouts, cones and hemispheres for divining, and gem prismatic blades, in Role Bundles 5 and 11. In Role 2, headplates lacking shamanic/shaman-like animal referents and stone celts, at least the latter of which was secular in nature, are found together with shamanic/shaman-like and sacred copper cosmological cutouts and raw shiny metals. In Role Bundle 6, again headplates that lack shamanic/shaman-like animal referents and that perhaps were secular in nature co-occur with a variety of shamanic/shaman-like divining paraphernalia. None of the roles or role bundles having multiple artifact classes are comprised solely of secular ones (Table 5.5). In the roles and

role bundles having secular artifact classes, these classes are always in the minority.

Together, these patterns suggest that the core basis of power behind most positions of leadership and importance in Ohio Hopewell societies was religious rather than political–economic in nature, in line with Netting's model of leadership development. Additionally, the artifact associations in Role Bundles 2 and 6 indicate that the process of decentralization of shamanic magicoreligious practitioner roles and reorganization of public leadership roles, as modeled by Winkelman, had proceeded to the point where certain kinds of segregated public leadership positions perhaps had both secular and shaman-like elements, moving in the direction of but not yet fulfilling the chief–priest role bundle, which arose later in the Woodlands. Both Role Bundles 2 and 6 recall Winkelman's (1989:325–333; 1992:39–42) characterization of the Creek Chief Priest and Keeper of the Fire as a transitional mix between the classic shaman and chief-priests. The Creek leader propitiated gods and was selected politically like a chief-priest, but also had to be a shaman and was trained extensively in altered states of consciousness and shamanic activities, including healing and divination. Finally, the association found between war trophies and the trappings of shaman-like leadership in Role Bundle 11, and the association found between possible war trophies and markers of sodality achievement in Role 5, suggests that success in warfare by itself was not a primary route to the development of supralocal leadership in Ohio Hopewell societies, in contrast to Flannery's (1972) model of leadership development.

(4) Were the Social Tasks Comprising Roles and Role Bundles in Ohio Hopewell Societies Institutionalized, Defining Formal Offices, or Were Tasks and Roles Combined More Fluidly, Depending on Individual Talents and/or Historical Circumstances? Whether a role has been institutionalized can be measured archaeologically in two ways. First is by examining whether the multiple kinds of paraphernalia, that is, artifact classes, that were used to accomplish various social tasks involved in the role form a consistent set across multiple examples of practitioners who held the role at one point in time. For example, did all policemen in a society have a badge, a gun, a uniform of one kind, and a radio dispatcher? The second way to evaluate whether a role has been institutionalized is to determine whether the multiple kinds of paraphernalia used in the role are consistent across multiple example practitioners over time. An institutionalized role, myth, dance, art form, or other cultural element has continuity over generations, by definition. For example, did a line of kings of a society all have a crown, a scepter, and a purple robe?

In this study, we combine these two measures of whether a role is institutionalized by calculating, for each role, the average degree of association among artifact classes used in it, within and across multiple Ohio Hopewell communities that spanned multiple generations. We use multiple communities in order to secure a large enough sample of burials indicating each role to estimate role consistency, although this does involve the assumption that roles, where institutionalized, were defined similarly across communities. The roles examined are numbers 1 through 13 in Table 5.5, which each involved multiple artifact classes. The average degree of association among artifact classes a role was estimated with the median of all Jaccard coefficients among all pairs of artifact classes of the role. The median Jaccard coefficient was then transformed algebraically into a more interpretable "median pairwise co-occurrence" among artifact classes of the role—that is, out of a stated number of burials having one of the artifact classes of the role, how many had a second artifact class of the role, averaged over all pairs of artifact classes of the role. These statistics are reported in Table 5.5. For example, for Role 1, with a median Jaccard coefficient of 0.181, one burial of every two or three that had one of the artifact classes of the role had another of the role, averaged over all pairs of artifact classes of Role 1.

The measures of median pairwise co-occurrence of artifact classes for the 13 roles with multiple artifact classes indicate on face value that the roles vary in the degrees to which they were institutionalized from apparently moderately strong (e.g., Roles 1, 2, 6, 9) to apparently

weak (e.g., Roles 3, 4, 5, 7, and 10). In the strongest case (Role 9), only half the burials with one artifact class of the role had a given second artifact class of the role, considering and averaging all class pairs. In the weakest case (Role 10), only one in seven or eight burials with one artifact class of the role had a given second artifact class of the role, considering all class pairs. The median situation for the 13 roles or role bundles was for one in four burials with a given artifact class of a role to have a second given artifact class of the role, considering all class pairs.

In actuality, the degree to which the roles were institutionalized is probably higher than suggested by the face value of these statistics, for two reasons. First, the analysis spans multiple societies that were located in different valleys and drainage basins and that may have symbolized a given role with somewhat different kinds of paraphernalia, creating a polythetic set of artifact classes for that role. These differences in role content from site to site would have the effect of decreasing the Jaccard measure of association among artifact classes of that role. Indeed, the Jaccard coefficients calculated within sites for artifact classes of a role are generally higher than—approximately double—the coefficients calculated across all 15 sites in the study. Second, the cemeteries that the analysis considers differ in age and the degree of segregation of roles (see Table 5.7). Again, these differences in the organization of roles and their artifact classes would decrease the Jaccard measures. Third, the analysis does not correct for instances where only part of a role practitioner's paraphernalia might have been buried with him or her, for any number of cultural reasons, but especially because the paraphernalia was passed on from one practitioner to the next rather than buried.

The moderate degree to which roles of leadership and importance appear to have been institutionalized in Ohio Hopewell societies accords well with the view that these societies were in transition sociopolitically, along the lines suggested by Winkelman's model of development of religious leaders. From the terminal Archaic through the Middle Woodland, the multiple roles of the classic shaman were increasingly segregated among multiple, distinct kinds of leaders

and practitioners with shaman-like sacred and sacred–secular qualities, the nature of each of which was still, in the Middle Woodland, being actively redefined and not fully institutionalized. The end point of Winkelman's developmental model—the strong, public chief–priest and a suite of individual client-oriented religious practitioners of lesser power, each well defined in its niche—had not yet been reached. The specifics of the viewpoint that Ohio Hopewell societies were in transition sociopolitically we fill out in the diachronic study that follows.

(5) Were Any Leadership Roles in Ohio Hopewell Societies Supralocal, That Is, Multicommunity, in Their Expanse of Power?   To answer this question requires an identification of the communities to which individuals buried in a region once belonged and an evaluation of the distribution of leadership roles among communities. Leadership roles that had only a local domain of power should be found among the burials of every community, if the roles were essential to community life. In contrast, supralocal leadership roles should occur in the burials of only one or a small proportion of neighboring communities, again, if the roles were essential.

A study of this level of detail is made possible by Carr's (Chapter 7) cultural–historical reconstruction of communities for the central Scioto drainage during the Middle Woodland period. Carr argued that the central Scioto was occupied by three Hopewell communities in the later Middle Woodland. One community was centered in the North Fork of Paint Creek valley, one in the main valley of Paint Creek, and one in the adjacent section the main Scioto valley. These communities buried some of their dead together under each of three large mounds, one in each community, as one means for building and maintaining an alliance among them. The three mounds in the three drainages are, respectively, Mound 25 in the Hopewell earthwork, the Pricer mound in the Seip Earthwork, and the Edwin Harness mound in the Liberty earthwork. Under each of these mounds, the different communities buried their dead in different spatial clusters of burials, which corresponded to three distinct rooms of a single charnel house (Pricer, Harness)

Table 5.6. Spatial Distribution of Roles of Leadership and Importance Among Burial Clusters Under Three Scioto Hopewell Mounds, for Those Roles Isolated in a Single Cluster within a Site

Burial cluster	Role number	Description of role
Hopewell Mound 25		
E	15	Unknown: flute
E	16	Divination
C	10	Healing, and sending and/or removing power intrusions
C	13	Divination(?)
C	18	Healing, and sending and/or removing energies?
Seip-Pricer mound		
Middle	1	Shaman-like public ceremonial leadership
West	2	Nonshamanic-like and shaman-like public ceremonial leadership
West	9	Healing, sucking energies, and possibly sending energies
East	10	Healing, and sending and/or removing energies
Ater mound		
North	1	Shaman-like public ceremonial leadership
North	2	Nonshamanic-like and shaman-like public ceremonial leadership
North	3	Public ceremonial leadership
North	7	Divination
North	16	Divination
North	18	Healing, and sending and/or removing energies(?)
South	6	War or hunt divination or sending or pulling power intrusions, other divination, and non-shaman-like public ceremonial leadership

or to different charnel structures (Hopewell). Later in time, a two-community remnant of this tripartite alliance was represented at the Ater mound in the North Fork of Paint Creek valley by two spatial clusters of burials indicating a two-room charnel house.

If an essential role of leadership or importance in the communities of this region had power only locally, within communities, then markers of that role should occur in each separate cluster of burials at these sites. If an essential role had power supralocally, across several communities, then its markers should occur in the burials of only one cluster, or at least in only some of them. Supralocal power would be further supported in such cases if the role is found to be spatially restricted within each of two or more sites of differing ages, indicating time depth to its supralocal quality and, thus, the institutionalizing of its supralocal quality.

Table 5.6 lists those social roles having markers that were isolated in a single cluster of burials under the Hopewell 25, Pricer, or Ater

mound. A full enumeration of the spatial distributions of markers of all roles among the burial clusters under these mounds is given in Appendix 5.2. Of the various roles found in only one community's cluster of burials, two are likely to have been essential in having involved public ceremonial leadership, and would be reasonable candidates for roles with supralocal domains of power. These are: (1) Role 2, identified as a combination of nonshaman-like and shaman-like public ceremonial leadership, and marked in part by headplates without animal referents and stone celts; and (2) Role 3, a kind of ceremonial leadership apparently responsible for serving important drink with conch shell dippers and shell spoons. Role 2 occurs isolated within the west burial cluster in the Seip-Pricer mound, late in the Middle Woodland period, and isolated within the north burial cluster in the Ater mound, yet later. Role 3 occurs isolated within the north burial cluster at Ater.

Two additional roles of leadership or importance, Roles 16 and 18, each are represented by

artifacts found in one burial cluster in Hopewell Mound 25 and one in Ater mound. These roles involved divination and healing and would have filled critical community needs. They also appear to have been institutionalized roles, having had continuity over the several centuries of time represented by the two mounds. However, whether the roles were supralocal in their domains of power is unclear. The artifacts marking these roles—quartz and colored pebbles and translucent projectile points—are small and would not have commanded the attention of a multicommunity audience, as would have headgear and conch dippers. It is possible that Roles 16 and 18 occurred in single burial clusters at Hopewell and Ater simply because they were relatively rare and were one of a series of alternative, functionally equivalent forms of divination (Roles 6, 7, 11, 13?, 17) and healing (Roles 9, 10), which were marked by different kinds of artifacts and, taken together, were present in each local community. Winkelman's cross-cultural model of the segregation of shamanic roles would predict that the individual, client-oriented roles of diviner and healer would not have been those that grew to supralocal influence in the Hopewellian case, while those involving public ceremonial leadership would have.

Roles 1, 6, 7, 9, 10, 13, and 15, although they are each represented by artifacts found in only one burial cluster in a mound (Table 5.6), are not strong candidates for roles with supralocal power. These roles are represented by artifact classes that are small and could not have served as a focus of attention in a large, multicommunity gathering, and/or the roles occur at only one site and thus do seem to have been strongly institutionalized over time. Also, Roles 7, 9, 10, and perhaps 13 pertain to healing or divination for other than warfare or the hunt, which would more likely have evolved into individual client-oriented roles than supralocal leadership roles, according to Winkelman's model.[28]

Summary. The socioreligious theory of the rise of supralocal leadership, as put forth by Netting, and Peebles and Kus, and the more specific rendition of it offered by Winkelman, appear to describe well much of the nature and organization of roles of leadership and importance in Ohio Hopewell societies. Such roles were numerous, with 21 identifiable archaeologically, specialized in their tasks, and, for the most part, well segregated. The great majority of these roles—18—were shaman-like and/or of another sacred nature. Only three roles combined apparently secular with shaman-like or other sacred tasks, and the secular tasks comprised the minority of each of the three roles. No role of leadership or importance was fully secular. The predominance of shaman-like and other sacred roles over ones with a secular component points to the religious, rather than political–economic, core basis of power behind most positions of leadership and importance in Ohio Hopewell societies, in line with primarily Netting's model of supralocal leadership development. The great diversity of these religious roles of leadership and importance, their largely strong segregation from one another, and the moderate degree to which they probably were institutionalized all indicate the process of decentralization of shamanic magicoreligious practitioner roles modeled by Winkelman, and suggest that this process was still in progress during the Middle Woodland. Ohio Hopewell societies were in transition sociopolitically, leadership roles were actively being redefined, and a dichotomy between a strong public chief–priest and a suite of individual client-oriented religious practitioners of lesser power had not yet firmed up, although the societies were moving in that direction. A couple roles concerned with public ceremonial leadership appear to have attained supralocal, multicommunity influence. There is very little evidence that leadership and the development of leadership roles in Ohio Hopewell societies hinged on success in warfare, in contrast to Flannery's theory of promotion of war leaders or other critical managers to chiefly positions. However, achievement in warfare was an element to success in a few leadership roles. This case study illustrates that a single cultural–historical tradition may combine, to some degree, both socioreligious and material–secular processes of leadership development.

The sociological interpretations resulting from this analysis are lent credibility not only

by the good agreement between the above, broad patterns in the empirical Hopewellian record and theories of leadership development, but also by the specific artifact classes that were found to associate and that complement each other in their ethnographically known functions.

Results: Change in Role Organization over Time in the Scioto Drainage

The second quantitative analysis of Ohio Hopewellian leadership that we performed focused on changes through time in one restricted area—the central Scioto drainage, around Chillicothe, Ohio. The methods applied above to 15 Ohio sites together, in order to reveal repeatedly co-occurring artifact classes that indicated roles of leadership and importance, were repeated for each of four individual cemeteries that form a sequence through time: Mound City, Hopewell Mound 25, Seip–Pricer mound, and Ater mound (Table 5.7). This sequence is known through radiocarbon dates and seriations of artifact classes, mortuary architecture, mortuary practices, and earthwork forms and sizes (De-Boer's 1997; Prufer 1961a:702–714, 1964:44–52; Ruhl Chapter 19, 1996; Ruhl and Seeman 1998; see Carr, Chapter 7, for a summary of these). The first two cemeteries are comparable in function, having been places where a high proportion of leaders and other important persons were buried. The second two cemeteries included a wider social spectrum, but still show some bias toward elite persons (Carr, Chapter 7). Comparisons of the nature and organization of key social roles over time are thus strictly proper only between Mound City and Hopewell Mound 25, and between Seip–Pricer mound and Ater mound.

Tables 5.7 and 5.8 compare the roles and role bundles defined for Mound City, Hopewell Mound 25, Seip–Pricer mound, and Ater mound to one another. The data available for defining roles at each site appear to be adequate for this purpose, because the specific roles defined at the four sites are similar in composition to those defined globally and with stability for all 15 sites,

and because the site-specific roles are similar enough to each other to be equated to each other (Table 5.7). For example, Roles 1 and 2, as defined globally, can be found with some or all of their artifact classes in each of the four sites. The site-specific Roles 1 and 2 share enough artifact classes in common to be equated, although in some cases these roles are embedded in larger constellations of roles that bundled together.

(1) Were the Social Tasks Comprising Roles and Role Bundles in Ohio Hopewell Societies Institutionalized, Defining Formal Offices with Longevity, or Were Tasks and Roles Combined in Varying Ways over the Generations?. The temporal sequence of roles and role bundles defined in Table 5.7 allows us to revisit the question of whether roles were institutionalized, this time by examining specifically whether the multiple kinds of paraphernalia used in a role were consistent across many generations. In very few cases do roles show compositional consistency across multiple sites spanning two or three centuries, and then, never more than three sites. Headplates without animal referents and stone celts associate to form Role 2 at both Hopewell Mound 25 and Seip–Pricer. Mica sheets and galena associate and define Role 6 in Mound City, Hopewell Mound 25, and Seip–Pricer mound. Boatstones and cones/hemispheres associate, and copper noses and buttons associate, to form Role 7 in Hopewell Mound 25 and Seip–Pricer. Awls and sharks teeth occur together and form Role 8 in Mound City and Hopewell Mound 25, while awls and platform pipes do the same at Seip–Pricer and Ater. Thus, for most roles, the moderate consistency that was found in their artifact class compositions globally, above, over 15 sites, derives from within-site and within-mound patterns of relatively short duration— several decades to up to a century or so. This finding suggests, like the global study above, that Ohio Hopewell societies were actively in transition in their sociopolitical organization and in defining roles of leadership and importance. Such roles were only mildly institutionalized.

Table 5.7. Presence and Organization of Roles through Time at Four Ohio Hopewell Ceremonial Centers[a]

Mound City	Hopewell Mound 25	Seip–Pricer mound	Ater mound
Role 1: Shamanic public ceremonial leader	**Roles 1 and 3 combined: Shaman-like and undefined public ceremonial leader**	**Roles 1 and 12 combined: Shaman-like public ceremonial leader and unknown role**	**Role 1: Shaman-like public ceremonial leader**
Headsham Cutother	Headsham Copcutsham Baton Celtstone Celtmetal Conch Ironraw Silverraw Copraw	Cutother Painttab	Cutother
Roles 2, 4, 6, 8, 9, 11: Combined: non-shaman-like (?) public ceremonial leader, sodality and war (?) achievement, war or hunt divination or sending or pulling power intrusions, body processor/psychopomp, healer	**Role 2: Non-shaman-like (?) public ceremonial leader**	**Role 2: Non-shaman-like (?) public ceremonial leader**	**Role 2: Non-shaman-like (?) ceremonial leader**
Headlead Breastplate Earspool Obsidbiface Qzgembiface Sharktooth Micasheet Galena Copraw Button Awl Smallpipe Alligator Copcutsham Trophy Celtstone	Headlead Baton Celtstone Celtmetal Copcutsham Ironraw Silverraw Copraw	Headlead Celtstone Tortshorn	Headlead

(*Continued*)

Table 5.7. (*continued*)

Mound City	Hopewell Mound 25	Seip–Pricer mound	Ater mound
Roles 3, 4, 17: Ceremonial leadership, non-shaman-like leadership, divination Conch Celtmetal Fossconcret	**Role 3: Ceremonial leadership** Combined with Role 1, above	**Role 3: Ceremonial leadership** Not present	**Role 3: Ceremonial leadership** Conch Spoon
Role 4: Sodality achievement and ceremonial leadership Combined with Roles 3 and 17, above	**Role 4: Sodality achievement and ceremonial leadership** Earother Conch	**Role 4: Sodality achievement and non-shaman-like leadership** Breastplate Earother Celtmetal Conch	**Role 4 and 10: Sodality achievement, non-shaman-like leadership, and healing** Breastplate Earother Earhand Celtmetal Fancypoint Panpipe Crescent Tortraw
Role 5: Sodality and war (?) achievement Not present	**Role 5: war (?) achievement** Trophyjwsk Cutother	**Role 5: Sodality and war (?) achievement** Not present	**Role 5: Sodality and war (?) achievement** Breastplate Earhand Earother Trophyjwsk
Role 6: War or hunt divination or sending or pulling power intrusions, other divination, and non-shaman-like (?) public ceremonial leadership Combined with Roles 2, 4, 8, 9, 11, above	**Role 6: War or hunt divination or sending or pulling power intrusions, other divination, and non-shaman-like (?) public ceremonial leadership** Galena Qzgembiface Micasheet Cutother Pipesmall Pipesmall	**Role 6: War or hunt divination or sending or pulling power intrusions, other divination, and non-shaman-like (?) public ceremonial leadership** Obsidian biface Galena Sharktooth Button Micasheet Celtmetal	**Role 6: War or hunt divination or sending or pulling power intrusions, other divination, and non-shaman-like (?) public ceremonial leadership** Not present
Role 7: Divination Not present	**Roles 7, 10: Divination, healing** Boatstone Nosecopper Crescent Conehemi Button Barracuda Panpipe Tortshorn Fancypoint	**Role 7: Divination** Boatstone Boatstone Conehemi Nosecopper Crescent Button Baton Tortshorn	**Role 7: Divination** Not present

Table 5.7. (*continued*)

Mound City	Hopewell Mound 25	Seip–Pricer mound	Ater mound
Role 8: Body processor/ psychopomp	**Role 8: Body processor/ psychopomp**	**Role 8: Body processor/ psychopomp**	**Role 8: Body processor/ psychopomp**
Combined with Roles 2, 4, 6, 9, 11 above	Awl Sharktooth	Awl Pipesmall Painttab	Awl Pipesmall
Role 9: Healing	**Role 9: Healing**	**Role 9: Healing**	**Role 9: Healing**
Tubefuncunkn Segregated from alligtooth, above	Not present	Tubefuncunkn Alligtooth	Not present
Role 10: Healing	**Role 10: Healing**	**Role 10: Healing**	**Role 10: Healing**
Not present	Combined with Role 7, above	Not present	Combined with Role 4, above
Role 11: Shaman-like leadership, philosophy, and divination, and war achievement (?)	**Role 11: Shaman-like leadership, philosophy, and divination, and war achievement (?)**	**Role 11: Shaman-like leadership, philosophy, and divination, and war achievement (?)**	**Role 11: Shaman-like leadership, philosophy, and divination, and war achievement (?)**
Combined with Roles 2, 4, 6, 8, 9, above	Micacutsham Trophy	Micacutsham Copcutsham	Not present
Role 12: Unknown	**Role 12: Unknown**	**Role 12: Unknown**	**Role 12: Unknown**
Fancypot	Not present	Fancypot Micasheet	Not present
Role 13: Divination (?)	**Role 13: Divination (?)**	**Role 13: Divination (?)**	**Role 13: Divination (?)**
Not present	Copball	Not present	Not present
Roles 14–21: Independently distributed artifact classes	**Roles 14–21: Independently distributed artifact classes**	**Roles 14–21: Independently distributed artifact classes**	**Roles 14–21: Independently distributed artifact classes**
Fossconcret	Flute Qzcolpebbles Othertranslpt Tortshorn	Not present	Qzcolpebbles Othertranslpt

[a]See text for a discussion of the integrity of this chronological sequence of sites, their functional comparability, and relevant citations.

Table 5.8. Segregation of Roles of Leadership and Importance over Time

Globally defined role in Table 5.5	Time 1: Mound City	Time 2: Hopewell Mound 25	Time 3: Seip–Pricer mound	Time 4: Ater mound
1	+	With Role 3 as one bundle	With Role 12 as one bundle	+
2	With Roles 4, 6, 8, 9, 11, in two parts	+	+	+
3	With Roles 4 & 17 as one bundle	With Role 1 as one bundle	–	+
4	With Roles 3 & 17 as one bundle	+	+	With Role 10 as one bundle
5	–	+	–	+
6	With Roles 2, 4, 8, 9, 11, in two parts	In two parts	In three parts	–
7	–	With Role 10 in four parts	In two parts	–
8	With Roles 2, 4, 6, 9, 11, in two parts	+	+	In two parts
9	With Roles 2, 4, 6, 8, 11, in two parts	–	+	–
10	–	With Role 7 in four parts	–	With Role 4 as one bundle
11	With Roles 2, 4, 6, 8, 9, in two parts	+	In two parts	–
12	+	–	+	–
13	–	+	–	–
14	–	–	–	–
15	–	+	–	–
16	–	+	–	+
17	+	–	–	–
18	–	+	–	+
19	–	–	–	–
20	–	–	–	–
21	–	–	–	–
Compared to globally defined sets	9 roles merged, 1 role in 2 parts	4 roles merged, 3 roles in 6 parts	2 roles merged, 3 roles in 7 parts	2 roles merged, 1 role in 2 parts

More detailed information on role diversity among sites and over time is given in Appendices 5.2 and 5.3. There, the percentages of burials with markers of each of the 21 roles defined here, for each of the 15 analyzed sites, are tabulated.

(2) Over the Middle Woodland Period, Did Shaman-like Leadership Roles Become More Segregated, in Line with Winkelman's (1989, 1990, 1992) Model of Development of Magico Religious Practitioners?. The temporal patterning in role organization shown in Tables 5.6 and 5.7 conforms to the expectation of Winkelman's model, in which shamanic roles initially bundled together and played out by singular per-

sons become segregated over time. The expectation is expressed in two ways. First, in the earliest of the four sites, Mound City, roles that were defined as separate globally across Ohio are instead often combined into larger bundles. Examples are Roles 2, 4, 6, 8, 9, and 11, which form two bundles, and Roles 3, 4, and 17, which form one bundle. In later sites, these roles become segregated, having been performed by different individuals. Second, in the later cemeteries of Hopewell Mound 25, Seip–Pricer, and Ater, roles that were defined globally across Ohio become partitioned into multiple, yet smaller roles with fewer artifacts. For example, globally defined Role 6, concerned primarily with war or

hunt divination and other divination, is found fully integrated at Mound City, but is partitioned into two quantitatively distinct roles at Hopewell Mound 25 and three quantitatively distinct roles at Seip–Pricer. These two kinds of trends over time are summarized at the bottom of Table 5.8. Through time, the number of globally defined roles that are combined into larger bundles drops from nine to four to two. Also, through time, the number of globally defined roles that become divided into multiple, smaller roles increases from no partitioned roles to three roles divided into six parts, and then to three roles divided into seven parts. At the tail end of the sequence, role partitioning decreases because of the smaller number of roles in total represented in the mortuary remains at Ater mound.

This trend toward greater role segregation over time is evident quantitatively. From Mound City to Hopewell to Seip–Pricer to Ater, the percentages of individuals buried with artifacts marking only one or two roles increases from 73.1% to 88.9% to 97.4% to 100%, respectively. These percentages refer to individuals buried with artifacts clearly associated with them alone, rather than shared ambiguously among jointly buried individuals, and are based directly on the data in Appendix 5.1.

Summary.   There is strong evidence that, over the course of the Middle Woodland period in the central Scioto valley, shamanic and other roles of leadership and importance broke apart and became segregated, in the manner modeled by Winkelman cross-culturally. Ohio Hopewell societies were clearly societies in transition, organizationally. This finding, in combination with the elaborateness of Ohio Hopewell funerary rites, accords well with the broad crosscultural trend for spectacular funerary rites to occur in politically formative settings as means for stabilizing and legitimizing sociopolitical positions (Childe 1945; Pearson 1999:87).

There is also some evidence that Ohio Hopewell societies were moving toward the social situation modeled by Winkelman as an end point, in which a priest-like or chief–priest-like personage was well segregated from a series of individual, client-oriented religious practition-

ers. Specifically, plain copper headplates found in Ohio Hopewellian sites referenced sacred concepts through their copper (Turff and Carr, Chapter 18), yet not the power of animals of nature that an animal impersonator's headdress would. The leadership role marked by plain copper headplates and involved in Role 2 ("headlead", Table 5.7) was initially integrated with a variety of shaman-like roles at Mound City, and became increasingly more divorced from these at Hopewell Mound 25 and the Pricer mound. At the latest site of Ater, the leadership role marked by plain headplates was fully segregated from other shaman-like and non-shaman-like roles. Significantly, this role also was found to have had a supralocal domain of power, over multiple communities, during the periods of use of the Pricer mound and Ater mound.

We would not say that the role marked alone by plain copper headplates at the Ater site can be called a classic chief-priest, as defined for example by Service (1962), Peebles and Kus (1977), or Earle (1997), or a classic priest, as defined by Winkelman (1992), because the role's specific duties and means of recruitment are unknown. Moreover, the Ohio Hopewell archaeological record lacks artistic and artifactual evidence for powerful priests or priest-chiefs, does not indicate the depreciation of segregated, shaman-like practitioners that would be predicted with the presence of powerful priests or priest-chiefs, and shows little signs of transgenerational ancestor worship, which is often officiated by priests, crossculturally (see above, The Question of Priests). However, the role marked by plain headplates might be called an incipient priest or chief-priest.

In a similar way, the leadership role marked by conch shells and shell spoons (Role 3, Table 5.7), which had sacred connotations but did not reference the power of animals of kinds normally sought by shaman, was integrated with other, shaman-like roles at Mound City and Hopewell Mound 25, and became fully segregated from these at the latest site of Ater. At Ater, the role also was found to have had a multi-community domain of power. There, the role might be called an incipient priest or chief-priest. Again, its specific duties and means of recruitment are

unknown, and the broader Ohio Hopewellian archaeological record speaks against a strong priest or chief-priest position. The specific artifact forms involved–conch shell dipper and shell spoon–also are less convincingly symbolic of priestly or chiefly power than a crown-like, metal headplate (see Carr, Chapter 7, for a fuller argument on the role indicated by headplates).

Crosscultural Comparison

In his description of crosscultural diversity in magicoreligious practitioners and their changing nature with increases in the size and complexity of societies, Winkelman (1989, 1990, 1992) defined four social settings that differ in their sociopolitical characteristics and the typical nature and array of magicoreligious practitioners present in them. These settings, in developmental order, include: (1) hunting-and-gathering societies and occasional pastoral societies having shaman, or classic shaman as called here; (2) sedentary societies with a major reliance on agriculture but lacking political integration beyond the community, and having shaman/healers roughly analogous to shaman-like practitioners as called here, and occasionally priests; (3) sedentary societies with a major reliance on agriculture and integration beyond the community, and having healers, priests, and mediums; and (4) class societies having healers, priests, and mediums.

We do not wish to categorize Ohio Hopewellian societies in one or another of these four social settings because the settings are typological, crosscultural generalizations that would obscure the particulars of Hopewellian societies. Also, it is not possible in the Ohio archaeological record to recognize all or even most the characteristics of each setting and to firmly assess the validity of a given categorization of Ohio Hopwellian societies. However, with these qualifications in mind, we note that the bulk of what is known about Ohio Hopewell societies and their leaders is consistent with Winkelman's sedentary, agricultural, politically unintegrated communities having shaman/healers, in transition from hunter-gatherer societies with classic shaman. The particular characteristics of Winkelman's societies with shaman/healers that largely

accord with the nature of Ohio Hopewellian societies and leaders include the following: (1) sedentism, to a substantial degree; (2) major reliance on agriculture; (3) local communities that were not politically unified, but allied to varying degrees, as delineated by Carr (Chapter 7); (4) extensive specialization of magicoreligious practitioners by their roles compared to the centralization of roles within a shaman—although a few classic shaman can be identified in Ohio Hopewellian societies; (5) divination and healing as the most common, specialized magicoreligious practitioner roles, which is evident for the Ohio case in Table 5.5, where 5 of 21 role bundles pertain to these activities; (6) possibly the organization of specialized magicoreligious practitioners into their own formal, professional groups with their own collective ceremonies, and the training and initiation of novices by such groups, rather than by individual experience (Winkelman 1990:58), which is indicated by the moderate degree to which Ohio Hopewell leadership positions were institutionalized in their roles and role combinations, and by ceremonial deposits of artifacts comprised primarily of the paraphernalia of single roles, as documented extensively by Carr et al. (Chapter 13); (7) recruitment into a magicoreligious speciality on the basis of other than inheritance within a clan when formal priests are lacking, and commonly through clans in more complex societies with formal priests (Winkelman 1992:69, 71)–a spectrum within which Ohio Hopewellian societies stood in the transition, in that each identified specialty role was recruited from several clans, not one or all (Thomas et al., Chapter 8, Table 8.14); (8) practitioners' use of altered states of consciousness to perform their tasks, but not soul flight, as suggested by the bulk of artistic representations of Ohio Hopewellian leaders (Table 5.2); and (9) derivation of practitioners' power from animal spirits and the ability of the practitioner to transform themselves into animals, again as seen in artistic representations of Ohio Hopewell leaders (Table 5.2) and in the pervasiveness of the theme of transformation in Ohio Hopewell art, generally.

At the same time, leadership in Ohio Hopewell societies had some characteristics of Winkelman's developmentally earlier social

setting involving the classic shaman, and perhaps illustrates the initial formation of his later social setting involving priests or priest-chiefs. Two Hopewellian sculptures–the Mound City pipe and the Wray figurine–show or possibly show classic shamanic animal impersonators in the act of soul flight. Plain copper headplates were the paraphernalia of community-wide, if not multi-community leaders who resembled to a degree priests or chief-priests, in that headplates symbolized sacred concepts with copper but not the power of animals of nature. These leadership characteristics, of social settings earlier and later than Winkelman's shaman/healer setting, reinforce the view that Ohio Hopewellian societies were actively in sociopolitical transition,[29] as also concluded above from the increasing segregation of Ohio Hopewellian leadership roles over time and the moderate degree with which they were institutionalized. It would be to miss the point to simply classify Ohio Hopewellian societies within Winkelman's social setting typology as an example of sedentary, agricultural, politically unintegrated communities having shaman/healers.[30]

CONCLUSIONS

This chapter, like Louis Glanzman's oil painting of a Hopewell burial ceremony, has attempted to create a personalized picture of Ohio Hopewellian leadership, with realism and detail, but by empirical analysis rather than by brush. We have done so by inferring the roles, and the organization of roles, of Ohio Hopewell leaders and important persons directly from their burials and the kinds of artifacts with which they were inhumed, from artistic representations of the elite themselves, and from closely related contextual information. We conclude that Ohio Hopewell leadership was (1) highly diversified; (2) a mix of classic shamanic, shaman-like, other sacred, and, much more rarely, mixed sacred–secular or secular positions; (3) decentralized; and (4) institutionalized to only a moderate degree. Ohio Hopewell societies were run by many kinds of leaders who complemented each other in function but similarly formed their power bases primarily in the religious and spiritual realm.

Shaman-like features run pervasively through Ohio Hopewellian and earlier material culture in the Ohio area, and might suggest, at a glance, that classic shaman led Ohio Hopewell societies. Two artistic representations of classic shaman in trance, using the powers of nature, and, in at least one of the cases, in soul flight, are known from Ohio Hopewell contexts; five more artworks with these three shamanic qualities come from slightly earlier to contemporary Adena mounds in Ohio and adjacent states. Animal masks and headdresses that indicate animal impersonation and probably the classic shamanic practice of "becoming" one's power animal in trance are known widely from the Glacial Kame, Adena, and Hopewell sites within and around Ohio. The shamanic themes of transformation and the ability to see within or through are implied by the many Ohio Hopewell raw materials that have light-and-dark or shiny-and-dull surface qualities, by transparent or translucent ones, by the great distances from which such raw materials were brought to Ohio, and by a characteristic Hopewellian artistic style that involved positive–negative play.

However, the wide distribution of shaman-like elements in Ohio Hopewell material culture does not automatically imply the central importance of classic shaman, as defined by Eliade, Harner, and Wallace, in Ohio Hopewell leadership. It is necessary to distinguish classic shaman, who are generalized magicoreligious practitioners, and who play many important social, political, and religious roles, from shaman-like practitioners who perform various, specialized subsets of the roles of the classic shaman, with various subsets of their paraphernalia, and who are derived social–historically from the classic shaman (Winkelman 1989, 1990, 1992). Additionally, it is necessary to distinguish the orthodox, esoteric practices and beliefs of a classic shaman from the more widely spread religious practices and beliefs of the community within which a shaman works (Eliade 1972) and its various other leaders, religious or otherwise. Classic shaman, shaman-like practitioners, other religious leaders and followers, and secular leaders without obvious religious overtones must each be considered for their possible presence in the

analysis of leadership in societies of middle-range complexity.

Particularly relevant to these distinctions in Ohio Hopewell material culture are artistic representations and the costumery of animal impersonators for whom evidence of the soul flights of classic shaman is missing; depictions of important persons with facial tattooing, scarification, or painting but without shaman-like features; artworks of persons in headgear lacking animal referents; such headgear itself; effigy animal power parts that may have symbolized clan leaders or important members; and the equipment and trophies of war and effigies of them, which marked sociopolitical achievement. Ohio Hopewell leaders were clearly not all—or in fact, commonly—classic shaman.

Ethnological analyses made by Winkelman (1989, 1990, 1992) indicate a strong cross-cultural pattern in the development of leadership forms as societal size and complexity increases. Specifically, as small-scale hunting-and-gathering and horticultural societies develop into larger-scale horticultural and agricultural societies, classic shaman as generalized leaders with multiple functions are commonly replaced by a diversified and specialized set of shaman-like practitioners, which Winkelman calls shaman-healers. Leadership diversification is necessary to accommodate societal growth. Eventually, the process may give rise to a social distinction between publicly oriented, political–religious leaders (chief–priests) who serve multiple communities, and individual/family client-oriented religious practitioners who are responsible for healing, divination, and other specialized shaman-like tasks at the local level.

The progression from terminal Archaic, Glacial Kame societies through Early Woodland Adena societies to Middle Woodland Hopewellian societies in the Ohio area, as well as social change within Ohio Hopewellian societies themselves, over the Middle Woodland, appear to have followed the first part of this well-established, cross-cultural pattern that led away from classic shamanic leadership. Six kinds of data indicate this. First, leadership diversification is seen in a doubling of the species of animal impersonators from the terminal Archaic

through the Middle Woodland. Second, in the Middle Woodland, leadership diversity is evidenced by large ceremonial deposits that individually have artifacts of only or predominantly one class and that vary in content from each other. Deposits differ in whether they have shamanic or shaman-like paraphernalia of a kind, an artifact class of a sacred but not specifically shaman-like nature, or some secular form of artifact. Seventeen artifact classes are so distinguished in their depositional contexts. These deposits presumably indicate a societal recognition of the distinctiveness of the many social roles of leadership and importance in which the various artifact classes were used. The depositing together of shamanic or shaman-like artifacts of primarily one class, for each of several such classes, further suggests the distinct ceremonies of different formal professional groups of shaman-like practitioners, each of which would likely have been responsible for training and initiating their members. Third, leadership variety during the Middle Woodland is also evidenced by patterns of association and dissociation among artifact classes of social importance across 767 burials in 15 Ohio Hopewell ceremonial centers. The patterns indicate 21 different sets of artifacts classes, which correspond to various social roles of leadership and importance, or bundles of such roles: shaman-like and apparently non-shaman-like leaders of public ceremony, war or hunt diviners, other kinds of diviners, body processors/psychopomps, healers, high achievers in warfare, high achievers in sodality organizations, and several unknown kinds of roles. Fourth, 91% of the burials with markers of these roles had only one or two roles, indicating strong role segregation. Fifth, the variety of leadership roles defined by artifact assemblage patterning in burials and large ceremonial deposits recalls the distinct shamanic, shaman-like, sacred, and secular social personae represented by artistic depictions and costumery from Ohio Hopewell ceremonial centers. Sixth, a trend toward greater leadership diversification over the Middle Woodland is found in the partitioning of burial artifact sets and the roles that they indicate over time at the sequenced cemeteries of Mound City, Hopewell Mound 25, Seip–Pricer mound, and Ater mound.

Seventh, over this sequence of cemeteries, the percentage of burials with only one or two roles of leadership or importance increased steadily, from 73.1% to 100%.

All of these seven indicators of role diversity or increasing role segregation through time, in involving roles that are primarily shamanic or shaman-like in nature, imply the applicability of Winkelman's model of leadership development to the Ohio Hopewell case. Also in accord with the model is the only moderate degree to which leadership roles were found to be institutionalized, as measured by the degree to which artifact classes within singular roles repeatedly co-occurred in burials. The only moderately institutionalized nature of the roles suggests that Ohio Hopewell societies were in transition sociopolitically and leadership roles were being actively redefined, as proposed in the midstages of Winkelman's developmental model. This transitional nature of Ohio Hopewellian leadership and sociopolitics is what one would expect from the elaborateness of Ohio Hopewellian funerary practices: crossculturally, there is a broad trend for flamboyant funerary rites to occur in politically formative social settings, as ways of stabilizing and legitimizing sociopolitical positions (Pearson 1999:87 after Childe 1945).

Most of what has been revealed here about the nature of Ohio Hopewellian leadership is consistent with Winkelman's crossculturally defined social setting characterized by sedentary, agricultural, politically unintegrated communities having shaman/healers, in transition from hunting-gathering societies with classic shaman. The characteristics of such social settings that are evident in the Ohio Hopewellian case include substantial sedentism; reliance on agriculture; politically unintegrated, though sometimes allied, local communities; specialized, decentralized, magicoreligious practitioners; diviners and healers of various kinds as the most common practitioners; possible formal groups of practitioners who trained novices and held their own collective ceremonies; recruitment into a magicoreligious speciality partly but not exclusively on the basis of clan; practitioners' use of altered states of consciousness other than soul flight to accomplish their tasks; and practitioners gaining power from animal spirits and transforming themselves into animals. Although specialized shaman/healers predominated the Ohio Hopewell leadership landscape, some classic shaman who made soul flights and from whom the specialists had developed persisted at least through the beginning of the Middle Woodland period, and practitioners who resembled incipient priest-chiefs in apparently not evoking animal powers and in serving as public ceremonial leaders for multiple local communities had emerged by the end of the period. The latter were marked by plain copper headplates without animal referents, and by conch shells with dippers for serving drink. The endpoint of Winkelman's diachronic model, where a powerful, public priest or chief-priest and a suite of individual, client-oriented religious practitioners of diminished power have crystalized and segregated, had not yet been reached by the end of the Middle Woodland period. This conclusion is supported in the Ohio Hopewellian archaeological record by the lack of artistic or artifactual evidence for powerful priests or priest-chiefs, the high prestige that shaman-like practitioners retained, and the meager evidence for transgenerational ancestor worship, which is commonly led by priests, crossculturally.

In a more general light, the Ohio Hopewell case falls easily within the scope of social–religious models of leadership development offered by Netting (1972) and Peebles and Kus (1977), with only minor evidence of the material- and secular-focused processes defined by Sahlins (1968, 1972) and Flannery (1972). Most of the roles and bundled roles of leadership or importance that were definable for Ohio Hopewell societies (18 of 21) are shaman-like or otherwise sacred, and no role or role bundle was fully secular. Positions marked by achievement in war also involved shaman-like divination and philosophic tasks, as well as achievement in sodalities of uncertain but possibly religious character. These findings indicate the primarily religious basis of power behind most positions of leadership or importance in Ohio Hopewell societies, although not to the full exclusion of material and secular sources. The Ohio Hopewell case illustrates that leadership development in a single cultural–historical tradition may, to some

degree, involve multiple kinds of processes and leaders and that multiple, explanatory anthropological models may apply. In this regard, previous, singular characterizations of Ohio Hopewell leadership (e.g., Braun 1986; Ford 1974) have been too narrow.

If the nature of leadership in Ohio Hopewell societies is to be understood for what it truly was, rather than imaged as an analog to leadership in other, ethnographically known societies of roughly similar complexity and adaptation, the material remains of Ohio Hopewell leaders, their paraphernalia, and artistic renderings of them must be studied directly for the evidence they bring to bear on the topic. Indirect, qualitative arguments based on the scale of Ohio Hopewell earthworks and mounds, the refinement of Hopewell ceremonial artifacts, the long distances from which raw materials were obtained, gross differences in the richness of burials, the productivity of an agrarian economy, and other contextual information provide important supplementary information, but are inexact in themselves for defining the nature and organization of leadership roles in Ohio Hopewell societies. Such arguments also do not personalize the Ohio Hopewell record.

In this book, further efforts to provide detail on Ohio Hopewell leadership on its own terms and to personalize our understanding of it are made in Chapter 8, by Thomas et al. There, the authors identify the particular Ohio Hopewell clans that were more or less successful in filling the various leadership roles defined here, and the tendency for mild differences in clan wealth and prestige, but not clan size, to encourage such success. Other sociological aspects of Ohio Hopewell leadership that remain to be explored, and that we encourage researchers to investigate, include the recruitment criteria (age, sex, community) for the various leadership roles found here, the amount of hierarchy among leadership roles, and variation in the process of leadership development and in the degree of role segregation among communities in environments with different food potentials, demographic potentials, and kinship systems in southwestern Ohio, the central Scioto valley, and societies farther east and north

in Ohio (Field et al., Chapter 9). Studies such as these would certainly help to define the structural and dynamic aspects of Ohio Hopewell societies with greater resolution, and would provide a better understanding of how these societies worked. The additional studies might also shed light on the particulars of the social processes and causes of supralocal leadership development that have been modeled in general terms by Winkelman, Netting, and others for middle-range societies, and help to fill out these models.

NOTES

1. A partial exception is the now-growing literature on rock art and shamanism (e.g., Bostwick 2001:419, 2002; Conway 1992:12, 1993; Jones 1981; Whitley 1998:3–5, 2001). However, even this literature does not systematically detail the multiple social roles that shaman typically fill, save the thesis of White (1994), which was written under C. Carr.

2. Shamanic practitioners in all documented Siberian tribal societies are called by terms having one or two roots in more ancient, paleo-Siberian languages. These roots are *kam* and *xam*. They mean knowing, healing oneself, and one who drums, sings, or calls spirits—all characteristics of shaman (M. Winkelman 2000: 107–110).

3. Malinowski (1922a:149–171, 215–220, 237–254) makes the same distinction but in greater detail, distinguishing four kinds of beliefs: (1) the orthodox and often rarely distributed views of specialized religious practitioners; (2) widespread, institutionalized, social dogmas embodied in myths, customary rituals, magical formulas, art, dance, and other customs; (3) widespread, popular, public opinions of the time; and (4) the speculations of common individuals.

4. Variations on the theme of dismemberment include the initiate shaman being cut into small pieces by spirits or spirit-animals, and the pieces being given to the evil spirits of diseases that the initiate will come to heal, and the initiate then being reassembled; being totally devoured by an animal spirit that will later help the shaman in spiritual work and then being restored with a body; having one's head, hands, and/or legs chopped off and put back on; having one's eyes, tongue, heart, and/or bowels torn out and replaced with new ones; having one's brain removed, washed, and restored; having one's head forged; and being pierced in the naval with arrows or in the tongue with a lance (Eliade 1972:34–64).

5. King (1987) epitomized these two life paths for shaman in different cultures as the "way of the warrior" versus the "way of the adventurer." Warrior shamanic traditions are said to assume an objective reality in which danger is "out there." This outlook leads to a viewpoint of conquer or be conquered, the goal of protecting oneself and one's society as a means of helping, and training in survivor skills, acting without error, and being hyper-alert for reaction. Adventurer shamanic traditions, in contrast, are said to assume an interactive reality that varies situationally in its quality. This belief about the world leads to an explore-with-appropriate-caution-and-respect way of life, the goal of directly helping oneself and others, and training in exploratory as well as survivor skills, taking appropriate action, and being hyper-aware for exploration. Examples of cultures with worldviews that have encouraged the development of the warrior path for shaman are the Jivaro (Harner 1972, 1980) and the Western Apache (Basso 1969:29–54, 1990:93–94; Locust 1986:30). The Hawaiian worldview (King 1987:192–193), on the other hand, led to the adventurer shamanic path.

6. A copper effigy deer antler headdress with four tines was found in Graves 3 and 4 of Mound 13 at Mound City (Mills 1922:544–545).

7. Webb was writing before the time when it became understood that the double-post buildings below Adena mounds functioned as charnel structures rather than domiciles (Seeman 1986).

8. Seeman (1979b) did not distinguish food remains in the archaeological record that might have related to chiefly redistribution and food remains that might have resulted from the horizontal distribution of food along lines of kinship and alliance among those who gathered for ceremonies at Ohio Hopewell sites. Thus, his inferences of redistribution of food and, in turn, the organization of Ohio Hopewell societies as chiefdoms, are not certain.

9. Prufer (1964a:74) did speculate that those individuals who built and used an earthwork were members of "strong lineages arising out of sharply defined territorial clans."

10. The generally greater richness of Southeastern environments over Northeastern ones in food resources, and the lack of clear evidence for substantial, Southeast-wide population growth and increasing territoriality from the Middle Archaic through the Middle Woodland periods according to Smith (1986:25–27, 30–31, 42), makes his skeptical position on an ecological basis for Archaic and Woodland exchange reasonable at this time.

11. The DECCO-I site, Delaware County, Ohio, had a small (10×14 inches in diameter and 8 inches deep) pit (PT01) that held a ceramic vessel with hickory nuts in it (Phagan 1979).

12. Another characteristic of the pipe that may represent its depiction of shamanic trance is the material of which it is made—a dark-colored porphyry interspersed with black and white granules (Squire and Davis 1848:248). The material may refer to darkness, light, and transformation between them, which are fundamental dimensions of the Ohio Hopewellian worldview, and of which shamanic trance, as the process of going from darkness to light/seeing the nonordinary (Harner 1980), is one expression.

13. A very similar carving of a bear spirit enveloping a trancing practitioner from behind, to perform some task such as healing the practitioner or healing another with the practitioner, rather than to merge with him, is shown by Goodman (1990:19). The carving was made by a Northwest Coast artist in the late 19th Century.

14. A fine example of one Ohio Hopewellian practice of breaking up skulls and placing them on an altar to be buried with other deceased is found at the North Benton site (e.g., Magrath 1945).

15. Animal impersonators are also known from artworks made by patinating and painting copper breastplates, headplates, and celts—a recently discovered art form being verified by materials analysis (Carr 2000d). The

kinds of animals impersonated on these pieces include raptors, nonraptorial birds of many kinds, felines, canines, deer, elk, moose, bear, possibly rabbit, and an insect. Snakes and reptiles are lacking.

16. The neophyte shaman may first wear his hair like a woman and don men's clothing for a woman's, then give up men's work and take on women's chores, and, finally (and more rarely), with the help of his spirit allies, attract eligible men, choose one for a husband, and play the appropriate sexual role. The androgynous state accomplished through this transformation is to give the shaman the experience of sexual totality (Eliade 1972:257–258; Halifax 1979:22–28).

17. The complementary distributions of copper and mica noted by Greber (Greber and Ruhl 1989:75–84; 275–276) to occur between the northern and the southern deposits of Mound 17 at the Hopewell site do not fit the pattern of light-dark complementarity discussed here. Both dark-colored copper and light-colored silver are found together in the southern deposit, and both light-colored mica and dark-colored obsidian and pipestone are found in the northern deposit. The "separation" between copper and mica that Greber (Greber and Ruhl 1989:75–84, 275–276) attributes to Altars 1 and 2 of Mound 25 at Hopewell does not occur.

18. Perceptual–mental ambiguity is also found in the art of other Hopewellian traditions across the Eastern Woodlands.

19. Some of the role assignments are fairly obvious and sometimes relevant today. Examples include the use of quartz crystals, mirrors, and pebbles, marbles, and balls to throw from "boatstone"-like containers in divination; the use of translucent or shiny points in war and/or hunt divination or to pull or send power intrusions; the use of scratchers in public ceremonies; and the use of feathered fans in smudging prior to and during ceremony. Others are known only through ethnohistoric research, such as the use of cones in fours, with one of hidden uniqueness on its underside, in divination and games of the "find the hidden, unique cone" kind (e.g, Holmes 1907). Some role assignments derive completely from archaeological contextual patterning. For example, the use of awls of bone in body processing and/or psychopomp work is suggested by their repeated placement at the four corners of tombs in Illinois and Ohio to hold down a fabric covering over the corpse (Brown 1979:217; Hall 1979:260; references therein). Finally, some artifact classes were assigned roles only through complex, contextual, formal, and/or ethnohistorical analyses, combined. Examples include the representation of sodalities by breastplates and earspools (Carr, Chapter 7), the marking of clans by the power parts of animals and effigy power parts (Thomas et al., Chapter 8), and the philosopher role implied by the reconstructed cosmological meanings of certain geometric and representational cutouts of copper, mica, and other materials. All of these means of determining the functions of artifact classes and the social roles in

which they would have been used will be presented in Carr (n.d.).

20. The deep embedding of shaman-like personnel, practices, and ideas in Ohio and other northern Hopewellian societies and culture is complemented by their strong emphasis on farming over previous intensive harvest collecting methods. Farming, like shamanic ways, is actively involved in transformation—in this case, the transformation of the earth and biological communities, or what Johannessen (2003) and Wymer (2003; Johannessen and Wymer 2002) call "culturing" or "growing" the world. Although farming is not a characteristic of cultures that engage in shamanism or shaman-like practices, and cannot be used as another indicator of these practices in past Ohio Hopewellian societies, the rapid development of farming systems in Ohio (and elsewhere in the midwestern United States [Johannessen 2003; Wymer 2003]) may well have been nurtured by the shaman-like cultural milieu in which they arose.

21. Very tall headdresses are commonly depicted on copper artwork made by patination, and currently being documented by Carr (2000d), giving some credibility to Trevelyan's reconstruction.

22. Other artistic images of leaders without shaman-like attributes include persons with various forms of headgear rendered on copper breastplates, headplates, and celts through patination—a recently discovered art corpus being verified by materials analysis (Carr 2000d). The headgear tentatively identified thus far include top hat-like and turban-like headdresses of one, two, three, or five layers; cone-shaped headdresses; masks over the top half of the head, and masks covering only the nose and eyes backward.

23. See Carr, Chapter 7, Table 7.2, for an inventory of sites and locations within them with these artifacts.

24. In Ohio Hopewell cemeteries with large burial populations allowing the estimation of the commonness of a role, metallic celts were found in 1 burial of 60 at Ater mound, 1 burial of 48 at Esch, 11 burials of 212 at Hopewell, 3 burials of 60 with provenience information at Liberty, 3 burials of 106 at Mound City, and 4 burials of 90 at Turner. These proportions all fall in the 3% to 5% range. The exception to this pattern is Seip, with celts present in 15 of 124 burials, or 12.1%.

25. Sets of associated and dissociated role-marking artifact classes were defined in five steps. These steps were used in both the pan-Ohio and the site-specific analyses. (1) The list of artifact classes selected for study was limited to those that have been identified as markers of leadership or other important roles, in contrast to utilitarian tools, personal ornaments, and simple markers of clan membership (Carr, Chapter 7, n.d.). Additionally, only those artifact classes present in at least two burials were considered, so that idiosyncratic patterns of association were de-emphasized and broad social patterns were emphasized. (2) The strength of association among all pairs of role-marking artifact classes was calculated with a

Jaccard similarity coefficient. This coefficient eliminates negative matches from consideration and focuses on positive ones. Thus, a pair of artifact classes was not considered strongly associated when both were absent from the same burials; the classes were considered strongly associated only when both were present in a goodly proportion of the burials where one or both were present. (3) An ordinal-scale, multidimensional scaling of the selected artifact classes (i.e., roles), based on a matrix of Jaccard similarity coefficients, was made, plotting closely and distantly related artifact classes in two dimensions. In all analyses, R^2 levels remained very acceptable—close to one. The multidimensional scaling analysis gave a first approximation of those role-marking artifact classes that were associated and formed sets, and those that were dissociated from one another. (4) Finer-grained sets of associated artifact classes (i.e., roles) were defined by hand-inspecting the Jaccard matrix and listing for each artifact class those to which it was most closely related. Definition of sets at this stage considered the specific Jaccard levels of similarity among pairs of artifact classes, permitted sets that overlapped in the artifact classes (i.e., roles) they contained, permitted sets that were polythetic in organization (see Carr 1984) and occasionally somewhat stringy when the data were structured in this manner, and allowed for sets with only one artifact class (i.e., role). All these features of set definition and role organization are socially reasonable. (5) Role-marking artifact classes that were present in only one burial were introduced into the stable sets of artifact classes defined to this point when the associations made socially interpretable sense or followed some broader material pattern, whether interpretable or not. (6) A final list of sets of role-marking artifacts that were associated through the above five steps was assembled by hand.

26. A search for artifact classes that repeatedly occurred together and that defined a role or bundle of roles was made not only among burials, but also among ceremonial deposits of decommissioned artifacts. It was known from other analyses (Weets et al., Chapter 13) that some ceremonial deposits had artifacts of a restricted range of types and was thought that they might have been gifts from persons of one or a few kinds of social roles. However, when all ceremonial deposits were assessed for associations and dissociations among artifact classes, the classes were found to lump together considerably and, in general, did not form sets that made as much sense sociologically as the sets found using artifacts within burials. A few strong and interpretable associations are, however, reported in Table 5.5.

27. The roles that are fully or largely shaman-like in nature are numbers 1, 6, 7, 9, 10, 15, 16, 17, 18, 20, and 21. The roles that are fully or largely of another sacred nature are numbers 3 and 4. The one role that equally combined a shaman-like artifact class with another kind of sacred artifact class is number 8. The roles that may have been either shaman-like or of another sacred kind are numbers 12, 13, 14, and 19. The roles that combine secular with shaman-like or other sacred roles are numbers 2, 5, and 11.

28. The artifact class, panpipe, which is one of the kinds of artifacts involved in Role 10 in terms of multi-site patterning, occurs in Hopewell Mound 25, burial cluster C, but not in the Seip-Pricer Mound, East burial cluster; only certain other artifact classes that define this role are found in the East burial cluster. Similarly, the artifact class, headplate without shaman-like animal referent, which helps to define Role 6, is not found in Ater Mound, South burial cluster; other artifact classes that define this role are found there. Likewise, the artifact class, headplate with shaman-like animal referent, which helps to define Role 1, does not occur in either Seip-Pricer, Middle burial cluster, or Ater Mound, North burial cluster. In these two burial clusters, only mica cutouts of unusual, nonstandardized forms are found. We are unclear whether flutes, which are small items and comprise Role 15, would have been audibly effective instruments in a large, multi-community gathering and would have marked a supralocal leader.

29. In light of this developmental view, it is significant that classic shamanic soul flight was illustrated more commonly by earlier Adena artists than later Ohio Hopewellian artists (Table 5.2), and that the Mound City pipe example of soul flight dates to early in the Ohio Middle Woodland sequence rather than later. The date of the Wray figurine bear impersonator possibly in the act of soul flight is unknown. It is also significant that plain copper headplates, with their sacred connotations but no reference to animal transformation, first appeared closely bundled with shamanic paraphernalia, early in the Ohio Middle Woodland at Mound City, and became increasingly segregated from shamanic paraphernalia over the Ohio Middle Woodland period (Table 5.7).

30. Winkelman's model emphasizes the transition of one magicoreligious practitioner form into another (Winkelman 1989:325–333; 1992:39–42) as much as it does the definition of practitioner types and kinds of social settings. Particularly relevant is Winkelman's (1989:346; 1992:73–74) discussion of the ethnohistoric Creek Chief Priest and Keeper of the Fire, who had a mix of characteristics of both chief-priests (Service 1962; Peebles and Kus 1977) and classic shaman, including propitiating gods and political recruitment, yet also using trance states in divination and healing. Winkelman concluded that the Creek Chief Priest position was in the process of evolving from its classic shamanic roots into a chief-priest, as Creek society became larger and more complex over time, and eventually would not have involved altered states of consciousness and most classic shamanic tasks.

The Question of Ranking in Havana Hopewellian Societies

A Retrospective in Light of Multi-cemetery Ceremonial Organization

CHRISTOPHER CARR

The search for whether Havana and Scioto Hopewellian societies in Illinois were organized in part by principles of ranking was undertaken by a number of researchers twenty-five years ago through the study of Hopewellian mortuary practices (Braun 1977, 1979; J. A. Brown 1981; Buikstra 1976; Tainter 1975a, 1977). Although these studies were thoughtfully executed for their time, and stand today as benchmark examples of some of the ways to proceed with mortuary analysis, in total they provided contradictory or ambiguous conclusions about whether Havana and Scioto Hopewellian societies had ranking. Buikstra and Tainter concluded that Havana societies of the lower Illinois valley were organized by principles of rank, and Brown did so in a qualified manner. Braun inferred that Havana societies did not exhibit ranking. These opposite conclusions were derived even though the core of the bioarchaeological information analyzed by these researchers came from the same site: the Klunk–Gibson cemetery in the lower Illinois valley (Perino 1968, 1970). Thus, today, the question of whether Havana societies were orga-

nized by principles of ranking still remains to be answered definitively.

This chapter reopens the issue of social ranking in Havana societies. It reveals four primary sources of the contradictory results obtained in the analyses cited above. The sources are: (1) the use of older, ethnological theory on ranking that does not document the diversity of ranking structures found among middle-range societies; (2) the conceptual confounding of social ranking with leadership based on ranking or achievement; (3) the use of some archaeological correlates of supposed ranking that pertain instead to leadership; and (4) the use of the cemetery as the unit of study rather than multiple, functionally differentiated cemeteries within a regionally integrated mortuary program. The studies by Buikstra, Tainter, Braun, and Brown vary in which of these difficulties they encompass.

This chapter corrects these four problems by assembling the empirical mortuary patterns found by each of the four researchers and sifting through the patterns for only those that are

relevant to ranking. Broader ethnological theory about ranking, and refinements made here in archaeological theory about the material correlates of ranking and leadership, are used in conjunction with a regional approach to determine the relevance of the various Havana mortuary patterns to social ranking and to evaluate whether ranking was an aspect of Havana social organization. This analytical framework aligns with the focus of this book on contextualizing Hopewellian remains intraregionally and personalizing them with social roles and actors.

The chapter begins by summarizing essential, modern ethnological concepts about social ranking, and presents and refines middle-range archaeological theory on the material correlates of social ranking. It proceeds with a brief history of early ideas about Havana Hopewell social organization. This is followed by a summary of the empirical, mortuary patterns found by each of Buikstra, Tainter, Brown, and Braun in their studies of the Klunk–Gibson, Peisker, and/or Kamp mound groups, and a critique of their interpretive arguments. A revised picture of Havana Hopewellian society in contemporary theoretical terms is then developed, including whether it exhibited ranking and the nature of Havana leadership positions. Reanalysis strongly suggests that Havana Hopewell societies of the lower Illinois valley were rank in organization. Ranking was coarse, distinguishing only a few grades of persons rather than a fine continuum, and weak in the degree of distinction among ranks, though pyramidal to a degree. Leadership roles were not centralized, and it is unknown whether leaders were recruited fully by personal achievement or in part by their rank. A two-level hierarchy of leadership positions may have existed.

It is important to give well-deserved credit at the very beginning of this chapter to Jane Buikstra, Joseph Tainter, James Brown, and David Braun for the mortuary data that they systematized, the solid archaeological patterns they revealed, and the insightful interpretations they raised in their previous analyses of Havana and Scioto Hopewell mortuary remains. Without the foundations provided by their work, the analyses and global view presented in this chapter would not have been realized.

THEORY

The investigation of whether a prehistoric society was organized by ranking has dominated American archaeological studies of social organization in both theory and practice, including studies of Hopewellian societies (Braun 1979; J. A. Brown 1981; Buikstra 1979; Mitchell and Brunson-Hadley 2001; O'Shea 1981; Pearson 1999:72–94; Peebles 1971; Peebles and Kus 1977; Tainter 1975a, 1977). These endeavors have laid out most of the basic elements necessary to determine archaeologically whether a society embraced ranking. However, they confounded in concept and/or analytical application, to greater or lesser degrees, four distinct dimensions of vertical social differentiation. These four dimensions are social prestige, wealth, rank, and leadership. In the Havana Hopewellian studies examined here, rank was not adequately distinguished in concept and/or analysis from leadership based on ranking or leadership attained through achievement. A brief dissection of these several dimensions, their archaeological correlates, and the relationship of the correlates to past theoretical thinking about ranking is thus necessary as a prelude to an analysis of ranking in Hopewellian societies, specifically.

Ethnological Theory

Social ranking refers to the differential allocation of prestige (respect, evaluations of importance) to individuals of a society on the basis of criteria other than age, sex, or personal attributes. The mapping of prestige to individuals based on their age, sex, and personal qualities, alone, leads to a continuum of prestige distinctions, there being as many distinctions as individuals in the society. In contrast, principles of rank map to the members of a society differences in prestige associated with a limited number of social categories. The result is usually many fewer and qualitatively distinct positions or categories of rank than there are members of the society (Fried 1957:24, 1960:464–466), although there are exceptions where rank distinctions approach a continuum (Service 1962:149).

The rank of an individual is most commonly based on his or her family, lineage, or clan of

birth. In some cultures, such as in Polynesia and on the Northwest Coast, the rank of an individual, a family, a lineage, or a clan is based on its known or mythological position in the descent of families, lineages, or clans from a human or nonhuman ancestor of importance. Conical clans and ramages are examples (Sahlins 1958). In other cases, as in the Eastern Woodlands, clans may be ranked but without reference to ancestor–descendent ties (Knight 1990a:5–9). In descent-based rank systems, the most common criterion for determining rank is birth order—the principles of primogeniture or ultimogeniture—although other arrangements are also found. For example, among the patrilineal, polygynous Swazi, the heir who gets the greatest share of the family property is the son of the main wife, who may not be the first wife of the father (Kuper 1950:98, in Fried 1957:14). Criteria for ranking may be used to define ranks finely, approaching a continuum, as with ranked individuals or lineages, or more coarsely, as with ranked clans. In some societies, rank is calculated down to the individual within the aristocratic clans that compete for leadership positions, while rank is assigned coarsely by clan alone for all lower ranking clans (Fried 1957:15).

The individuals, lineages, or clans in a society with social ranking may also be divided into what are called "conceptual classes"—very gross amalgamations of adjacent ranks, the boundaries between which are drawn by perception (Service 1962:149) and, occasionally, by geographic residence (e.g., Huntington and Metcalf 1979:157). Most frequently, conceptual classes number two or three. For example, in Tikopia, patrilineally related families called *patios* were ranked relative to one another and, in turn, grouped into *patios* of chiefs and two lower categories of *patios* (Firth 1936). Most historic tribes of the Eastern Woodlands had dual organizations, which divided clans into two categories of different character (e.g., war and peace). Commonly, one division was thought to be superior to the other, and ranking might be extended internally within each division to its clans (Knight 1990a:6). Cross-culturally, conceptual classes are accorded differences in prestige and may be marked by differences in required or forbidden food, drink, speech, song,

and material symbols, but not economic privilege over resources that are critical to survival (Service 1962:149).

In some societies with social ranking, persons born of families, lineages, or clans of rank are not automatically afforded the prestige and social privilege of that unit or of their birth position within that unit. Rank is a latent quality, a potential, that must be "activated" through experience and deed. Schooling to learn esoteric knowledge, the making of dangerous journeys to distant lands to obtain esoteric knowledge and/or material resources of power, and public demonstrations of generosity, esoteric knowledge, supernatural powers, or other socially valued qualities, are among the accomplishments that may be required to realize one's rank and have it validated publically. Such was the case for securing titles of rank among the potlatching societies of the Northwest Coast (Rosman and Rubel 1971) and, similarly, for obtaining and retaining rank-based leadership in Polynesia (Firth 1940; Goldman 1970) and Contact-period and Historic-period Panama (Helms 1976:119, 137–139).

Just as social rank may not guarantee social prestige and privilege, so it may not guarantee sociopolitical power. This, too, can depend on the actions of the individual. For example, the power attributed to chiefs of Polynesia relative to each other did not depend in the final calculation on their relative ranks, but on their success in war, their finesse in extracting tribute, and their effectiveness in other political arenas (Kirsch 1980).

Social ranking, by definition, does not depend on or support differences in wealth or control over access to strategic resources (Fried 1957:24). When adult members of a society differ in their access to critical resources, the society is called "stratified."

Ranking is a vertical dimension of social differentiation that is analytically distinct from offices of leadership. Recruitment into leadership positions in a society with ranking may or may not be based on rank. Leadership in a rank society may be achieved based on an individual's socially valued qualities, rather than ascribed by rank, and even when ascribed by rank, leadership is typically qualified by individual competence and culture-specific values

(Fried 1960:466, 1967). In a rank society where leadership roles are not centralized within one apical leadership position, some of a society's leaders may be selected by ranking, and others by achievement. Achievement is used to fill leadership positions that require a very special talent, such as leading war or accomplishing shaman-like spiritual tasks such as controlling weather, ensuring crop production, and overseeing mortuary rites. Ranking and/or achievement may be used for recruitment into other kinds of positions. For example, in Creek societies of the Southeast United States, war chiefs achieved their positions of leadership, while peace chiefs were selected for their positions based on their clan, clans having been ranked or at least having had terminologically dominant–subordinate relationships (Lankford 1992:55, 57, 61–62; see also Hudson 1976:194, 196, 236; Knight 1990a). In simple societies that divide leadership roles among shaman-like sacred positions and secular ones, those positions that interface with the supernatural are more prone to be filled according to the predispositions of individuals for working with the spiritual and their personal awe or fear-inspiring qualities (Netting 1972). Such positions may tend to run in family lines, but are seldom contingent upon family rank. In contrast, secular leadership positions that are not as obviously constrained in specialized talent requirements may be filled primarily according to rank. In general, in middle-range societies, as the leadership roles become more centralized in a single position, social rank is used as the primary criterion to recruit leaders.

Archaeological Theory

To determine from a prehistoric society's mortuary remains whether it was organized by principles of ranking, and the magnitude of differences in prestige among ranks, requires an explicit, rigorous method. Table 6.1 summarizes a sequence of procedures for doing so. The method is a composite of various logical principles derived from ethnological generalizations about ranking (above), as well as regularities found crossculturally in the material correlates of ranking. Some of these guiding principles and regularities have been published before, others are the

reworking of previously published ones in light of qualifications presented below, and others are new.

The first step in evaluating whether a past society exhibited social ranking (Table 6.1) is to determine whether the sample of burials available for study is a representative crosssection of an entire society, with all of its social categories (Peebles 1977:126). Rank societies may appear more egalitarian, or the observed magnitude of rank distinctions may be attenuated, if certain rank levels are missing from the mortuary sample. This is a very real problem because, crossculturally, prestige distinctions, including rank distinctions, are very commonly symbolized by differences in grave location within a cemetery or across multiple cemeteries (Carr 1995b:162–163, 181–182; see also Peebles 1971), and the analyst's sample may come from only some of these locations. To determine whether a sample of burials is representative of a society, it is necessary to explore the issue from multiple perspectives. The age–sex distribution of the sample can be compared to that expected from a whole, living population of similar ecology (Weiss 1973). This will not, however, ensure that all rank groups in a society are represented, because each rank group by itself, if large enough, should approximate the normal demographic condition. Considering the percentage of the cemetery's area that has been excavated, and whether there are other neighboring cemeteries that might have received a portion of the society, is an important step. Finally, contextual evidence can be revealing. For example, in the Seip–Pricer mound, the percentage of individuals with very prestigious goods is too high for an entire society. The burial population was concluded by Carr (Chapter 7) to comprise a skewed sample, biased toward important individuals within the society, even though the population's age–sex distribution fell within the range that might be generated by a whole, living community (Konigsberg 1985).

The second step for determining whether a past society was organized through ranking (Table 6.1) is to select a suite of mortuary traits for analysis that have strong potential for having symbolized vertical differences in social position, including possibly achieved prestige,

Table 6.1. Determining Archaeologically Whether a Past Society Was Organized by Principles of Rank

1. Determine whether the sample of burials to be analyzed constitutes a representative cross section of the deceased from an entire society, with all of its social categories (Peebles 1977:126). Methods:
    (a) Compare the age–sex distribution of the sample to that expected for a living society of similar cultural ecology (Weiss 1973).
    (b) Consider the percentage of the cemetery excavated.
    (c) Look for contextual evidence that only certain social categories of persons or social groups were buried in the cemetery (e.g., Carr, Chapter 7).
    (d) Include burials from multiple cemeteries if there is evidence that different segments of society were buried in different cemeteries (e.g., Buikstra 1976).

2. Select those mortuary traits for study that most likely indicate vertical differentiation in general, i.e., achieved prestige, ranking, achieved leadership, leadership ascribed by rank, or wealth of a person or family. Likely traits, evaluated cross-culturally for their significance and summarized by Carr (1995a:178–182), include
    (a) overall energy expenditure (Tainter 1975a, 1978:121), as measured by labor investment, workmanship, and/or distance of a material's source (McGuire 1988) for tomb or grave construction, kind (but not quantity) of grave goods, and body preparation and treatment (Tainter 1975, 1978:121);
    (b) cultural value, as measured by the rarity (inverse of frequency) of an item or trait (McGuire 1988; Winters 1968), context of deposition such as in burials only or also in middens (Braun 1979), and extraordinary symbolic flamboyance (e.g., a star-shaped tomb);
    (c) grave location, including segregation of tomb space regionally, within a community's settlement and cemetery space, and within a cemetery (Binford 1971; J. A. Brown 1971; Peebles 1971).

3. Of those burial traits that probably reflect vertical differentiation, distinguish among those that indicate achieved prestige, ranking, achieved leadership, leadership ascribed by rank, and family or personal wealth.

    A symbol of achieved prestige:
        Found largely with mature adults, not the young and not the old beyond their prime (curve of a person's power over their lifetime)
        Often sex-linked, with different domains of achievement for males and females
        Found with persons with physical predispositions to power (e.g., tall, robust, deformed)
        May be frequent or infrequent in the archaeological record, depending on how easy it is to achieve the particular form of prestige
        One kind of symbol reflecting each single domain of achievement (e.g., fancy arrowheads for being a fine hunter)
        Quantitative distinctions in number, size, or workmanship among occurrences of the symbol
        Continuous distribution of quantitative distinctions in the burial trait among persons according to their level of achievement, vs. a pyramidal distribution

    A symbol of rank or class:
        Found with persons of all ages beyond puberty, not necessarily with children
        Found with both sexes
        Found with persons of all physical predispositions to power or not (e.g., height, robustness, deformities)
        Demographic categories having the symbol will approximate those generated by a whole living population, except for subadults, children, and infants.
        One kind of symbol reflecting each rank, for at least the highest ranks
        Frequency common for at least the middle-rank level(s); frequency may be common to rare for higher-rank levels (see "A pyramidal distributions," below); lowest rank level(s) may not be marked.
        Qualitative distinctions in form or material among symbols of different rank
        A pyramidal distribution of qualitative distinctions among persons of different rank and their symbols may occur where ranks are calculated finely, but not necessarily where they are calculated coarsely (e.g., ranked moieties, dual divisions, clans, sodalities, communities)

(*Continued*)

Table 6.1. (*continued*)

A symbol of achieved leadership:

Found with mature adults, not the young and not the old beyond their prime

Found with persons of the culturally prescribed sex(es) for the given leadership position

Found with persons with physical predispositions to power (e.g., tall, robust)

Very infrequent—a few leaders, lots of followers

Quantitative distinctions in number, size, or workmanship among multiple occurrences of the symbol with leaders of a kind

Sets of symbols indicating multiple roles of a leader (if roles are centralized)

Variation in symbols across multiple examples of a leadership position within a society, indicating lack of an institutionalized office

Variation in symbols across multiple examples of a leadership position within a society over time, indicating lack of an institutionalized office

No covariation among multiple symbols, indicating an inconsistent set of multiple roles across multiple examples of a leadership position within a society and over time

No continuous or pyramidal distribution of symbols among persons; the symbols are rare

A symbol of leadership ascribed by rank, class:

Found with mature adults to elderly

Found with persons of the culturally prescribed sex(es) for the given leadership position

Found with persons of all physical predispositions to power or not

Very infrequent—a few leaders, lots of followers

Qualitative distinctions in form or material among occurrences of symbols representing different kinds of leadership; similarity among leaders of one kind

Sets of symbols indicating multiple roles of a leader (if roles are centralized)

Standardization of symbols across multiple examples of a leadership position within a society, indicating an institutionalized office

Standardization of symbols across multiple examples of a leadership position within a society over time, indicating an institutionalized office

Covariation among multiple symbols, indicating a consistent set of multiple roles across multiple examples of a leadership position within a society and over time

No continuous or pyramidal distribution of symbols among persons; the symbols are rare

A symbol of wealth:

Quantities of utilitarian goods, food, or personal ornamentation (e.g., number of strands of pearls in a necklace)

May be found in societies with achieved prestige or ranking, achieved leadership or ascribed leadership

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ranking, achieved leadership, leadership ascribed by rank, and family/lineage wealth. Cross-cultural surveys of mortuary practices (Binford 1971; Carr 1995b:178–182; Tainter 1975a, 1978:121) indicate that these traits include the overall energy expended on the burial, far above all others, as well as the energy invested through labor, workmanship, and materials acquisition on specifically tomb construction, the kind (but not quantity) of grave goods, and body preparation and treatment. Segregated grave locations within a community space and within a cemetery also are common indicators of vertical social differentiation. The overall amount of energy expended on mortuary practices for an individual is a critical variable because it reflects, to some degree, the number of mourners who participated in funerary and disposal activities. In turn, this number is thought to equate to the number of persons duty-bound to the deceased and his or her prestige (Binford 1971). The number of mourners also depends on the centrality of the deceased to society and, thus, the level of social disruption caused by his or her death

and the consequent degree of fear of the corpse that needs to be ameliorated through mortuary activity (Hertz 1907, 1960). Vertical social differentiation can also be expressed through the relative cultural value attached to alternative mortuary traits. Highly valued mortuary traits include those that are simultaneously energy-expensive and rare (McGuire 1988; Winters 1968). Cultural value can also be revealed contextually. For example, Braun (1979) eliminated from his study of the Havana Hopewellian Klunk–Gibson cemetery those artifact classes that had been thrown away commonly in habitation middens in the Havana region, and that thus were not likely to have been culturally valued symbols of rank or prestige.

Third, the selected suite of mortuary variables must be further sifted for any that indicate ranking specifically, in contrast to achieved prestige, achieved leadership, leadership ascribed by rank, and family/lineage wealth, which are other possible dimensions of vertical social distinction (Table 6.1). Distinguishing social ranking from these other dimensions of vertical distinction is critical sociologically because rank, political power, and economic wealth need not correlate, for historical, circumstantial reasons (Kirch 1980; see also Bloch 1978).

To make these finer discriminations, demographic, frequency, and material–formal criteria are useful. Symbols of rank will stand out for the most part from symbols of the other dimensions in that they will be distributed across persons of all categories of age, sex, and physical predispositions to power (especially height, robusticity, and deformities), by Fried's (1960:466) definition of rank. With a large enough burial population, the frequencies of corpses in these categories will approximate those expected from a comparable living population (Weiss 1973). In contrast, symbols of achieved prestige will usually be found only or largely with mature adults, whose age, experience, and physical capabilities make them capable of extraordinary feats. Infants, children, and those beyond their prime are less prone to receiving symbols of achieved prestige, although there are circumstances that can encourage this (see qualifications, below). Likewise, symbols of achieved leadership and leadership ascribed by rank will be found primarily with mature adults of leadership age and with the sex(es) culturally prescribed for the given leadership position (Peebles and Kus 1977:431).

In addition, symbols of rank can also sometimes be distinguished from symbols of achieved or ascribed leadership by their frequency. Symbols of middle-level rank(s), and of low ones if they are marked (e.g., a low-ranking dual division, clan, sodality), will be numerous, in correspondence to the numbers of individuals in those ranks, whereas the number of leaders in a society is limited. Symbols of high-level ranks can be frequent, as in the case of a highly ranked dual division, clan, or sodality, and likewise be separated from rarer symbols of leadership by frequency. However, when ranks are calculated finely and/or distributed pyramidally, symbols of rare high ranks may be just as infrequent as symbols of leadership and indistinguishable from them.

Mortuary variables that indicate ranking rather than achieved prestige, achieved leadership, or family/lineage wealth can be determined by their material and/or formal nature. Symbols that distinguish different rank levels of a society will be qualitatively distinct rather than quantitatively different (Braun 1979:67; Peebles 1974:431, 438–439), unless the quantitative differences are large, constituting modal distinctions (e.g., O'Shea 1981). For example, symbols of rank might be a red headdress in contrast to a white cape, rather than a four-stringed necklace in contrast to a three-stringed necklace. The rationale for this argument is not found in the mortuary literature but is understandable from stylistic theory (Carr 1995a; Voss and Young 1995). Qualitative distinctions and modal quantitative distinctions are usually more visible than continuously varying quantitative ones. Qualitative and modal distinctions thus have the potential to be seen at greater distances and to be seen by larger audiences, making the distinctions better candidates for expressing social messages of very high priority, such as ranking. In contrast, continuously varying, quantitative differences (e.g., house size, automobile elaboration) more easily map to continuously varying social differences gained by achievement,

including achieved prestige, achieved leadership, and family/lineage wealth. In addition, indicators of achieved prestige, achieved leadership, and family/lineage wealth will have in part been pruned from analysis earlier, by eliminating quantities of grave goods from consideration and by focusing on only kinds of grave goods (Carr 1995b:180). Finally, the qualitatively distinct nature of symbols of rank does not separate them from symbols of leadership ascribed by rank or inheritance, though this equivalence was not recognized by earlier mortuary analysts (Braun 1979; Peebles 1974). Demographic and frequency criteria come in handy for making this discrimination (see above).

The final step for assessing whether a past society was organized by principles of rank (Table 6.1) is to compare the relative frequencies of persons found to occupy distinct rank levels, as evidenced by their distinct symbols of rank. If the number of persons per postulated rank level increases as rank decreases—that is, persons are distributed pyramidally by rank—then the interpretation of ranking is supported more strongly (Buikstra 1976:32). Pyramidal distributions of rank are found in simple rank through complex chiefdom-level societies (e.g., O'Shea 1981; Peebles and Kus 1977). It is an essential characteristic of classic chiefdoms (e.g., Polynesia, the Historic Southeastern United States). However, the lack of such a pyramidal distribution cannot be taken as evidence against ranking, particularly in small-scale societies having a few, coarse rank levels. These societies may have moieties, dual divisions, clans, sodalities, or communities that differ in prestige institutionally, but that do not differ much in their numbers of individuals.

Several qualifications or extensions to the above archaeological correlates of social ranking, and to others that have been published, are in order. First, archaeological identifications of ranking that center on "symbols of authority" (Braun 1979:67; Peebles and Kus 1977:431) confound the symbolization of leadership positions tied to rank levels with the symbolization of the rank social levels, themselves. This mixing of distinct social dimensions and their symbols can only cause interpretive ambiguity or error socio-

logically. For example, when a rank society has leaders that are chosen first by their high rank, and secondarily by age, sex, and achievement (e.g., a successful mature male), defining symbols of leadership as symbols of rank can give mortuary data an apparent "egalitarian" bent, as in the misleading case presented by Blakely (1977:58). Also, when a society is organized by principles of rank, yet symbols of leadership (tied to rank or not) are evaluated in order to determine whether they meet the criteria for symbols of rank or symbols of only achieved prestige, then the false conclusion may be drawn that the society lacked social ranking (e.g., Braun 1979; see below). The same age–sex distributions that characterize symbols of leadership and symbols of achieved prestige (Table 6.1) will cause this misconclusion. These kinds of confusions are unnecessary, given that symbols of rank and symbols of leadership differ in their age–sex distributions, their correlation with persons physically predisposed to power, and sometimes their frequency in a society, and thus can be separated archaeologically. The two different dimensions of social differentiation should be kept distinct conceptually, analytically, and terminologically.

Second, care must be taken to distinguish symbols of achieved leadership from those of rank. If a society lacks ranking, taking symbols of achieved leadership to be markers of rank not only will lead to the false conclusion that ranking existed, but also may lead to the analytical construction of a false pyramidal distribution of symbols of rank and rank levels. The pyramidal distribution will misleadingly corroborate the interpretation of ranking based on erroneous identification of the leadership symbols as ones of rank.

Third, symbols of rank need not occur in "covarying," "redundant" sets (contra Braun 1979:67; Peebles 1974:46–47, 54–57, 181–190; Peebles and Kus 1977:431). Why, for example, should a ranked lineage or clan be expected to have more than one crest? The occurrence of a set of symbols of prestige that covary and are redundant is, instead, the expectable material correlate of centralized and institutionalized leadership roles. When leadership roles are centralized in one or a few social positions, the different roles

and domains of power of a leadership position may be marked by different symbols that thus co-occur. When centralized leadership is institutionalized as an office having continuity over generations of leaders, the established set of symbols of that office will be repeatedly used over time, perhaps in the burials of those leaders, constituting covarying (i.e., repeatedly co-occurring) symbols. Such symbols of centralized, institutionalized leadership are not indicators of ranking per se; the leaders may or may not be recruited on the basis of rank.

Fourth, burials of children with symbols of prestige do not constitute firm evidence for social ranking (Braun 1979:68; J. A. Brown 1981:30; Peebles and Kus 1977:43; contra Blakely 1977:46; Flannery 1972:403; Saxe 1970:8; Tainter 1975a:155). The proposed correlation between social ranking and child burials with symbols of prestige was based on the assumption that a child would not have had the time to accumulate prestige by achievement, and that his or her prestige thus must have been ascribed by a principle of ranking. However, the archaeological correlation can also be produced by parents or other relatives of achieved importance having gifted prestige goods to their child upon death, or by ecological–demographic circumstances that place a heavy cultural value on children and their death in general. For example, one or both of these factors seems to have operated in Late Archaic through Early Woodland burials in the midwestern United States, where otherwise "egalitarian", largely hunting-and-gathering peoples disposed of prestige goods more commonly with child burials than adults (e.g., Winters 1968).

Fifth, a lack of material symbols of rank in the mortuary domain does not necessarily imply a lack of social ranking. Social ranking may be symbolized behaviorally and linguistically rather than materially in funerary rites. The length of time between death and a funeral; the duration of a funeral; funeral oratory, song, and dance; the spatial layout of persons in funerary activities; and various specialized funerary activities may each distinguish the funerals of persons of differing rank within a society (e.g., Haberstein and Lamers 1960:329–343). Cross-cultural surveys of mortuary practices (Carr 1995b:179; Tainter

1975a, 1978) demonstrate the commonality of these expressions of rank.

Sixth, not all rank distinctions recognized within a society may be symbolized materially, particularly when rank distinctions are fine-grained and approach a continuum. A good mapping between symbols of rank and rank distinctions is more likely when they are coarse-grained, as in societies that have ranked clans or conceptual classes.

Seventh, whether or not indications of ranking are found in a mortuary sample, the particular structure of ranking revealed and the specific individuals vested with symbols of rank should not automatically be assumed to directly and passively reflect a past living society's organization or a person's position within it. Postprocessual critiques and ethnoarchaeological and ethnohistoric studies (e.g., Hodder 1982a, 1982b; Pearson 1982) emphasize that mortuary practices are symbolic in nature, are subject to choice, and thus can be actively selected and constructed with regard to the goals of social and personal political strategies rather than the faithful representation of the social personae and social relations of the deceased. Social personae and relations may be idealized, altered in character through naturalization or mystification, masked, or inverted in their mortuary representations (Cannon 1989; Hodder 1982a:200; Little et al. 1992; Pearson 1982:110, 112). To this now-standard argument can be added that the motivations for such manipulations may be religious, ethical, culturally artistic, etc., rather than simply political and focused on power (Carr 1995b:111; Pearson 1999:84). Beyond the indirectness with which mortuary records may reflect social conditions among the living is another twist: the social prestige and some roles of a person are commonly not fixed throughout life and death but, rather, are actively constructed, contested, and negotiated moment by moment (Pearson 1999:84). Funeral and mortuary rites are one of a series of opportunities for such reworking of social standing, roles, and relations (Morris 1991). Further, the change in the most basic status of a person from living to dead (van Gennep 1909, 1960) and from a resident with the living to a resident with the dead may systematically correlate with shifts in social

personae (e.g., death levels all to the same persona), although often social organization among the living is mirrored by social organization in the afterlife (Firth 1955). Finally, mortuary practices and records in general reflect not simply the social identities of the deceased, but the relationships of mourners, the corpse, and the soul to each other (Hertz 1907, 1960). Issues involved in these relationships, such as gift exchanges with the deceased, gift exchanges among the mourners, inheritance and debts, placating and equipping the soul for travel to an afterlife (e.g., Huntington and Metcalf 1979:85–94), all have varied implications for mortuary presentation beyond the symbolization of a person's social identities.

Currently, there is no way to predict a priori for a given past society the likelihood and degree to which its mortuary records have been affected by any of these multiple, complicating factors listed under the fifth, sixth, and seventh points above. Case-by-base, contextual analysis is required. Searches for inconsistencies among the mortuary records of a society, as well as for inconsistencies between regularities in the mortuary record and those in other domains of culture, are the primary avenues for uncovering these pitfalls to sociological reconstruction. As a very simple example, a symbolic artifact of a given kind might be found most commonly one per buried person, indicating that it likely marked a specific social role, and the social role of the deceased (e.g., copper headplates, celts, or breastplates in Scioto Hopewell graves). Rarer graves with many instances of the artifact might then be interpreted as examples of the giving of gifts by persons in that role to the deceased, who also held that role, rather than the additional role differentiation or wealth of the deceased (Carr et al., Chapter 13).

It is fair to say that the diverse nature of rank organization cross-culturally and the complexities of the archaeological correlates of ranking just described were not fully considered in most, if not all, assessments of the organization of Hopewellian societies made during the 1970s. This situation is understandable because archaeological theory about social organization was just being developed then. In addition, the emphases at the time on social organization from a systems or overall structural view (e.g., Tainter 1975a, 1977, 1978), and on the equating of past societies with Fried's (1960) and Service's (1962) social typologies, steered analysis away from a personalized, role-oriented view of the archaeological record. This made it easy to confound the dimensions of ranking and leadership. Although these limitations of past studies in their assumptions about social ranking are understandable and are not criticized here, it is essential that they be brought to light. This is necessary if the question of ranking in Hopewellian societies is to be revisited and answered, and so that broader interpretations about Hopewellian ideas and practices are not influenced by false conclusions about whether Hopewell societies exhibited ranking.

HAVANA HOPEWELL SOCIETY AND MORTUARY PRACTICES

Formative thoughts on the vertical complexity of Hopewellian societies in Illinois have varied in their conclusions. Deuel (1952:254–258) saw evidence for two "castes" or "social classes", one ruling and the other subordinate, in the placement of "insignia of rank," "authority," and "high birth, position and wealth" within a small number of skeletons in log and stone tombs. Struever (1965:212–214) compared diverse aspects of the Illinois and Ohio Hopewell records to each other in light of Service's (1962) characterization of tribal and chiefdom social organizations and concluded that Havana Hopewellian societies were tribal and unranked, whereas Ohio Hopewellian societies were chiefdoms with ranking. The characteristics that Struever considered include: the large numbers (hundreds) of bodies given preferential treatment in Ohio charnel houses compared to the fewer numbers so treated in Illinois mound groups (25 to 60); the formal diversity of high-status graves in Ohio compared to the similar style of high-status log crib tombs in Illinois; the many times greater number of artifacts interpreted as symbols of social status in Ohio mortuaries than in Illinois ones; the much greater labor investment witnessed in Ohio earthwork

centers than in Illinois mound groups; the much greater numbers and kinds of superiorly crafted items found in Ohio than in Illinois, thought to indicate craft specialization in Ohio, alone; and the clustered distribution and large size of Ohio earthworks, taken to indicate political integration, in contrast to the continuously distributed, smaller mound groups spread down the Illinois valley, taken to indicate smaller political units. Struever also pointed out that close, parallel microecological zones of the Illinois valley were not an example of the widely spaced, patchy environmental structure that can encourage the development of social ranking and a redistributive economy (Sahlins 1958). Struever did not assess environmental structure in Ohio. Griffin et al. (1970:188) interpreted the distinction between central tombs with fancy objects and other burials at the Knight and Norton mound groups as a "simple division of labor, with some emphasis of males as those concerned with supernatural affairs. . . . [In] neither mound group is it clearly a case of politically or socially dominant males with families and/or 'retainers' buried with them."

Four modern, formal studies (Braun 1979; J. A. Brown 1981; Buikstra 1976; Tainter 1975a, 1977) have addressed whether Havana Hopewellian societies were organized by principles of rank or achieved prestige. Buikstra

and Tainter concluded that Havana Hopewellian societies were organized by a ranking principle, Brown wavered in his argumentation, and Braun concluded that prestige was achieved. Only one of these studies (Buikstra 1976) took the region as the unit of mortuary analysis, and none of them, being early studies of social organization with mortuary data, used a full suite of ethnological and archaeological understandings of ranking, as summarized above. Especially important to the Havana Hopewell case is that none of these studies considered the distinction among ranking, achieved leadership, and leadership ascribed by rank, or the possibility that various leaders in a rank society might be recruited by achievement or rank or both.

Buikstra's Analysis

Buikstra (1976) analyzed mortuary remains from two bluff-crest cemeteries (Klunk–Gibson, Bedford) and two flood plain cemeteries (Peisker, Kamp) in the lower Illinois valley (Figure 6.1). She precociously saw the possibility that different segments of a Middle Woodland society might be buried in different cemeteries, and the necessity of studying representatives of all of a society's various kinds of cemeteries to infer its social organization. Specifically, she noted that the demographic profiles of Peisker and Kamp were significantly short on females
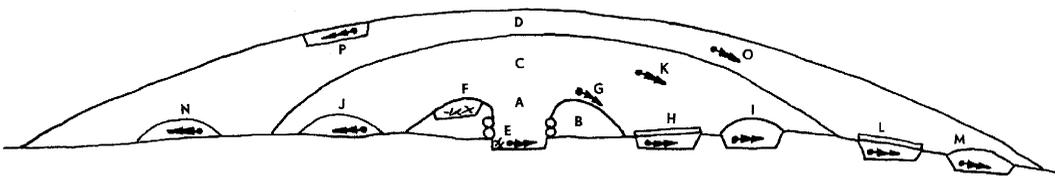
Figure 6.1. A generalized model of variability in burial forms within Havana Hopewell mounds. (A) Central crypt; log-lined, limestone elements, and/or plain shaft. (B) Ramps of the central crypt. (C) Primary mound. (D) Secondary mound. (E) Articulated extended skeleton and disarticulated skeletal remains in the central crypt. (F) Disarticulated remains from the central crypt displaced to an earth-filled pit in a ramp, a log-covered or limestone-covered pit in a ramp, or the ramp's surface. (G) Extended skeleton in an earth-filled pit in a ramp, in a log-covered pit in a ramp, or on the ramp's surface. (H) Extended skeleton in a log-covered subfloor pit below the primary mound. (I) Extended skeleton in an earth-filled, subfloor pit below the primary mound. (J) Extended skeleton placed on the original ground surface, below the primary mound. (K) Extended skeleton within the primary mound fill. (L) Extended skeleton in a log-covered subfloor pit below the secondary mound. (M) Extended skeleton in an earth-filled, subfloor pit below the secondary mound. (N) Extended skeleton place on the original ground surface, below the secondary mound. (O) Extended skeleton within the secondary mound full. (P) Extended skeleton intrusive into the secondary mound. Limestone slabs may occur as building elements of central crypts, ramp pits, and subfloor pits. Not all of these alternative forms of burial are found in any single Havana Hopewell mound, although they are within the single Klunk Mounds cemetery (Perino 1968).

and subadults, and concluded that bluff-crest and flood plain cemeteries constituted two different burial tracks within a single mortuary program (Buikstra, p. 43).

The criteria by which Buikstra (1976) identified social ranking at the four sites were multiple: (1) the occurrence of several discrete tracks for processing apparently differently ranked segments of a society, (2) the admission of all ages and both sexes to each track, (3) the pyramidally distributed frequencies of individuals processed among the tracks, (4) increased energy expenditure on the least accessible tracks of the program (Buikstra, p. 32), (5) the exclusive right of males to certain social positions (Buikstra, p. 29, 33), and (6) the elaborate burial of children and infants (Buikstra, p. 38). The first, second, and fourth criteria are correct by the contemporary understanding of ranking presented above. However, the pyramidal distribution of persons among tracks is not required of simple societies of coarse rank—the approximate level of complexity expectable for mixed hunter–gatherer–horticulturalists like Hopewellian societies. The criterion of exclusive rights for males to certain social positions is an example of confounding social ranking with leadership, as described above (it is also gender stereotyped). The use of elaborate infant and child burials to infer social ranking errs in ways discussed above.

Buikstra found evidence for all six of her criteria for identifying social ranking, the following of which remain convincing of rank social organization. First, when combining burial counts for the Klunk and Gibson cemetery areas, three sets of burials can be defined by grave location, each set of which contains both sexes in approximately equivalent proportions and subadults as well as adults. These three sets are: burials in mound fill, burials placed on the original ground surface, and burials in subfloor pits peripheral to the central tomb (Buikstra 1976:34, 40). Second, burials within subfloor pits can be subdivided into two sets—those with limestone or log construction and those without. Both sexes and both subadults and adults are found in the two sets approximately equivalently (Buikstra, p. 34, 45). The four sets of burials that are defined by nesting these two burial traits not only are age–sex independent, but also define a sequence in the energy expended on burial. From least to most energy, the sequence is: ground surface burials, burials in unelaborated pits, and burials in limestone and log enhanced pits. (The place of scattered bones in mound fill in this sequence is unclear.) This patterning is in accord with social ranking. Buikstra did not define this total sequence, but did conclude ranking from the distinction in effort between unelaborated pit burials and limestone and log pit burials.[1]

Two other burial locations—central features and ramps—are predominated by males. Females and children in central features always occur with males, apparently by some socially defined relationship (Buikstra 1976:44). Central features, of all burial forms, were given the most energy in mortuary treatment, commonly having log or limestone construction and holding a very high percentage of all artifacts that were foreign in origin and/or were not found in village middens (but see J. A. Brown 1981:36 for a qualification). Conveniently, central feature burials and ramp burials are known from archaeological evidence to have constituted a single burial track, with central feature burials eventually having been moved to ramp locations (J. A. Brown 1981:218; Buikstra 1972:33–34). This process constituted additional energy expenditure on burial.

Buikstra (1976:33, 36) used the greatly disproportionate number of males associated with high-energy, central feature burial, and the access of only a small percentage of all males to these treatments, to argue that central males held a special social position, constituting their rank and making Havana society organized by rank. This logic, following her fifth criterion for ranking, above, clearly runs against the definition of symbols of rank crosscutting age and sex categories. The position taken here is that the central burial–ramp burial track symbolized, instead, some form(s) of leadership, and that Buikstra confounded symbols of rank (mound fill, surface, unelaborated pit, and limestone and log pit burials) with symbols of leadership (central features and perhaps foreign goods) in making her full argument. The small number of central feature and ramp burials at Klunk–Gibson compared

to the total excavated burial population (30 of 505), further minus the tenuously associated females and subadults, is in line with the interpretation of these important adult male burials as leaders. So, too, are the copper celts, earspools, and panpipe and the conch shells, galena cubes, mica mirror, and roseate spoonbill that were found exclusively in central crypts. These objects made of foreign raw materials could indicate the roles of local leaders in external political, religious, or spiritual matters (Carr, Chapter 16; also Buikstra 1976:44). Finally, the celts and conch shell dippers found with some centrally buried adult males were objects that, later in time, during the Mississippian and Historic periods, were associated with leadership (J. A. Brown 1976:126; Phillips and Brown1978:13, 18–19; 1984:plate 204; Waring and Holder 1954:10–11, 15). This situation gives additional reason for thinking that these items marked leadership during the Middle Woodland. Thus, from several lines of evidence, it appears that central crypt burial indicated leadership, or kinship or other ties to leaders, rather than ranking per se.

Buikstra (1976:43, 44) went on to observe that the principle that associated males with central burial and foreign artifacts in the bluff-crest mounds was repeated in the flood plain mounds, but with a stronger bias toward male burial and more energy expenditure. This pattern, too, she argued to indicate social ranking, whereas I would rewrite it as the symbolization of leadership positions, given that symbols of rank crosscut age and sex categories. If central crypt burial within bluff-crest mounds and burial within flood plain mounds do represent leadership, and given the significant energy distinction between these two modes of burial, it is possible that at least a two-level hierarchy of leadership positions is indicated. The distinction may also, however, simply reflect the difference between local corporate group burial rites in bluff-crest mound groups and supralocal, intercommunity aggregation and burial rites with greater cooperative and/or competitive display in flood plain mound groups (Ruby et al., Chapter 4; Buikstra and Charles 1999). In the end, I agree with

Buikstra that Havana Hopewell societies of the lower Illinois valley were organized by ranking, but for somewhat different logical and empirical reasons.

Tainter's Analysis

Tainter (1975a, 1977) approached the seeking of rank at Klunk–Gibson differently than Buikstra did in logic and method. Tainter argued, correctly, that ranking is indicated by formally distinct sets of burials that differ in the ritual energy spent on them and that are composed of persons of all ages and both sexes. He used cluster analysis to define sets of burials that were internally similar and externally dissimilar in several aspects of their burial treatment, placement, and grave furniture. Most of the descriptive variables enlisted by Tainter distinguished more energy-expensive from less energy-expensive mortuary behaviors in their state.[2] The resulting clusters were grouped into six larger classes, each reflecting a different level of energy expenditure. The six classes of burials were then ordered by energy expenditure and identified as rank levels within Klunk–Gibson society.

The six classes that Tainter identified as rank levels largely correspond to distinctions found by Buikstra by inspection, and are vindicated, despite harsh methodological criticism by Braun (1981). Tainter's six classes are: individuals in large central tombs with nearly all imported materials and those persons processed through and moved out of these tombs; persons in smaller, peripheral, log-covered tombs; persons in peripheral limestone-made tombs; individuals with locally produced fancy items; persons buried in simple subfloor pits; and those buried in mound fill. Tainter observed that all but one of these classes had individuals of all age grades and both sexes. However, he did not examine, as Buikstra had, whether the relative frequencies of subadults and adults, and males and females, in each class were those that would be expected from a relevant living population. Especially significant is the lack of attention he gave to the disproportionately very large number of adult males found in central log tombs. Tainter also did not notice, as Buikstra had, that

females and subadults were buried in central log tombs only when accompanied by an adult male. Finally, Buikstra included flood plain mounds in her study, trying to represent all segments of a Hopewellian society, and thus had the opportunity to see the pattern of central tomb adult males in even stronger contrast in these sites, whereas Tainter did not. In these three ways, Tainter missed empirical patterning that could have led him, by his correct criteria for identifying ranking, to distinguish between symbols of rank and symbols of leadership, between levels of rank and leadership roles, and between persons of various rank and leaders—all with regard to the peripheral burial/central tomb distinction. Thus, whereas Buikstra confounded rank and leadership explicitly in concept and empirically, Tainter confounded them implicitly through his empirical analysis.

Tainter (1975a, 1977) did not consider in his theoretical discussions of ranking or his analysis whether a pyramidal distribution of levels of prestige is an essential feature of rank organization. However, he did tabulate this information (Tainter 1977:81, 92). If one focuses on those of his rank levels that are based on tomb form and that do not include central tombs, an approximate pyramidal distribution is apparent. Peripheral burials with log coverings or limestone slabs, which involved a moderate energy expenditure, were much less frequent than burials made in simple subfloor pits with small mounds over them, which involved little energy expenditure ($n = 69$ and 241, respectively). At the same time, log-covered burials, which were posited by Tainter to have been more energy-expensive to build than limestone slab burials, outnumbered the latter ($n = 58$ and 11, respectively). It may be that log and limestone tombs actually did not differ much in energy expenditure, that they had other than social significance, and that Tainter overdrew the tomb and rank-level distinctions at Klunk–Gibson. James Brown (1981:36) believed so. This position seems reasonable because mortuary variability typically reflects more than sociological factors (Carr 1995b), and these other possible dimensions of variation were not explored by Tainter.

In sum, by combining the work of Buikstra and Tainter, the conclusion that Havana Hopewellian societies allocated prestige in part by a principle of rank is strong. How complex the ranking was, in terms of the number of levels of rank, remains a question.

Brown's Analysis

J. A. Brown's (1981) study of the Klunk–Gibson mound groups refined Buikstra's and Tainter's presentations in certain theoretical and empirical ways. He (J. A. Brown, pp. 29–30) summarized (1) that social ranking is indicated by grades of burials that are distinct in the energy expended on them, and (2) that each grade contains all ages and both sexes. He went on to suggest that, in contrast to ranking, "inherited authority"—a term that he leaves undefined but presumably refers to inherited leadership positions and/or to the highest ranks—is to be found in (3) "symbols of authority" that crosscut age, sex, and physical predispositions to power, and (4) the disproportionately small number of persons of highest, "ruling" elite. Brown did not discriminate between the achieved and the inherited authority of institutionalized leadership positions, or the possibility of occurrence of social ranking with either or both forms of leadership within a society (see above). Brown also noted (5) that inherited authority—and to this can be added social ranking—is not indicated by child graves with wealth. He also posed (6) that grading of wealth among burials without symbols of authority—and to this can be added without symbols of rank—characterizes the acquisition of prestige and social positions through competition among equals, that is, achieved prestige.

Brown's analysis of Klunk–Gibson differs from Buikstra's and Tainter's in his emphasizing only the distinction between two burial tracks: the central tomb and ramp track, which involved the energy of disarticulating, bundling, and moving the skeleton; and the peripheral burial track, which involved no postmortem energy-expensive handling beyond primary burial. He noted the distinction between lined graves with extended and flexed burials and unlined graves with only flexed burials, but did not give weight to these

distinctions, or to the difference between log and limestone linings, in defining rank distinctions as did Tainter and Buikstra. Brown also noted the occurrence of objects of foreign origin in only central tombs, and several classes of locally available items in only the peripheral burials, compounding the difference in energy expenditure between the two burial tracks. However, he gave reasons for concluding that this difference is minimal and was exaggerated by Tainter. Brown used this position to argue that prestige in the Klunk–Gibson society might have been allocated primarily by achievement, or that it was vested in one segment of the community (i.e., social ranking), but that inherited authority was lacking. His interpretation that prestige might have been allocated by achievement is logical in light of the small energy costs he attributes to different tomb forms. In this scenario, the peripheral tombs would represent the largely undifferentiated population and the central tomb–ramp burial track would represent largely adult male leaders who won their position by achievement. Brown's alternative interpretation of social ranking is thus not supported by his own, stated read of the data.

Brown did not provide any criterion for assessing whether authority (i.e., leadership) was achieved or inherited. He only stated his opinion that the fancy artifacts found in the central tombs—including copper celts, a panpipe, and conch shells—were not symbols of authority (i.e., leadership), which eliminates the possibility that they represented inherited authority. His stance that the artifacts do not denote leadership is unconvincing. It ignores the association of celts and conch shell dippers with leadership in later Mississippian and Historic times, the foreign source of these and several other artifact classes, which may have indicated the role of leaders in external cultural affairs, and the association of predominantly mature males of leadership age with these items in the central tombs. Brown also ignored Buikstra's (1976) observation that the association of adult males with fancy items was yet stronger in flood plain mounds.

In a final twist in Brown's essay, he recalled Buikstra's observation that those buried in central crypts had significantly better health than other persons. This suggested to him that persons of the two burial tracks had "differential access to critical resources at times of food shortage . . . a privilege that is understandable as an inherited right" (J. A. Brown 1981:36). This ultimately led Brown to conclude the inheritance of prestige, that is, ranking, within the Klunk–Gibson community, despite the opposite conclusion warranted by the theoretical principles and data he brought to bear on the issue.[3]

Braun's Analysis

Braun (1979:67) argued that social ranking is indicated by: (1) multiple, qualitative mortuary attributes that can be interpreted as symbols of authority; (2) the consistent co-occurrence of these symbols across burials; and (3) the lack of association of these distinctions with persons of certain ages, of one sex, or of special personal abilities. The requirement of qualitative distinctions derives from a literal reading of Fried (1960). The remaining criteria come from Peebles (1974; Peebles and Kus 1977). Braun's emphasis on symbols of authority rather than symbols of rank, as well as his requirement for ranking that multiple mortuary attributes covary, both confound leadership with ranking, as discussed in the section on archaeological theory, above. This problem is apparent in his data analysis.

Braun, in good analytical form, limited the mortuary attributes he analyzed to those that might represent symbols of rank, based on the energy expenditure (labor) that they represented, their cultural value as inferred from whether they seldom or never were thrown away in village middens, and the insights of other researchers. He also argued for representation of an entire community in the Klunk–Gibson mounds, based on the demographic profile of burials, but unfortunately did not follow Buikstra's lead on the use of flood plain mounds by the same society. Finally, Braun (1979:68) noted the probable lack of organizational change during the history of use of the cemetery, based on the continuity in burial treatment across mounds. After these preliminaries, he used principal components analysis to extract from the data covarying sets of burial traits, in line with his requisite for social ranking, and

cross-tabulated the original variables and derived principal components with age–sex categories, again to determine if ranking occurred.

Several patterns in the data led him to conclude that prestige in the Klunk–Gibson community was not allocated by rank categorization. (1) None of the selected attributes were distributed among all age–sex categories according to their proportional representation in the cemetery. Instead, the attributes seemed to Braun to represent social identities open to various age–sex classes, especially adult males. (2) Most of the attributes were not available to adolescents—at the very time around puberty when they would probably have been initiated into their adult identities. (3) The principal components analysis found three dimensions that encompassed a good amount of the variability of the data and that corresponded in some of their correlated attributes to those inferred by Buikstra (1976) and Tainter (1975a, 1977) to indicate rank social segments. However, few of the attributes in each of these three sets associated strongly with each other and, thus, did not indicate redundant symbols of rank. (4) None of the three components was independent of age and sex. (5) The clusters of burials identified by the principal components analysis did not differ from each other by the presence of a few specific artifact types or other mortuary variables that might be interpreted as symbols of the rank of persons in those clusters. (6) The clusters also were not composed of a cross section of ages and the sexes.

None of the six points made by Braun except perhaps number 2, above, are grounds for rejecting the idea that the Klunk–Gibson society had ranking, for empirical, methodological, and theoretical reasons now to be discussed, in the order of points just made.

(1) Braun's finding that age and/or sex determined all attributes is directly contradicted by Buikstra's findings of approximately equivalent representations of subadults and adults, and males and females, in burials in mound fill, on the original ground surface, in peripheral subfloor pits with limestone or log construction, and in peripheral subfloor pits without limestone or slab components. The difference between the findings of the two researchers relates to three factors.

First, Braun did not segregate central tombs and peripheral burials on the basis of their location before looking at the age–sex distribution of construction techniques, whereas Buikstra did. The pattern of overrepresentation of adult males in central tombs thus bled into Braun's data on peripheral burials, but not into Buikstra's, enabling her to find relevant patterning that Braun did not. Second, the fact that Braun did not first separate central burials from peripheral burials before examining construction techniques for their age–sex distributions related to his confounding of the concepts of leadership and ranking, implicit in his focus on "symbols of authority." This confounding did not encourage Braun to consider whether persons buried within central tombs were leaders and their associates, whereas those buried peripherally were not, and whether separate age–sex distributions for these two kinds of burials should have been calculated. I would argue, as above, that symbolization of leadership at Klunk–Gibson was tied to central tomb burial, whereas ranking was manifested in other aspects of burial in peripheral locations, and therefore that separate age–sex distributions for these two categories of burials and others should have been calculated. Braun might have realized his confusion of leadership and ranking had he considered parallel and magnified patterning in flood plain Hopewell mounds, as Buikstra had. Third, Braun subdivided age data more finely than did Buikstra, into infants, children, adolescents, young adults, intermediate adults, and old adults, rather than simply adults and subadults. This commonly led to Braun's cross-tabulations of age against mortuary traits having few observations per average cell and some low marginal totals (Braun 1979:70), which are susceptible to both statistical problems and the vagaries of random circumstance and history. The thin data in Braun's cross-tabulations would have encouraged the association of mortuary traits with some age classes and not others. Fourth, societies differ cross-culturally in how finely they recognize differences in age as formal identities. The fact that Buikstra found equivalencies among age sets for some mortuary variables, whereas Braun did not, may imply that Braun's fine-grained, etic classification does not correspond as

well to Hopewellian age classification as does Buikstra's.

(2) Braun's (1976:21) observation that adolescents were underrepresented for many mortuary treatments seems, on the surface, to be a strong piece of evidence negating ranking, given that adolescents were nonetheless buried in the mounds at frequencies expectable by life tables. However, mortuary patterning is very rarely unidimensional in cause, cross-culturally (Carr 1995b). The almost-complete exclusion of adolescents from symbolic distinction suggests a strong cultural factor at work in addition to the ranking indicated by all other age classes. Taboos and proscriptions associated with the puberty transition, or the recognition of the coming-of-age in Havana culture after adolescence as defined by Braun (12–18 years), might have been involved.

(3) The lack of multiple, redundant mortuary symbols in the Klunk–Gibson mortuary record is significant not to the question of ranking but, instead, to the question of centralized and institutionalized leadership (see above). It is an expectation of ranking of Braun's (1979) and Peebles and Kus's (1977) that is unwarranted. In addition, the lack of strongly associating variables found by Braun on any one of the dimensions may well relate to his use of principal components analysis, which does not look for optimal correlation between input variables and extracted components (i.e., large positive and negative loadings). Factor analysis with varimax rotation is one method that would have been more appropriate for this task.

(4) Braun's finding that the first three principal components were not independent of age and/or sex relates to the same problems encompassed in his univariate assessments of age–sex distributions, as described in point 1, above. In addition, one need not expect all extracted components encompassing a high percentage of the variability in a mortuary data set to reflect rank; one component reflecting ranking would be more likely, with other components reflecting different social or other factors.

(5) The lack of distinction of the clusters of burials defined, through principal components analysis, by a few specific mortuary variables again very possibly relates to components not having been rotated. Factor analysis with a rotation that tightened the fit between the original data and the dimensionally reduced output data might have produced a clearer picture. Moreover, it is generally wise to use several multivariate techniques when searching complex data sets for patterning compared to expectations, in order to assess the various distortions produced by the techniques. Tainter (1975b) did this with the Klunk–Gibson data set and was able to discriminate between methods that produced sociologically cleaner pictures and those that created more confused ones. Buikstra and Brown found strong burial grouping by visual inspection, alone.

(6) The fact that the clusters of burials defined by Braun were not composed of a cross section of ages and the sexes again probably relates to the unclean definition of these clusters by principal components analysis, compared to what patterning factor analysis with rotation or other methods might have revealed. Tainter and Buikstra did find clear groups of burials that each had adults, subadults, males, and females, sometimes at their demographically expectable proportions.

Reinterpretation

A composite picture of lower Illinois valley Havana Hopewell social organization can be assembled from the four above-cited studies of the Klunk–Gibson burial mounds. When a clean picture is had of the diversity of ranking–leadership organizations cross-culturally, when the derivation of archaeological correlates of ranking is tied to this diversity, when appropriate quantitative methods have been used, and when data have been sifted for their relevance to ranking, an image of Havana society emerges. In all probability, it was organized by principles of ranking, though weakly. This is evidenced by relatively small differences in the labor expended on burying individuals on original ground surfaces versus in peripheral subfloor pits lacking limestone and/or log construction versus in peripheral subfloor pits elaborated with limestone and/or logs. Subadults, adults, and both sexes comprise each

of these burial categories approximately equally, as one would find in a rank group. Also, persons of apparently greater prestige in the peripheral log or limestone-constructed subfloor pits are much less frequent than persons of apparently lesser prestige in peripheral unelaborated subfloor pits, defining a pyramidal distribution of prestige that is found in some middle-range societies with ranking. Several rank levels may have been recognized socially, but the exact number is not known. Other distinctions in burial form need to be examined for their age–sex associations and relative frequencies (see Figure 6.1 and Note 1). What ranking that was expressed materially was apparently defined coarsely rather than as a fine continuum. Havana society seems to have had leadership positions that were filled by adult males by achievement or ranking or both. This is indicated by the largely adult males who were buried in fairly elaborately constructed central tombs that contained most of the highly valued artifacts—those that were not found in village middens, that had foreign or local sources, and that in some cases are known to have been symbols of leadership in later Mississippian and Historic period societies. In addition, these individuals were afforded more postmortem handling (bundling, removal to ramps) than persons buried in floor and subfloor peripheral locations. The small number of adult males buried in central tombs and ramps at Klunk–Gibson is also in line with their interpretation as leaders. If leaders were recruited from one or more rank groups, it is not known from which rank group or groups the posited leaders were recruited; there are no unambiguous symbolic associations between the adult males buried in the central tombs and persons buried in peripheral burials of different kinds—nor would this necessarily be expected, given the economy of symbolism and the prioritizing of symboled social dimensions in mortuary rites. Leadership was probably not centralized, as evidenced by a lack of clear covariation among mortuary traits that, by their represented labor and association with adults of leadership age, might have symbolized multiple, integrated leadership roles. However, there was possibly a two-level hierarchy of leadership positions, wit-

nessed in the dichotomous burial of leaders in simpler bluff-crest mounds and more elaborate flood plain mound–theater complexes. Leaders buried in both locations may have played important roles in external political, religious, or spiritual matters, as indicated by the Hopewell Interaction Sphere items with which some of them were buried. It is not known whether recruitment to these two possible levels of leadership was from two different rank groups or based on other criteria. Infants and children were not necessarily especially valued, their significant association with foreign artifacts of value apparently having been tied to their burial with adult males in central tombs. This represents a distinct shift from the handling of infants and children by Late Archaic peoples of the Woodlands, among whom these age categories received sizable quantities, if not the majority, of most kinds of fancy items (e.g., Nagy 2000; Rothschild 1979:664, table 6.1; Winters 1968:192–194, 196, 202–204). Adolescents were consistently not shown attention in materially visible mortuary practices, evidencing some strong cultural principle of unknown specifics but perhaps tied to puberty and/or the definition of adulthood. No firm statements can be made at this time about the distribution of wealth among rank groups or groups represented by burial in different bluff-crest mounds. Information on the distribution of quantitities of grave goods and other continuously varying mortuary traits among the burials at the Klunk–Gibson, Bedford, Peisker, and Kamp mound groups was not specifically analyzed and reported by Buikstra, Tainter, Brown, and Braun. Finally, I wish to emphasize, again, that most of these inferences could not have been made without the strong intellectual and empirical contributions made by Buikstra, Tainter, Brown, and Braun.

CONCLUSION

Over thirty-five years ago, Struever (1965:212–214) pointed to a large and wide suite of artifactual, architectural, site distributional, demographic, and ecological characteristics that differed between the Havana Hopewell and

the Scioto Hopewell archaeological records and natural environments. This suggested to him that Havana societies were tribal in complexity, while Scioto Hopewell societies were chiefdoms, in Service's (1962) terms. His characterization also implied that Havana Hopewell societies were not organized by principles of rank. Griffin et al. (1970) came to similar but less detailed conclusions.

Anthropologists now know that sociopolitical organizational diversity does not fall neatly into packets like tribes and chiefdoms and that different dimensions of organization can vary semi-independently of one another. For example, social ranking, supralocal leadership, centralized leadership, and recruitment of leaders through inheritance need not go hand in hand. J. A. Brown (1981:26) started archaeologists thinking about decoupling some of these dimensions when he defined "petty hierarchical societies"—those societies that had ranking yet lacked centralized leadership with institutionalized authority (e.g., chiefdoms). He pointed out that ranking and centralized authority have different root causes, the first in competition over marriage mates and wealth, the second in ensuring and controlling access to critical material resources and political security. In addition, Braun and Plog (1982) and Voss (1977) have separated the processes of formation of horizontal, tribal organizations (sodalities, other networks), which are focused on overcoming localized subsistence risks, from the issues of leadership type and recruitment.

The reassessment of Havana Hopewell social organization presented here suggests that it cannot be characterized as tribe or chiefdom in Service's, Struever's, or Griffin's frameworks. A detailed mapping of its various individual dimensions of organization is necessary, and also is feasible. While Havana Hopewell societies of the lower Illinois valley in all probability were organized by principles of rank, no evidence was found here for centralized leadership roles. Ranking was coarse, distinguishing only a few grades of persons, as is common among simple rank societies cross-culturally, and in contrast to the finer series of distinctions well known to anthropologists in the highly complex Polynesian chiefdoms. At the same time, a touch of complexity in ranking in the Havana case is found in the pyramidal distribution of certain rank levels and the greater inequity that this indicates. It is not known whether leaders were recruited by their fully personal achievements or by their rank, perhaps with an achieved component. However, there may have been two levels of leadership, which could well have been tied to rank distinctions.

Taken together, all of these facets of Havana Hopewell ranking and leadership are much richer than what might be captured with a simple dicotomy between "tribes" and "chiefdoms." Also, the detail obtained here on various features of Havana Hopewell society bears better potential for being related meaningfully to other aspects of Havana culture and life than a broad typological designation. In particular, with a clearer picture of the relations of prestige and power within Havana societies and the nature of leadership founded on these, it should be possible to develop more personalized reconstructions of the interactions of local Havana groups with each other during their gatherings in flood plain mound complexes and with peoples of other Hopewellian regional traditions.

Throughout this book, the fullness of reconstruction of Hopewellian societies that can be had by taking a personalized and contextualized approach to studying their archaeological records is emphasized. A beginning along this path is also made in this chapter. By taking a personalized approach that conceptually disaggregated several social roles and dimensions, especially social ranking and leadership, it was possible to reveal the confounding of rank and leadership by Buikstra, Tainter, Brown, and Braun conceptually, analytically, and/or empirically in their studies of the Klunk–Gibson cemetery. This insight paved the way for reassessing their analyses, which were not in agreement, and for making a solid determination that Havana Hopewellian societies were organized by principles of ranking. Personalizing the Hopewellian archaeological record through the identification of specific leaders and their symbols of leadership, in contrast to rank segments and their symbols of rank, was an essential part of the inferential process. Further, by taking the region rather

than the site as the unit of mortuary analysis, and by placing site-specific mortuary patterning in the context of regional patterning, the inference that persons buried in central tombs in bluff-top cemeteries were social leaders rather than a rank group was strengthened. These findings illustrate that, in mortuary studies, and in prehistory generally, "thick," contextualized, and personalized descriptions of a society can be essential to simply the basic accuracy of social reconstruction, let alone subsequent anthropological interpretation or explanation.

NOTES

1. It is also possible that other burial distinctions that vary in energy expenditure, beyond those defined by Buikstra and here and as shown in Figure 6.1 (e.g., disarticulated skeletal remains found in ramps in pits with or without log or limestone coverings, or on the ramps' surface; extended skeletons found in ramps in pits with or without log or limestone coverings, or on the ramps' surface) are age–sex independent and reference differences in rank. However, these possibilities were not explored by Buikstra. Other distinctions, such as whether a sub-floor pit was located below a primary or a secondary mound, more likely relate to the historical nature of mound accumulation.

2. Two variables that Tainter used in his cluster analysis but that might not have been relevant to energy expenditure in mortuary activity are the presence–absence of technomic items and the presence–absence of animal bone. These constitute potential sources of "noise" in Tainter's analytical search for ranking, but are only a small percentage of the 18 variables he used. They did not overwhelm the socially significant patterning in tomb form and location revealed by his cluster analysis.

3. Brown's logic here is unclear in another way, as well. Fried (1960) generalized that, cross-culturally, differential access to critical resources at times of food shortage is a characteristic of stratified societies, not rank ones as Brown would have it.

The Tripartite Ceremonial Alliance among Scioto Hopewellian Communities and the Question of Social Ranking

Christopher Carr

Within the Scioto and Paint Creek valleys around Chillicothe, Ohio, are five earthworks that form a fascinating pattern. The five are uniquely similar in shape, each having a large circle, a small circle, and a square. In addition, the earthworks and their corresponding parts are similar in size. In each case, the earthwork encloses about 31 hectares, with its large circle being about 16 hectares, its small circle about 4 hectares, and its square about 11 hectares (DeBoer 1997:232; Romain 2000:32–60). The five sites are Seip and Baum in the main Paint Creek valley, Frankfort or Old Town in the North Fork of Paint Creek, and Liberty and Works East in the adjacent main Scioto valley (Figures 7.1a–e and 7.2). Squire and Davis (1848:plates 20, 21) first pointed out this suite of sites over 150 years ago, and it has stimulated much interest and interpretation since then (e.g., Byers 1996; DeBoer 1997; Greber 1976, 1979a, 1979b:27, 1983:89, 1997:216–220). The five earthworks are distinguished from one-part, squarish or diamond-like-shaped enclosures such as Tremper and Mound City, which predate much of Seip and Liberty (Ruby et al., Chapter 4;

Weets et al., Chapter 1 Greber 2003; Prufer 1961a:702–714; 1964a:44–52; Ruhl 1996, chap. 19; Ruhl and Seeman 1998); from the bipartite square-and-circle earthwork of Hopeton, which also predates much of Seip and Liberty (Ruby et al., Chapter 4); and from other one-part and two-part earthworks that are comprised of a square, a circle, both, or other shapes, and that are of unknown age.

Remarkably, the tripartite pattern witnessed in the layout of the five earthworks is paralleled by the tripartite division of charnel houses for processing and burying the dead at two of the earthworks: most obviously the charnel house under the Conjoined mound at Seip, but also apparently one under the Pricer mound at Seip and another below the Edwin Harness mound at Liberty (Figure 7.1g–i). The Conjoined and Pricer charnel houses, in turn, were both covered initially with three primary mounds, and the Harness charnel house may also have been (Greber 1979b). Within the Old Town Works, Porter Mound 38 and its two conjoining mounds resemble the tripartite Seip–Conjoined and Seip–Pricer
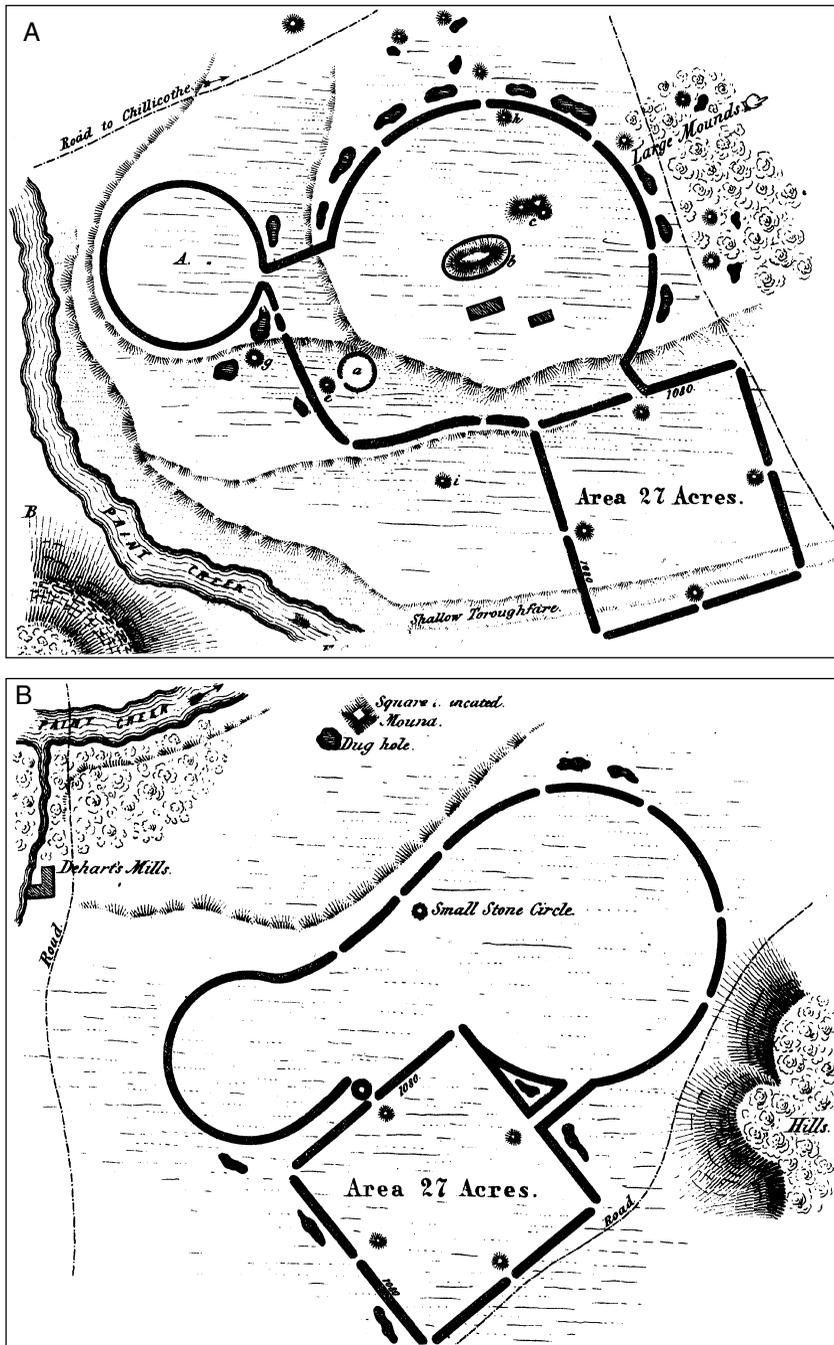
Figure 7.1. Earthwork layouts and floor plans of burial mounds discussed in this chapter. (A) Seip earthwork and (B) Baum earthwork in the main Paint Creek valley. (C) Liberty Earthwork and (D) Works East in adjacent portions of the Scioto valley. (E) Old Town Works at Frankfort and (F) Hopewell earthwork in the North Fork of Paint Creek valley. (G) Floor plan of the Seip–Pricer mound. (H) Floor plan of the Seip–Conjoined mound. (I) Charnel house under the Edwin Harness mound. (J) Floor plan of Hopewell Mound 25. (K) Floor plan of Raymond Ater mound. (A–F) From Squire and Davis (1848: Plates X, XX, XXI). (G, H) From Greber (1979: 58,66) by permission of AltaMira Press. (I) From Greber (1983:28) by permission of AltaMira Press. (J) From Greber and Ruhl (1989:50) by permission of N'omi Greber and Katharine Ruhl. (K) From Greber (1979:68) by permission of AltaMira Press.

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Figure 7.1. (*continued*)

260

E

McNeil.

Area 27 Acres.

1080

1080

Low Bottom.

Spring

FLINT CREEK

N. FORK

FRANKFORT.

Indian Graves.

B

F

Elevated Table Land.

B

T

Table Land.

Spring.

Spring.

Ditch

Dug hole

850 ft.

Gateway

Area 10 Acres.

House

Area 111 Acres.

Embankment

Ditch

850 ft.

Embankment

Frankfort

Copious Spring

Gateway.

Clark's.

Gateway.

Gateway.

NORTH FORK WORKS.

ROSS CO. OHIO

E.G. Squier & E.H. Davis Surveyors.

Low Bottom Land.

Figure 7.1. (*continued*)

261

G
CREMATORY BASIN
GRAVE-LIKE STRUCTURE
SELECTED POST MOLDS
GRAVES
HEARTH
PIT

SEIP MOUND 1
FLOOR UNDER PRIMARIES

10 FT.

N

H

CREMATORY BASIN
POST MOLDS
GRAVEL
CREMATION
BURIED AREA
GRAVES

10 FEET

N. GREBER

Figure 7.1. (continued)

262

Figure 7.1. (*continued*)

mounds (Greber 2003:91; Moorehead 1892:133; Squire and Davis 1848:plate 21.4). The large, tripartite charnel buildings at Seip and Liberty contrast with the small, one-room charnel buildings at Mound City, which preceded them, and the two-part charnel building at Ater, which postdates them (Prufer 1961a, 1964a).

The regular appearance of architectural units with three components at the scales of both the site and the building/mound begs for interpretation. What cultural meanings are to be attributed to them? Well-trained archaeologists would immediately consider explaining the reg-

ularity with at least three of the primary dimensions of causation evoked in archaeology: differences in the function of the three parts of the earthworks and charnel houses, differences in the social affiliation of those who built them, and history, in the sense of additions to the structures over time. Interpretations of each of these kinds have been posited. The square and circular elements of the earthworks have been conjectured to have functioned for residence versus gardening (Morgan 1965:232–244), to have symbolized different realms of the cosmos and functioned to hold different kinds of ceremonies

K
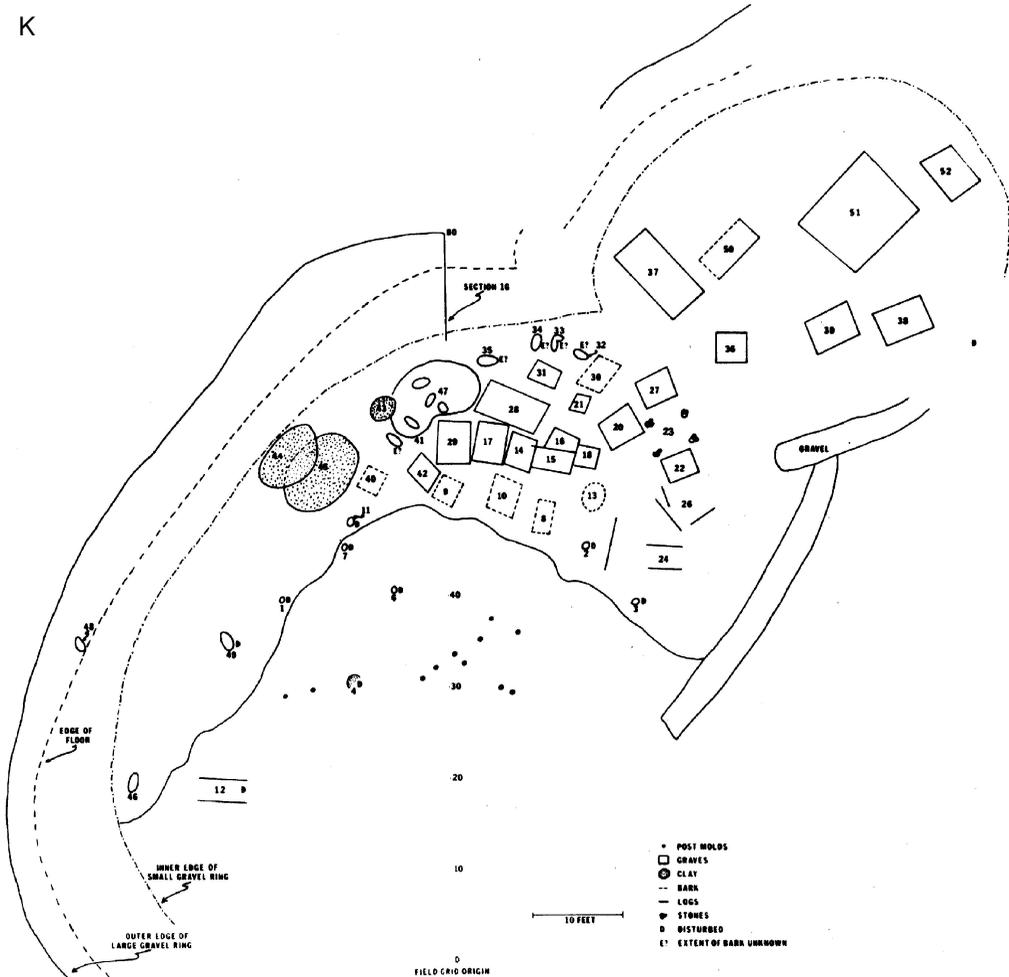
Figure 7.1. (*continued*)

(Romain 2000), and to have symbolized the senior and junior halves of a dual social organization as well as in-marrying foreigners (Byers 1996; DeBoer 1997). Different charnel house rooms have been interpreted as places where persons of different rank were buried (Greber 1976, 1979a) and places where members of different generations, and lay persons versus religious leaders, were buried (Byers 1996). Finally, earthworks have been seen as accretionary, with squares added to circles over time (Dancey 1996a:401–402).

These interpretations vary in the richness of their empirical foundations and in the logic of their bridges between data and interpretation. The most empirically detailed analyses of the sites and charnel houses are Greber's (1976,

1979a, 1979b; Greber and Ruhl 1989) studies of the mortuary remains from the Seip–Pricer, Seip–Conjoined, and Edwin Harness mounds, in comparison to one another and to the remains from the Ater mound and Hopewell Mound 25, in the general vicinity. Greber interpreted the three charnel house rooms and clusters of burials under both of the Seip–Pricer and Seip–Conjoined mounds to represent three ranks of persons within one society in the vicinity of Seip, and the three charnel house rooms and clusters of burials under Edwin Harness to represent three rank groups in a second society around Liberty. She concluded that the two room charnel house and two burial clusters under the Ater mound represented another society and the several burial clusters under Hopewell 25 yet another society, which were
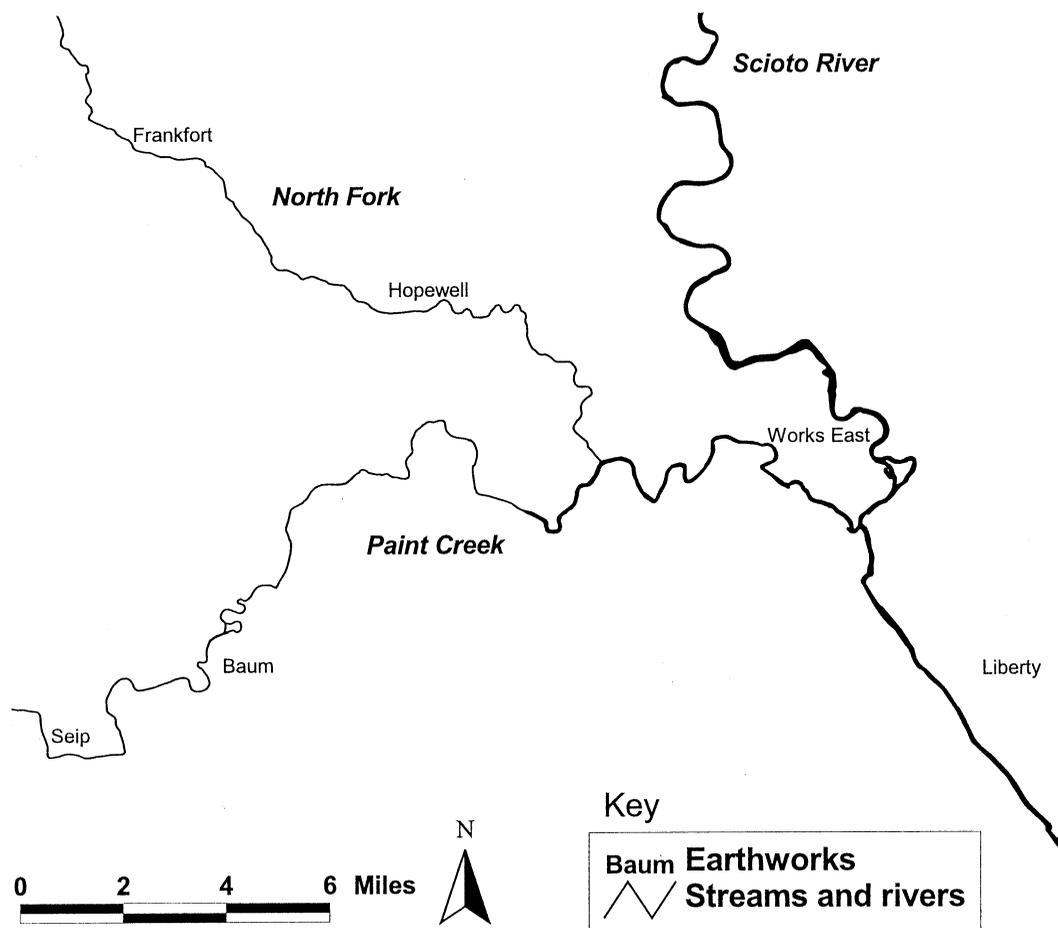
Figure 7.2. **Locations of earthworks with tripartite symbolism in the Scioto valley–Paint Creek valley region.**

organized differently than those around Seip and Liberty and differently from one another, although she did not offer any specific sociological reconstruction for the burial clusters at Ater and Hopewell 25. In all, the studies indicated to Greber (1979a) several societies that were strikingly diverse in their social organizations, despite their having lived in a very small area.

This chapter reviews Greber's (1976, 1979a, 1979b; Greber and Ruhl 1989) analyses of the mortuary remains under the Seip-Pricer, Seip-Conjoined, Edwin Harness, Hopewell 25, and Ater mounds, as well as the Burial Place within the Great Enclosure at Turner, and finds that her interpretations about social ranking and social organizational diversity in the Scioto-Paint Creek area are unlikely. Greber's studies are found to have fundamental conceptual, method-

ological, and empirical problems, relative to current understandings about social organization and its material, archaeological correlates, and relative to thought on these subjects at the time of her writing. Through a reevaluation of the mortuary data with contemporary anthropological and archaeological ideas and methods, it is concluded instead that the three distinct burial clusters within each of the charnel houses under Seip Pricer, Seip-Conjoined, and Edwin Harness, the three major burial clusters under Hopewell 25, and the two under Ater represent persons who were members of respectively three and two different allied communities in different, neighboring valleys in the Scioto-Paint Creek area and who were buried together in order to solidify an alliance among the communities. By burying their dead together, the communities

wedded their ancestors in an essentially permanent afterlife existence, thereby giving the living strong reasons for upholding the principles of alliance–a practice and ideology that has ethnohistoric analogs in the Eastern Woodlands, and deep prehistoric roots there. In the Scioto case, the allied communities also apparently planned together the architecture of their charnel houses, mounds, and earthworks, and possibly pooled labor to build them, evidenced by the close similarities across communities in the forms and sizes of these constructions. The alliance interpretation of tripartite mortuary patterning at the level of burials, charnel house, and mound in turn makes sense of the similar shapes and sizes of the tripartite earthworks of Seip, Baum, Frankfort, Liberty, and Works East to each other.

The mortuary and regional analysis made here, in conjunction with information from Chapters 5 and 13, also reveals several additional, essential features of Scioto Hopewellian community organization. Specifically, it is unlikely that the three allied communities thought of themselves as one integrated society, or were unified by one or a few strong, centralized leadership positions with power over all three communities. However, two kinds of supra-community leaders, who shared power with many other kinds of local community leaders in a decentralized arrangement, appear to have arisen as the alliance developed. These positions were marked by plain copper headplates and conch shell vessels with dippers. Also, at least two kinds of sodalities, indicated by copper breastplates, copper earspools, and perhaps other symbolic artifacts, arose with the alliance and integrated persons within single communities, and probably multiple communities. Finally, the three-community alliance represented materially by tripartite architecture is found to have broken down at the end of the Middle Woodland into a two-community alliance, represented by the two burial clusters and one empty charnel room under the Seip-Conjoined mound and the two burial clusters and lobes of the Ater mound. Significantly, earthwork building in the Scioto valley ceased about this time of alliance disintegration.

No final conclusion is reached here on whether Scioto Hopewellian societies were or-

ganized by principles of rank. However, some sociological reasons are given as to why ranking might not have been primary in importance for symboling with burials within charnel houses, if ranking did exist, and evidence is cited for how ranking very likely was displayed in several alternative manners.

Our journey to understanding the intriguing, tripartite symbolism of both earthworks and burials within charnel houses in the Scioto-Paint Creek area is long and somewhat indirect, but one meant to reach a conclusion built on a firm, logical, and empirical foundation. The chapter begins by examining Greber's interpretive goals and general analytical approach to studying the organization of past societies through mortuary remains. It goes on to describe the sample of burials and the mortuary traits that she selected to study and evaluates their relevance to social ranking and to her interpretation of the burial clusters as persons of differing rank. Finding essential difficulties with her general approach, data, and conclusions, the chapter proceeds to reanalyze and reinterpret the mortuary data from the Seip-Pricer, Seip-Conjoined, Edwin Harness, Hopewell 25, and Ater mounds in a more modern framework, which is presented in Chapter 6. As preliminaries to the reanalysis, mounds of differing function, where different social categories of persons from a community were segregated from each other for burial, are identified. The social roles marked by specific artifact classes, including copper headplates, celts, breastplates, and earspools, and the degree of social prestige marked by cremation and inhumation, are also defined. Next, eight possible, alternative interpretations of the organization of burials into clusters under each of the five mounds are scrutinized for their empirical credibility relative to current social anthropological and mortuary theory. The eight possibilities include clusters as: rank groups, leaders of different roles or leaders versus followers, age sets or gender sets, sodalities, clans or phratries, persons who differed in their circumstances of death and social classification at death; persons who were bound to different afterlives; and persons from different communities. Evaluations of these alternatives are made by considering the distribution among burial clusters of artifactual

markers of various leadership roles, sodalities, and animal totemic groups, of persons of various age and sex classes, of social prestige gauged by mortuary energy expenditure, and of the numbers of persons per burial cluster. These spatial patterns and some ethnohistorical analogs point to the identity of the individual burial clusters as representative members from different communities rather than other distinct social categories. Thus, the interpretation of a three-way intercommunity alliance and its partial break-up is richly supported empirically. This interpretation is then elaborated by placing it the context of general anthropological theory on alliance formation and the long-term, culture-historical development of alliance strategies in the greater Scioto area from the Late Archaic through the Early Late Woodland.

The chapter ends with a discussion of the many implications of the reconstructed alliance and its change over time for current thinking about Scioto Hopewell cultural practices and prehistory. One of the most important implications is the need for substantial revision in the vacant ceremonial center–dispersed hamlet model of Ohio Hopewell community organization offered by Prufer (1964a, 1964b) and reiterated by Dancey and Pacheco (1997). The analyses presented here indicate that the typical dispersed Scioto Hopewellian community was not focused on one earthwork of generalized function at the center of its territory in a "bull's-eye" fashion. Instead, members of a community commonly used multiple earthworks that had specialized functions and that were located both within and outside of their communal areas. Also, singular earthworks commonly were used, and perhaps built, by persons from multiple communities. These conclusions corroborate those reached by Carr (Chapter 3) and Ruby et al. (Chapter 4), who consider a much broader array of archaeological evidence. Other essential Hopewellian cultural practices and aspects of prehistory upon which the alliance interpretation bears include contrasting views of the Hopewell world as revolving around competitive displays (e.g., Brown 1981; Buikstra and Charles 1999) versus a Pax Hopewelliana (e.g., Hall 1977), Greber's (1979a) idea that closely neighboring Scioto Hopewellian communities differed greatly in their social orga-

nization, and Braun's (1977, 1986) thoughts on the role of development of pan-society sodalities in the decline of Hopewellian ceremonialism.

This chapter follows the theoretical and methodological framework established in its companion piece, Chapter 6, for assessing whether ranking existed in a prehistoric society and, in this way, continues the themes of this book. Specifically, refined archaeological correlates of social ranking are used and distinguished from some other forms of vertical social differentiation, including leadership, wealth, and achieved prestige. These fine-grained distinctions help to personalize Hopewellian archaeological records. In addition, the region rather than the individual cemetery is taken as the unit of study of burial programs. Allowance is made for the possibility that burial mounds and mound complexes were functionally differentiated, with different social categories of persons within a community having been buried in different mounds and/or mound complexes over a landscape. Also, consideration is given to the possibility that persons from multiple, closely cooperating communities might have been buried together within a single mound or mound complex. Exploring these possibilities helps to contextualize Hopewell locally.

This chapter goes further than Chapter 6 in personalizing mortuary records in that the specific social roles that used and were marked by certain artifact classes are identified: leadership roles indicated by headplates and celts, and membership or achievement in sodalities marked by breastplates and earspools. Defining the kinds of social actors who used these items, rather than lumping them under the general category of "status markers" (Binford 1962:219; Braun 1979:67; Brown 1981:29; Hohmann 2001; Loendorf 2001; Peebles and Kus 1977:431; Struever 1964:88; Struever and Houart 1972:49), is found helpful in discriminating between ranking and other forms of social differentiation archaeologically, which in turn is necessary to determining whether a society had social ranking. Sociologically contentless, structural descriptions of mortuary records at the intrasite scale, of the kind generally advocated by Binford (1971) and specifically used in Ohio by Greber (1976, 1979a, 1979b), are shown to be insuffi-

cient in the cultural information they embrace for sorting out the nature of Hopewellian societies.

The studies presented here are made possible not only by the refinements in ethnological and archaeological thinking about ranking presented in Chapter 6, but also by certain critical, empirical advances. These include recent systematization of the mortuary records of Ohio Hopewell peoples, including coverage from 32 cemeteries, greater detail on artifact classification, function, and provenience (Case and Carr n.d.), more modern skeletal studies (Johnston 2002; Konigsberg 1985), and evaluations of the reliability of earlier skeletal analyses (Case and Carr n.d.). Greber's (1976; Greber and Ruhl 1989) assembly of floor plans for the sites studied here have been seminal to integrating these several kinds of data. Better absolute chronological control has also been important (Greber 1983, 2000, 2003; Hatch et al. 1990).

Finally, it is important for the reader to know that the analytical results obtained here, and the interpretation of intercommunity alliances inferred, came as a complete surprise to me as I worked through the data. This study was begun simply as a search for evidence of whether Scioto Hopewell societies were organized by ranking. When data patterns found by Greber could not be explained in this manner, many alternative interpretations were weighed and additional archaeological evidence was consulted in an attempt to understand the patterns. The intercommunity alliance model developed here was the *last* interpretation that came to my mind, after other, more traditional possibilities failed empirically. However, the model quickly showed its power in making sense of multiple kinds of archaeological patterning within the five burial mounds and at the regional scale.

TERMINOLOGY: SOCIETY AND COMMUNITY

This chapter brings together several literatures of varying age that use different terms for roughly similar concepts. The terms are *society, dispersed community*, and *local symbolic community*. Greber (1976, 1979a) spoke of Hopewellian societies, a society being implied to be a group

of people who lived in dispersed households and hamlets in the vicinity of a major earthwork or mound like Seip or Liberty or Ater and who built and used it. Dancey and Pacheco (1997) used the terms community and dispersed community to refer to this same concept. Societies and communities are seen by these authors as self-identifying, territorial, and largely self-sufficient (Dancey and Pacheco 1997:10). In contrast, Ruby et al. (Chapter 4) define the local symbolic community as a network of persons with a constructed sense of identity and common purpose who live in the vicinity of each other. However, a local symbolic community need not be firmly territorially bounded, united with the goal of owning, maintaining, or using a territory, nor is it necessarily stable over time. The local symbolic communities that Ruby et al. envision in the Scioto Hopewell case are somewhat fluid and dynamic in membership, in response to shifts in any of a variety of cultural needs or environmental conditions at the time. Significantly different from Greber's, Dancey's, and Pacheco's notions, in the model of Ruby and coworkers, a single local symbolic community might encompass multiple earthworks of varying ceremonial function, and multiple, neighboring local symbolic communities might build and use a single earthwork. In this view, the social and ceremonial landscape was more complex and interactive than Greber, Dancey, and Pacheco envisioned.

In this chapter, I use the term society when discussing Greber's work, in line with her terminology, conceptual framework, and interpretations. The term local symbolic community, or community for short, is transitioned into the text when presenting my own analysis. The term social organization is used generically to speak of social relations and actions in any of the above social units.

A PREVIOUS STUDY OF OHIO HOPEWELL SOCIAL ORGANIZATION BY GREBER

The topic of Scioto Hopewell social organization, as well as the more specific question of whether Scioto Hopewellian societies were organized by principles of ranking, has attracted surprisingly

little systematic analysis by archaeologists. Most of what is known on these subjects derives from studies of burial patterning made by N'omi Greber (1976, 1979a, 1979b) more than 20 years ago, and a much more focused but seminal study on charnel house usage by James Brown (1981).

In part, the little attention given to Scioto Hopewell social organization stems from the elaborateness and large scale of the Scioto Hopewellian archaeological record. Certainly, the presumption runs, Scioto Hopewellian societies must have been complex, with ranking and centralized leadership, to have organized and carried out with such exactitude and fineness their accomplishments in crafts and site architecture—an argument that Brown (1997a) has called the "awe effect." In part, the paucity of study of Scioto Hopewellian societies also relates to the unsystematic and only partial presentation of mortuary data in Ohio mound excavation reports of the early 1900s. Difficulties with artifact and burial proveniences within sites, as well as poor documentation of the age and sex of the deceased, have discouraged most from attempting mortuary studies of social organization that require these details.

Greber's Studies of Scioto Hopewell Social Organization and Her Approach

This section describes Greber's general goal in studying Ohio Hopewell social organization and the general approach and logic that she used. The section clarifies why her approach and logic were not, in retrospect, conducive to determining whether Ohio Hopewellian societies were organized along lines of ranking.

Greber documented and analyzed mortuary patterning in six Hopewell mounds within Ohio: the large Pricer mound (also called Mound 1) and the smaller Conjoined mound (also called Mound 2) within the Seip earthworks, the Edwin Harness mound within the Liberty earthworks, the Raymond Ater mound, Mound 25 within the Hopewell earthworks, and a low, oblong mound called the "Burial Place within the Great Enclosure" of the Turner earthworks (Figure 7.1). The first five mounds are found near the confluence of Paint Creek and the Scioto River, near Chillicothe, Ohio (Figure 7.2), while Turner is lo-

cated in the Little Miami drainage. Two works by Greber (1976, 1979a) examine societal diversity across Ohio Hopewell through a comparison of the mounds at Seip, Ater, and Turner. One work of hers (Greber 1979b) focuses on the tripartite organization of the Seip–Pricer, Seip–Conjoined, and Edwin Harness mounds. Her last study (Greber and Ruhl 1989:46–64) is a largely descriptive report of patterning at Hopewell Mound 25.

Greber did not aim explicitly at determining whether Scioto and Miami Hopewell societies were organized by principles of ranking. Her stated goal was broader: to describe the structure and organization of Ohio Hopewellian societies, by which she meant identifying socially recognized groups of persons and their horizontal or vertical relationships to each other (Greber 1976:2, 5–7, 1979a:37, 1979b:36). She was also concerned with measuring and comparing the overall social complexity of individual Ohio Hopewellian societies (Greber 1976:7; 1979a:35).

Greber's approach to studying society was strongly influenced by her earlier graduate studies in mathematics. She was drawn in concept to abstract sociological measures of organizational complexity (Haray 1959, in Greber 1979a:38; see also Greber 1976:7–8) rather than anthropological studies of social structure and dynamics from a group perspective (e.g., Evans-Pritchard 1940; Murdock 1949a). She also did not embrace the potent anthropological frameworks for studying social organization that focus on individual social positions and roles (Firth 1951; Goodenough 1965; Nadel 1957; Parsons 1949) and that have served as a core for modern archaeological theory on mortuary remains (e.g., Binford 1971, Peebles 1974; Saxe 1970; Tainter 1975a) just predating her studies. Social studies focused on the individual had, for her, "the practicality of counting all the individual grains of sand on a beach after picking up each one" (Greber 1976:8). In emphasizing the search for social groups and the abstract measurement of social complexity, Greber (1976:7–8, 1979a:38) briefly envisioned how the overall hierarchical complexity of a society might be summarized by considering the number of vertically differentiated groups within it and the number of individuals within each group; she

also discussed finer calculations of the "ranks" of individuals, following the sociologist, Haray (1959). However, in her studies, she did not describe or use quantitative measures of complexity corresponding to these images of complexity, as had Tainter (1975a), though she cited his quantitative research (Greber 1976:24–25). Why she did not is unclear.

Greber did not align herself with the "search for rank" paradigm in mortuary archaeology of the time (e.g., J. A. Brown 1981; Buikstra 1976; Peebles 1974), nor did she concern herself with the archaeological exploration for other ethnographic-level details of society such as moieties and dual organization, the ascribed versus achieved recruitment of leaders, or distinctions in their authority and power (Greber 1979b:36). Her preference was to keep analysis and interpretation at an abstract level. This situation stemmed not only from her predisposition to the mathematical, but also from the limitations she saw in social typologies and the use of societal features to typologically characterize the nature of a particular society. She commented on the wide range of variability in social relationships that social typologies mask under a given type (Greber 1976:9–10, 1979a:38, 1979b:36). However, in rejecting social typology, she also unfortunately set aside the archaeological search for the specific societal features on which social types had been built (Greber 1979b:36), such as ranking. Finally, Greber's bypassing of the study of ethnographic-level details such as ranking, in favor of broader generalizations about structure, derived from her lack of confidence in the ability of archaeology to map such details with accuracy. "A more abstract descriptive scale may provide a less predetermined framework for considering social structures. Such an abstraction has a double necessity in dealing with prehistoric peoples known only through archaeological data" (Greber 1979b:36).

In departing from mainstream anthropology on social organization and archaeological interests in it, Greber also did not explicitly employ most of the middle-range theoretical principles that were being developed in archaeology at the time for identifying societal features with archaeological data. Her discussions of this body of theory were limited largely to the most general conclusions of Binford (1971) and Saxe (1970)—that the organization and complexity of a society structure its mortuary practices, which are in turn observable in patterned relationships in a burial population. She rewrote these general ideas in terms of identifying social groups archaeologically (Greber 1976:15–19). The one exception to Greber's not using detailed, middle-range, archaeological theory was her interest in Binford's (1971) finding of a correlation between burial location and social categories. Greber posed—though did not test ethnographically—an elaboration of this correlation: that "distinctions indicated by [the] use of space in [the] mortuary activities [of a society] are likely to coincide with the components which are basic to the social organization" (Greber 1976:17). However, we will see below that spatial clustering and separation of burials can represent a variety of other cultural matters. Finally, Greber did not explore the regional, multi-cemetery approach pioneered by Peebles (1971) for evaluating social ranking, or J. A. Brown's (1971) formal-analytic approach to defining rank levels.

These understandings of Greber's goals and approach in studying social organization draw into question the credibility of the statements she has made about social ranking in Ohio Hopewellian societies. Specifically, although she offered no anthropological definition of ranking, no models of the possible variant organizations of rank societies, and no formal expectations of their possible archaeological manifestations against which to interpret data, Greber nonetheless concluded (or assumed—it is unclear)[1] the rank nature of organization of most of the Ohio Hopewellian societies that she studied. She envisioned organization by "ranking" for those buried in Seip–Pricer (Greber 1979a:45), Ater (Greber, p. 51), and Turner (Greber, p. 54); "kin-related" "ascribed" membership in the three major social divisions represented by three clusters of burials at Seip–Pricer, Seip–Conjoined and Edwin Harness (Greber 1979b:38); and a lack of "ranking" of the three social divisions represented by the three major burial clusters at Hopewell Mound 25 (Greber and Ruhl 1989:57). These conclusions were not derived formally and explicitly through the relating of anthropological and archaeological theory about ranking to data.

It would be unwarranted to accept these conclusions today, uncritically, as known features of Ohio Hopewellian societies.

Selection of Burials That Are Representative of a Society

The ethnology of ranking and leadership, and contemporary middle-range theory on mortuary practices, as summarized in Chapter 6, imply that certain conclusions about Scioto Hopewell social organization can and cannot be drawn from Greber's analyses of mortuary data from the Pricer, Conjoined, Edwin Harness, Hopewell 25, and Ater mounds, and the Burial Place within the Great Enclosure at Turner. These qualifications are discussed in this section and the next by applying to Greber's study the first two methodological steps outlined in Chapter 6 for assessing whether a past society was organized by principles of rank. Here, the samples of burials that Greber selected for analysis are evaluated for their adequacy and relevance in determining whether ranking existed in Ohio Hopewellian societies, and in measuring their social complexity in general. In the next section, the descriptive mortuary variables that she selected are similarly evaluated.

The study of ranking with mortuary data requires, as a first step, the selection of a set of burials that constitutes the entirety of a society or a representative cross section of its social categories. Greber assumed in her studies that a single mound constituted a complete cemetery for a whole society, rather than some particular segment of it. This cannot be shown for any of the mounds that Greber analyzed and is one of the most fundamental problems with her studies. The problem has four aspects.

First is the strong possibility that the deceased from some single Ohio Hopewellian dispersed communities were buried not in one mound, but across multiple mounds within an earthwork or among multiple earthworks, with different kinds and ranges of categories of persons buried in different places, according to social or other principles. The burials within a single mound or a single earthwork might thus represent only a select and biased portion of a community. This appears to be the case for the Seip–Pricer mound and Hopewell Mound 25, and

possibly for the Ater and Edwin Harness mounds. In Seip–Pricer and Hopewell Mound 25, the percentage of buried persons who were social elites is much greater than one would expect for a single farming community. Within these cemeteries, 29.8% and 22.5%, respectively, of those buried were placed with finely crafted, regionally infrequent, exotic copper headplates, celts, and/or breastplates, which probably marked community leadership, sodality leadership, or achievement of a prestigious level within a sodality, respectively (see analyses below). These high percentages of leaders and other elite suggest that burial within Seip–Pricer and Hopewell 25 was restricted to some degree to persons of importance and, perhaps, their close consanguines and/or affines. In turn, other segments of the community or communities from which these elite came would have been interred elsewhere. The same situation may hold in greater moderation for the Ater and Edwin Harness mounds. In these two mounds, the percentages of persons interred with headplates, breastplates, and/or celts are 15.0% and 13.2%, respectively. In addition, what is known about the age–sex composition of the burials in certain earthworks and mounds also hints at the disproportionate burial of persons of import at them (Appendix 7.1). Adult males appear to be overrepresented in Hopewell Mound 25, possibly Hopewell Mound 23, and probably the other smaller mounds at the Hopewell site as a group, as well as in the Burial Place within the Great Enclosure of Turner and in the other burial mounds at Turner. Carr (Chapter 3) and Ruby et al. (Chapter 4) summarize other evidence that Scioto Hopewellian mounds and earthworks were functionally specialized and that indicate a general cultural context in which one might expect the separation of persons of different social categories for burial in different mounds or earthworks at death.

The second cause for concern about the archaeological samples of burials that Greber used is the possibility that the corpses in some mounds with flamboyant ceremonialism, such as Hopewell 25, Seip–Pricer, and Edwin Harness, derived from multiple communities that gathered for rituals, feasting, gifting, and alliance, rather than one community. Carr and Maslowski (1995:339) reported some stylistic evidence that

hints that this was the case for these mounds. Buikstra and Charles (Ruby et al., Chapter 4; 1999:206–215; Charles and Buikstra 2002:12) concluded a similar situation for Illinois flood plain mound groups, based on the size and composition of the burial populations and artifact assemblages within them. The Illinois case cautions us to look for analogous burial programs in Ohio. In point of fact, the conclusion drawn below from a reassessment of the mortuary patterns within the Seip–Pricer, Seip–Conjoined, Edwin Harness, Hopewell 25, and Ater mounds is that multiple communities did bury their dead together in each of these cemeteries. Finally, Carr (Chapter 3) and Ruby et al. (Chapter 4) present a variety of lines of intrasite and regional archaeological evidence that suggest that multiple, dispersed communities built and used individual ceremonial centers in the Scioto–Paint Creek area, creating a general cultural context in which specifically the joint burial of persons from multiple communities in one cemetery might be anticipated.

The third aspect of the issue of societal representation in Greber's sample of burials pertains to the analytical universe: which excavated burial populations within an earthwork should have been analyzed together or separately to obtain a reasonable cross section of a community, if one could be had? Greber chose to analyze the burial populations from Seip–Pricer mound and Seip–Conjoined separately from each other, the burial population from Hopewell Mound 25 separately from the burials recorded at 17 other excavated mounds at the site, and the burials under the Edwin Harness mound separately from those within the Russell Brown mounds, all associated with the Liberty earthwork. Her decision to analyze Seip–Pricer and Seip–Conjoined separately is reasonable. Several kinds of data suggest that the use of the burial floor at Seip–Pricer mound preceded the use of the burial floor of Seip–Conjoined, rather than the contemporaneous use of both floors (Greber 1979b:37; see also 1997:215). However, at Hopewell, the two large burial populations in Mound 25 and Mound 23 have yet to be dated relative to each other. These are suspiciously complementary in their burial com-

position. The burials in Mound 25 are rich in grave offerings and/or tomb construction about a third of the time, and are disproportionately adult males, whereas those in Mound 23 are largely poorer in grave offerings and tomb construction, and are less clearly male dominated. The remaining small mounds at Hopewell vary in the richness of their burials and, taken together, have the most equitable proportion of adult males and females. These circumstances suggest that, if the Hopewell site was the remains of largely one society, an analysis of more than Mound 25 would be necessary to describe that society's structure and complexity—in contradiction to Greber's assumption that "the whole society [was] represented within the Central Mound" (i.e., the main section of Mound 25) (Greber and Ruhl 1989:56). It is interesting, in this light, that Greber did *not* find any evidence for vertical social differentiation of the three main clusters of burials under Mound 25 that she assessed quantitatively; such social differences appear to have been expressed between mounds. Finally, at Liberty, Greber analyzed the remains from only the Edwin Harness mound. However, one or more of the three, small Russell Brown mounds just outside of the earthwork walls appear to have been used for burial at the same time as the Harness charnel house (Seeman and Soday 1980:93), and probably should have been included in her burial sample. Their exclusion, given their undistinguished and small numbers of burials, would seemingly be more consequential to an assessment of the number of rank groups found at Liberty than to whether or not ranking existed there.

The fourth aspect of the problem of societal representation is cemetery excavation coverage. Only half of the Raymond Ater mound (all of one lobe and a third of the second) was excavated, the remainder having been bulldozed away. The number of burials and the amount of burial diversity lost through destruction are unknown. Significantly, the Ater mound was concluded by Greber to represent a simpler society with fewer group distinctions than the community that she thought was represented by the Seip–Pricer mound, which was almost completely excavated. This conclusion is premature, in light of the sampling issue at Ater. Cemetery repre-

sentation at Turner is poor. The burials selected by Greber for detailed study came from the small minority of an area under a low, oblong mound known as the Burial Place of the Great Enclosure. Information is missing from large expanses of area between the three excavation blocks dug by Willoughby, Putnam and Metz, and Saville. Within these blocks, not all burials were recovered and studied, due to poor preservation and past disturbances. Also not included and/or available for study by Greber were numerous other, fragmentary skeletons in two other groups within the Enclosure, burials from six mounds that contained skeletons and that were within and adjacent to the earthwork, and burials under the embankment of the Enclosure (Greber 1979a:52). Similar to the situation at Ater, it is significant that Greber did not find evidence of vertical social differentiation among the two major groups of burials that she defined there (by burial orientation) or between burials in separated excavation blocks. Vertical social distinctions might instead have been symbolized at Turner by burial in different mounds, as at the Hopewell site, but this possibility was not investigated by Greber. Excavation coverage at Seip earthwork is also problematic. The earthwork contained 18 mounds, both within and outside it. Only the two largest mounds (Seip–Pricer, Seip–Conjoined) and two smaller mounds (Mounds 3, a remnant of Mound 4) have been excavated, all within the earthwork. At Liberty earthwork, much like at Seip, the largest of the burial mounds and five smaller ones with burials were excavated, while six mounds were not investigated. Greber's samples of burials from Seip and Liberty included ones from only the large mounds there. The effects of partial site coverage on her social analyses for Seip and Liberty are unknown.

Implications for Interpretation

The samples of burials from each of the five sites analyzed by Greber were likely portions of dispersed communities, with unknown representation of various social categories, and with some sites and mounds probably having contained persons from several different communities. Each of the four sampling problems clarified above could cause social ranking to seem to have

been present when it was not, or vice versa. Mounds in which leaders or other important persons were buried in disproportionately high percentages (e.g., Hopewell 25, Seip–Pricer, and Seip–Conjoined, perhaps Ater and Edwin Harness) are archaeological contexts in which normally rare symbols of leadership or sodality achievement might readily be confused for frequent symbols of rank, and ranking might erroneously be concluded. Alternatively, a mound devoted to burial of primarily leaders or persons of high rank or other importance (e.g., especially Hopewell 25) could appear more homogeneous in vertical social differentiation than would a cross section of a community, and ranking might be obscured or erroneously inferred to have been simple. Mounds in which persons from multiple communities were buried (e.g., Hopewell 25, Seip–Pricer, Seip–Conjoined, Edwin Harness, and Ater; see below) are archaeological contexts in which differences in community wealth might be confused for symbols of rank. Incomplete coverage of a community's burial population, attributable either to the selection of only one of several mounds for analysis or to only partial excavation (e.g., especially at Hopewell, Ater, and Turner), could hide or accentuate signatures of social ranking, depending on the particulars of the sample. At a more subtle level, any of the four sampling problems could distort the complexity of ranking observed, either upward or downward, if ranking existed. Thus, the conclusions reached by Greber about the overall complexity of social structure evidenced at each of the six cemeteries that she studied, the diversity in social structure that she observed among them, and her more specific conclusions about the presence or absence of ranking within the five communities that she examined, are of unclear credibility. These topics of inquiry need to be revisited, and are below.

Selection of Mortuary Traits That Indicate Rank

The second step required in the study of ranking with mortuary data is the selection of a set of mortuary traits that have good potential for having symbolized vertical differences

in social position, including achieved prestige, ranking, achieved leadership, leadership ascribed by rank, and family/lineage wealth. The third step is to narrow the set of mortuary traits further to those that likely symbolized ranking, specifically (Carr, Chapter 6). The purpose of these two steps, and their contrast to how Greber proceeded in her analyses, is best understood in light of the methods by which such variables are subsequently analyzed. Preferred methods are to use the variables thought likely to reflect ranking to cluster burials into sets that represent different rank levels (e.g., Tainter 1975a), to map those burial sets over space to indicate spatial clusters or spatially dispersed sets of burials that differ in rank, and/or to map the selected variables individually over space for similar purposes (e.g., implicitly done by Buikstra 1976). Through the selection of variables that are relevant particularly to social ranking, spatial clusters of burials that indicate ranking, if any are found, are derived directly from the data, themselves.

Greber used a different approach in studying the Ohio cemeteries she examined, excepting Turner, which makes her conclusions about ranking suspect. Specifically, Greber started with the *assumption* that different clusters of burials in a cemetery represented recognized social divisions within a society and then compared divisions for differences in mortuary treatment of *unknown* cultural meaning. This strategy has two difficulties, as just italicized, which cast doubt on her evaluation of whether Hopewellian societies were organized by principles of ranking. First, the burial clusters were assumed a priori to represent social structural segments within a society. Her assumption was based on a cross-cultural finding of Binford (1971:22), that burial location can indicate vertical social position or horizontal social affiliation (Greber 1976:17–18). This cross-cultural pattern is now known to be true only in part. A good number of philosophical–religious beliefs, as well as age, the timing of death, and circumstances of death, have since been found through more detailed cross-cultural survey to determine burial location within a cemetery, and yet a broader range of factors to determine burial location within a community (Carr 1995b:162–163, 181; variables 28 and 12/17). Moreover, of the social variables observed across

cultures to determine within-cemetery grave location, membership in a horizontally differentiated social segment was noted twice as frequently as vertical social position or vertical group membership by both Binford's and Carr's surveys. Thus, it is unclear that the groups of burials used by Greber to find social distinctions were, in fact, determined by social–structural principles within a society; if they were, it is more likely a priori, considering cross-cultural patterning alone, that they reflected horizontal group distinctions than ranking.[2] In addition, Greber did not consider the possibility that each cluster of burials in a cemetery might represent persons from a different society that were buried together, as, for example, in the Huron and Algonkian Feasts of the Dead (Heidenreich 1978:374–375; Hickerson 1960; Trigger 1969:106–112), rather than members from within one society. A Feast of the Dead model of Hopewellian ceremonialism was an aspect of archaeological thinking at the time and in the circle of Greber's writing (Callender 1979:257). Thus, to establish the social–structural nature of the burial clusters, their pertinence to social segments from within one society and, more specifically, their significance to ranking would have required Greber to map the distribution of particular mortuary variables *known* by their nature, through contextual analysis, ethnographic analogy, or other means, to have likely indicated ranking and other specific forms of social differentiation. This was not done.

The second difficulty with Greber's approach is the lack of attention she gave to the cultural and sociological meanings of the mortuary traits (variables) that she analyzed, and the more general issue of variable selection. Relevant variables for searching for ranking in a mortuary data set are characterized, first, by traits that are nonutilitarian and that imply extraordinary energy investment or cultural value; and second, of these traits, those that involve qualitative distinctions in form or material rather than differences in quantity, and those that are found with persons of all ages beyond puberty, both sexes, and persons of all physical predispositions (e.g., height, robustness, deformities) to power or not (Carr, Chapter 6). The mortuary attributes that Greber used in her studies were not selected with regard to these criteria of relevance to ranking.

Of the 9 to 12 mortuary variables used for her analyses of Seip–Pricer, Raymond Ater, Turner, and Hopewell Mound 25, 3 or 4 (25%–36%) for each site were utilitiarian or personal items or functionally mixed categories: bone needles and awls, flint blades, beads, shell beads, stone objects, other flint objects, other shell objects, other objects made of locally available materials, bone and flint tools, and miscellaneous other (Greber 1979a:71; Greber and Ruhl 1989:53). In this set, the ordinary items would not be expected to be symbols of rank, and the mixed categories cannot be evaluated for their relevance to ranking. Other variables, like copper breastplates, celts, and earspools, marine shell containers, cut mica, perhaps large canines, grave area, and the elaborateness of grave construction, are on first sight more likely relevant to social ranking. These artifact classes are not utilitarian, represent energy investments in the distant sources of their raw materials, and are qualitative distinctions that could have symbolized a prestigious social position such as high rank. Two final variables, grave area and construction, measure energy expenditure, and the latter is, again, a qualitative distinction. However, none of these variables potentially relevant to ranking was screened, prior to spatial analysis, for whether it was independent of the age and sex of the deceased. Appendix 7.2 shows the most modern estimates of the age and sex distributions of the burials (Case and Carr n.d.) that included each of the fancy artifact classes used by Greber that might, by their nature, have indicated ranking. Information is tabulated for four of the sites that Greber studied that have this demographic data: Seip–Pricer, Hopewell, Ater, and Turner. None of these artifact classes is independent of age and sex for any of the sites. This is the case even when the most permissive division of persons by age is used—into simply subadults versus adults, which would favor the finding of rank symbols—and when the proportions of males, females, subadults, and adults having a given artifact class are assessed for significance relative to the proportions of these demographic categories at large in a site. The one possible exception is copper celts at Turner, which are equally distributed among subadults and adults, but for which the sex distribution is unknown. No assessments of the age–sex distributions of graves

of different area or construction were made by Greber (1976:tables 14, 23) or are made here.

Because none of the artifact classes studied by Greber has both the qualities and the age–sex distribution expectable for a symbol of rank, the variation of these classes in frequency among spatial clusters of burials at each of Seip–Pricer, Hopewell, and Ater, or among sets of burials defined by orientation at Turner, cannot be interpreted as evidence of ranking. The spatial clusters or sets of burials, themselves, which Greber assumed a priori to represent social segments, cannot be concluded to be ranked social groups. Information on the age–sex distribution of grave construction attributes could alter this conclusion if they were found independent of age and sex.

One other troubling aspect of Greber's selection of variables is her rank-sum statistic for assessing differences in the grave goods found in different burial clusters at each of Seip–Pricer, Hopewell Mound 25, and Ater, and with other burial categories at Turner. The statistic was computed by ranking the counts of an artifact class from high to low (1 to n) for all individuals with which it was found, repeating this ranking procedure for each artifact class, and then, for each individual, summing the ranks of the artifact class counts for that person (Greber 1979a:39–40). The statistic allows individuals to be compared for the overall number of artifacts with which they were buried, while giving roughly similar weighting to high-count and low-count artifact classes.

Greber used the rank-sum statistic to compare the overall artifact quantity had by individuals in different spatial clusters of burials or burial sets. She found a statistically significant difference among the three burial clusters at Seip–Pricer in their rank-sums, no difference between the two burial clusters at Ater, no difference between the east–west- and the north–south-oriented burials at the Burial Place in Turner (Greber 1979a:42, 50, 53, respectively), and no difference among the three largest clusters of burials at Hopewell Mound 25 (Greber and Ruhl 1989:55). Edwin Harness mound could not be similarly tested, for lack of detailed information on most individual graves. The extent to which Greber used these results (or many other patterns that she reported) to infer ranking of the persons

buried in Seip–Pricer (Greber 1979a:45) is not clear. She did conclude that the similarly distributed rank-sum scores among the three large burial clusters in Hopewell Mound 25 could be interpreted as "nonranked social components" if they were contemporaneous (Greber and Ruhl 1989:57). Why she concluded that the persons buried in Ater and the Burial Place in Turner were ranked when the rank-sum statistic did not show differences among burial groups at these sites (Greber 1979a:51, 54) is unclear.

The spatial patterns or lack of patterns in rank-sum scores found by Greber at the four sites she studied probably cannot be taken as evidence or lack of evidence of social ranking. The scores are based on counts of artifacts found with individuals. Cross-cultural survey has shown that *quantities* of grave furniture rarely indicate the vertical social position of the deceased (Carr 1995b:178–180) and, specifically, the rank of the person (Tainter 1975a, 1978:12). Both of these surveys covered a large number of societies of diverse social complexity. In contrast, the *kinds* of grave furniture placed with individuals was found to frequently indicate vertical social position (Carr 1995b:180), in line with archaeological middle-range theory on ranking and symbols of rank (Braun 1979:67; Peebles 1974; Peebles and Kus 1977:431).[3] A second reason for not giving weight to Greber's rank-sum scores when evaluating whether ranking was a feature of Ohio Hopewellian societies is the fact that most of the tabulated artifact classes, themselves, cannot be shown to have been symbols of rank by their nature or age–sex distributions. Thus, the sum of their ranked counts is not relevant to the issue.[4]

Implications for Interpretation

Greber's a priori assumption that the clusters of burials under the several mounds that she studied had social significance, and that they pertained to divisions within a society rather than to different societies, was too narrow an interpretive framework for guiding the mortuary analyses of these mounds. It led her to envision the distribution of mortuary treatments among burial clusters in sociological and internal social terms, rather than to explore a wide diversity of other possible cultural meanings of the clusters. It also predisposed her to interpret differences and similarities

among clusters in the artifact content, artifact richness, and tomb elaboration of their burials as indications of ranking or not, despite the fact that she did not attempt to learn the sociological meanings of the individual artifact classes and tomb traits that she analyzed. These interpretations, derived as much from her assumptions as empirical patterning, fall apart when it is seen that neither the mortuary traits that Greber selected for study nor the composite of them as a rank-sum statistic are relevant to the question of ranking—from the perspective of either middle-range archaeological theory on ranking that was developing at the time of Greber's work or theory that has solidified since then. Without this relevance to ranking, the distributions of the traits and the rank-sum statistic across burial clusters cannot be used to infer whether ranking was or was not an organizational aspect of the societies studied by Greber.

Summary of the Selection of Burials and Mortuary Traits

Greber's reconstruction of the floor plans of Seip–Pricer, Hopewell Mound 25, Ater, and Turner are invaluable contributions to Scioto Hopewell archaeology. However, her statements that the burial remains within Seip–Pricer mound, Ater mound, and the Burial Place within the Great Enclosure at Turner indicate social ranking are not credible because they do not follow logically from the nature of the burials selected for study, the mortuary traits chosen for analysis, and the rank-sum measure that was used. For the same reasons, social ranking cannot be inferred from the Edwin Harness mound and Hopewell Mound 25, although Greber did not conclude ranking for these mounds. In particular, Greber's studies have six fundamental difficulties, as follows. None of the burial samples analyzed probably represents a cross section of the social categories within a society, because (1) different social categories of persons were probably buried in different mounds or earthworks, (2) single mounds and earthworks probably contained persons from multiple communities, and (3) only portions of some mounds and only some mounds within an earthwork were analyzed or available for analysis. (4) Greber assumed rather than derived empirically

that the burial clusters under the mounds had internal, social–organizational significance rather than other social or cultural meanings. (5) None of the artifact classes chosen for analysis can be inferred to have been a symbol of rank, because they are utilitarian or personal in nature, are functionally mixed categories that cannot be evaluated, and/or do not meet even liberal standards for having been independent of the age and sex of the deceased. (6) The rank-sum statistic used by Greber probably did not measure the social rank of the person because it was based on some kinds of artifacts that were not symbols of rank, and because it tracks quantitative rather than qualitative differences in mortuary treatment. As a consequence of these difficulties in Greber's analyses, the question of whether Scioto Hopewell societies were organized by principles of rank remains formally unanswered today.

A REANALYSIS OF SCIOTO HOPEWELL MORTUARY PATTERNS FROM A REGIONAL MULTICOMMUNITY PERSPECTIVE

Although Greber's several mortuary analyses do not allow a formal conclusion on whether Hopewellian societies in Ohio were organized by principles of ranking, they do document a number of strong and intriguing intrasite mortuary patterns. The division of burials on the floors of mounds into spatial clusters, repetition and variation among mounds in the number of burial clusters, and differential distribution of some key artifact classes among burial clusters within a mound, were each documented. The pattern defined by the three clusters of burials under both of the Seip–Pricer and Edwin Harness mounds, the three primary burial clusters under Hopewell Mound 25, and the three-part charnel house under Seip–Conjoined was revealed and contrasted to the pattern of the two clusters of burials under Ater mound. In addition, Greber (1979a:47) called attention to the similarity of the tripartite spatial layouts of burials and/or charnel houses under Seip–Pricer, Seip–Conjoined, and Edwin Harness to the tripartite morphology of the Seip and Liberty earthworks in which they were built,

and to that of some other earthworks, as discussed at the opening of this chapter.

The purpose of the second half of this chapter is to interpret these archaeological patterns with more formal argumentation and greater anthropological specificity and breadth than had Greber. What social, religious, death-circumstantial, physical, or other identities did the burials within each cluster share? To make these intrasite assessments, however, requires first the development of firm understandings of the sociological nature of the populations of burials being analyzed and the social roles that key artifact classes marked. Do the burials within a mound, or within the multiple mounds of an earthwork, represent an entire society or parts of one? Did mounds and/or earthworks vary functionally in the segments of a society that were buried at them? Can any artifact classes that marked leaders, rank groups, or other social roles be identified?

These preliminaries are accomplished here in part by taking the region rather than the individual cemetery as the unit of study of burial programs and mortuary variability. Only from a regional perspective can functional differences among mounds and among earthworks be seen and sorted out. In addition, a bootstrapping approach is used here, whereby very strong, regional similarities and contrasts of fairly clear meaning are used to help understand the nature of weaker patterns at the regional scale and patterns at the intrasite scale that would be ambiguous from a single-site, local perspective, alone. Finally, the conceptual and material distinctions drawn in Chapter 6 among several forms of vertical social differentiation, such as leadership versus ranking versus achieved prestige, are applied here.

The data used in the analyses presented below derive from a comprehensive computer database compiled by Case and Carr (n.d), unless otherwise specified. The database describes most excavated and recorded Middle Woodland burials in Ohio, from a total of 32 sites, as documented in publications, unpublished field notes, and museum catalogs, maps, and photographs. Of particular importance are modern assessments of the ages at death and biological sexes assigned to individuals by various researchers, and

conclusions as to which age and sex estimates are most reliable.

Regional Patterning

A clear benchmark for interpreting Scioto Hopewell mortuary variability is the Hopewell site and its contrast from nearby earthwork and mound sites. The Hopewell site is the only multi-mound earthwork site in the Scioto drainage where the majority of mounds have been excavated and a sense of the nature of the entire burial population can be had. It is also unique in some anthropologically telling ways.

Archaeologists have long agreed that the Hopewell site (especially Mound 25) stands out compared to all other Scioto Hopewell mortuary sites in the material richness of its record: total mound volume, total amounts and diversity of Hopewell Interaction Sphere finished artifacts and exotic raw materials (e.g., Seeman 1979a:392–393), the very large number and sizes of ceremonial caches of items, and the quality of crafting of certain artifact forms (e.g., obsidian bifaces, copper cutouts). Not so well known is the fact that the Hopewell site is also unique in the demographic distribution of its burial population. Subadults (less than 21 years old) are almost completely missing, and apparently males are more common than females. In Hopewell Mound 25, only 2.3% of the excavated individuals of known age were subadults (2 of 87 known, 13 unknown). In the next largest mound at the site, Mound 23, again, only 2.2% of the excavated individuals of known age were subadults (1 of 45 known, 3 unknown). Of the 15 other excavated mounds having burials, 11 lack subadults among their aged individuals (0 of 33 known, 9 unknown). Three other mounds have one subadult, and one has three subadults (6 of 15 known, 1 unknown). Identified males outnumber females 12:8 (20 known, 82 unknown) in Hopewell Mound 25, 6:4 (10 known, 38 unknown) in Mound 23, and 8:6 (14 known, 21 unknown) in the five other excavated mounds with burials and sex information on them (Case and Carr n.d.; see also C. A. Johnston 2002:109, appendix F)

In contrast to the Hopewell site are the less materially rich sites of Seip, Liberty, and Ater. What is known of the demographic profiles of Seip, Ater, and Liberty does not indicate a bias toward adults and males. At the fully excavated Seip–Pricer Mound, subadults constituted 28.7% of the aged individuals (25 of 87 known, 36 unknown) (Konigsberg 1985:140–141). Konigsberg found the age distribution of the sample to correspond to a model life table, with the exception of an underenumeration of infants zero to one year of age (Konigsberg, p. 129). The sex ratio was found not to differ significantly from equivalence of males and females (Konigsberg, p. 126).[5] At the partially excavated Ater Mound, 19.5% of the excavated individuals that could be aged were found to be subadults (8 of 41 known, 19 unknown). Too few skeletal remains have been reliably sexed by modern methods to estimate a sex ratio there. The fully excavated Edwin Harness mound appears to have contained a roughly comparable proportion of subadults, although data are poor. Of 53 individuals with known provenience out of the 178 excavated individuals, at least 7 are subadults (13.2% of 53; 41 unknown).

The distinction of Hopewell from Seip, Liberty, and Ater in its material richness, and apparently its almost completely adult burial population with a predisposition for males, suggests that it was a burial place for persons of import: those who had lived to be old enough to accumulate prestige or to demonstrate the prestige they might have inherited. In contrast, those buried under the Seip–Pricer mound, Edwin Harness mound, and Ater appear to represent a much broader spectrum of social actors in terms of age, balance of the sexes, and prestige. This is not to say, however, that those buried within Seip–Pricer, Harness, and Ater are representative cross sections of entire societies (contra Greber 1979a; Konigsberg 1985). In each of these sites, the percentage of persons buried with elite items is more than would be expected for a single farming community, implying that some persons of lesser prestige were buried elsewhere (see above; Selection of Burials That Are Representative of a Society).

The artifactual and mound-building evidence for the greater prestige of the individuals buried at Hopewell, in general, compared to those buried at Seip, Liberty, and Ater, seems

to be a genuine reflection of the situation. It is possible that the greater material richness of Hopewell compared to the other sites reflects a greater intensity of cooperative/competitive display and gifting to the deceased there, instead of the greater prestige of the deceased per se—particularly with regard to the greater number and richness of ceremonial caches at Hopewell (Carr et al., Chapter 13). The situation would be analogous to that apparently evidenced in the distinction between rich flood plain and less rich bluff-crest mound groups in the lower Illinois valley (Ruby et al., Chapter 4; Buikstra and Charles 1999). However, an examination of the artifact contents of burials from the four Ohio sites suggests that this was not the typical situation, and that the artifacts buried with adult deceased persons were more often their own. At each site, the modal number of artifacts of one kind found with burials is one, a functional pair, or some other functional unit: e.g., one copper celt, one copper breastplate, one copper headplate, two earspools, or four bear canines (Carr et al., Chapter 13; Bernardini and Carr, Chapter 17; also below). Thus, the actual social prestige of the deceased does seem to be generally higher at Hopewell than at the other three sites, in line with the demographic evidence; Hopewell does seem to have been a place for the burial of special persons, by and large.

Considering sampling, the functional contrast drawn here between Hopewell and Seip, Liberty, and Ater seems reliable enough, even though a good number of mounds at Seip and Liberty have not been excavated and part of Ater mound had been destroyed before its excavation. Three reasons can be cited. First, the percentages of the total burial populations of Seip and Liberty known through excavation are probably fairly large, because the excavated Seip–Pricer and Edwin Harness mounds were many times larger than any of the other mounds at Seip and Liberty, respectively. The small mounds that have been excavated at Seip and Liberty contained only one to a few individuals each, or no individuals or artifact caches at all. Second, because the inference being drawn here is very generalized—i.e., a distinction between a burial site for largely prestigious persons and burial sites for a broader

social spectrum—incomplete recovery at these sites is much less of a problem than in the case of Greber's analysis and inferences, where specific, fine social subdivisions were sought and evaluated. Finally, the proposed functional contrast among the sites as wholes is probably sound because it holds well for mounds within them that are analogous: Hopewell Mounds 25 and 23, Seip–Pricer, and Edwin Harness are all by far the largest mounds at their respective sites.

Beyond material richness and demographics, there is a third distinction between Hopewell and the other three sites, which further helps to define the functional contrast between them. At Hopewell, the great majority of individuals were extended inhumations, while in the other sites, they were largely to almost all cremations. At Hopewell, 75.5% (77 of 102) of the individuals in Mound 25 were inhumed; 93.8% (45 of 48) of those buried in Mound 23 were inhumed; 7 of the 15 other excavated, smaller mounds had only inhumations, and an additional 5 had between 54.5% and 66.7% inhumations. The remaining 3 small mounds with 4 persons total had only cremations. In contrast, within Seip–Pricer, Seip–Conjoined, Edwin Harness, and Ater, the percentages of inhumations were only 8.9%, 10.4%, 6.2%, and 13.3%, respectively.

The strong contrast of Hopewell from Seip, Liberty, and Ater in the predominance of extended inhumations versus cremations within it again suggests the greater prestige of the individuals buried at Hopewell than the other sites, because body treatment appears to have reflected prestige in this region. The latter is shown by the association of certain regionally infrequent symbols of prestige more commonly with persons who were inhumed than those cremated. In Hopewell Mound 25, 40.3% of those inhumed (31 of 77) had a copper headplate, breastplate, celt, and/or earspools, while only 28% of those cremated (7 of 25) had one or more of these items. In the small mounds at Hopewell, 39.0% of those inhumed without charring (16 of 41) had one or more of the items, while only 25.0% of those cremated (4 of 16) had one or more of them. At Ater, the respective percentages of inhumations and cremations with one or more of the copper items were 50% (4 of 8) and 13.5% (7 of 52). In

addition, Greber (1979a:51) found the rank sum of the counts of 11 artifact classes to be significantly greater for the extended burials than the cremations in Ater mound, although some of these classes are comprised of simple utilitarian items. At Seip–Pricer, which has a richness in finished Hopewell Interaction Sphere goods and raw materials closest to that of Hopewell (Seeman 1979a:392, 393) of the other three sites, a mixed pattern (not unexpectedly) is found: similar percentages of inhumations and cremations had a headplate, breastplate, celt, and/or earspools: 36.3% (4 of 11) of the inhumations and 36.9% (34 of 92) of the cremations. Greber (1979a:44) did find, however, that the extended inhumations at Seip–Pricer had a signficantly higher rank sum of the counts of 11 artifacts plus grave area than did the remaining cremations. Again, some of these items were utilitarian. The single, clear exception to the pattern is Hopewell Mound 23, where one or more of the copper items are more frequently found with cremations: 66.6% (2 of 3) of the cremations in contrast to 15% (7 of 45) of the inhumations, partially charred inhumations, or possibly partially charred inhumations. This mound is odd, however, in having a very high percentage of inhumations that were also charred or probably charred (64.4%; 29 of 45)—a mixing of inhumation and cremation symbolism that is hard to decipher.[6] Not enough data are available from Edwin Harness to assess the relative artifactual richness of inhumations and cremations there. Finally, the idea that inhumed persons were more prestigious than cremated individuals in the region of study is in line with broader, cross-cultural survey information on the cultural meanings of mortuary practices. Body treatment has been found to reflect the vertical social position of the deceased more commonly than any other social dimensions, although several philosophical–religious factors were found to be yet more important (Carr 1995b:161; see also Tainter 1978:116–117).[7]

Summary

Diverse kinds of data support the interpretation that Hopewell was a burial place generally reserved for persons possessing a good deal of prestige, whereas Seip, Liberty, and Ater served to contain a broader but still incomplete spectrum of society. The data suggesting this inference include artifact quality and quantity, mound size, and body treatment information. The twin conclusions, that Hopewell was functionally differentiated from Seip, Liberty, and Ater, and that different segments of single Hopewellian societies were buried in different earthworks and/or mounds, will be found essential to interpreting the cultural meaning of the multiple clusters of burials under some of the mounds at these sites, including whether or not they represented rank social groups.

The Sociological Meaning of Copper Headplates, Celts, Breastplates, and Earspools

Preparations for interpreting the cultural nature of the burial clusters under the five Scioto Hopewell mounds of interest requires not only a firm understanding of the societal representativeness of their burial populations, but also an identification of the social roles that key artifact classes marked. The latter is necessary if the different or similar distributions of the artifact classes among the clusters are to be useful for interpreting the sociological and broader cultural nature of the clusters. Identifying the social roles marked by artifact classes is undertaken now for four key ones: copper headplates, breastplates, celts, and earspools. These artifact classes do not constitute the full repertoire one would want to identify in social terms and to examine for their spatial distributions for a complete study of social differentiation (horizontal and vertical) at the four sites. The classes are focused on here because all have very strong potential for having symbolized vertical social differentiation—our topic—and three (all but headplates) were studied by Greber in discussing ranking at the sites.

Headplates, breastplates, celts, and earspools each were clearly prestigious items in Scioto Hopewell society. The copper from which they were wrought was socially and economically expensive to obtain, having its source more than 600 miles away in the Upper Great Lakes.

Copper was among the most distant raw materials used by Scioto Hopewellian peoples (Seeman 1979a:401). All four artifact classes also represent large time and energy investments in the efforts required simply to create the copper sheets from which the forms were made. The sheets typically are many-layered composites of a thick sheet core and multiple thin foil coverings (personal observation). In addition, the earspools were technically complex forms to assemble (Greber and Ruhl 1989:127–149). Further, the symbolic loading of copper was probably intense. Historically in the Woodlands, copper had connotations of power, transformation, the Upper World, the Lower World, and powerful creatures of these worlds: the Horned Serpent, the Underwater Panther, snakes, bears, the fearsome copper-tailed bear, and the Thunderbirds (Turff and Carr, Chapter 18).

The prestigious nature of the four artifact classes is also suggested by their frequencies and distributions among the sites of Hopewell, Seip, Liberty, and Ater (Appendix 7.3). Overall, the classes are infrequent among Scioto Hopewell burials, ranging from less than 1% up to 23% of the burials in the mounds under study. Also, the artifact classes generally decrease in frequency as the overall material richness and size of the mounds declines. Hopewell Mound 25 and Seip–Pricer, being the richest and largest mounds in the set under study (Seeman 1979a:392–393), had the greatest percentages of burials with each one of the four artifact classes. Edwin Harness and Ater, being less rich and volumetrically smaller, had lower percentages of burials with each one of the four classes. Artifactually impoverished Hopewell Mound 23 had no headplates, celts, or earspools, and the second to least percentage of breastplates. Thus, the four artifact classes correlate well with the social dimension of prestige generally.

The prestige represented by headplates, breastplates, celts, and earspools relative to each other can be inferred from their frequencies and nature. Considering all of these items at Hopewell, Seip, Harness, and Ater together, one finds a graded sequence of the numbers of individuals buried with them, from least numerous headplates, through celts, then breastplates, and,

finally, the numerous earspools (Appendix 7.3, totals). There is approximately a twofold increase in the number of individuals buried with each successive artifact class. On a frequency basis, one would infer that headplates were indicators of greatest prestige, celts and breastplates next, and earspools the least prestige, but still significant considering the great majority of individuals not buried with earspools. The frequency sequence is not attributable to the relative frequencies of burial mounds that differed in function and contained individuals of different social roles; the sequence holds well across each individual mound also (Appendix 7.3). Two exceptions are the unexpectedly large number of burials with headplates at Hopewell and the unexpectedly low number of burials with earspools at Seip. The former may reflect the specialized function of Hopewell as a preferred place of burial of prestigious persons.

Each of the four artifact classes appears to have been a badge that represented a social role, the badge having been owned individually. Most individuals buried with a given artifact class were buried with only one example of it or, in the case of earspools, one pair. When multiple artifacts of a kind were found in a grave, they were usually limited to two or a few. Instances of multiple artifacts of a kind may represent the gifting of that badge by one or more holders of the role to a deceased person who had had that role (Carr et al., Chapter 13). Two major exceptions to this pattern occur: the double Burial 260–261 in Hopewell Mound 25, which was accompanied with 92 breastplates and 63 celts, which had been arranged over the grave; and Burial 7 in the same mound, with 60 earspools. These cases possibly represent the symboling of socially cooperative and/or competitive gifting and display.

Headplates, celts, breastplates, and earspools, and the social roles indicated by them, were not interrelated in a hierarchical manner. That is, one did not have to have all the less prestigious, more frequent kinds of artifacts (e.g., earspools, breastplates) and the roles they indicated to have a more prestigious, infrequent kind of artifact (e.g., celts) and the role it indicated.[8] Instead, headplates, celts, breastplates, and earspools associate with each other fluidly in

combinations of moderate strength, save the strong dissociation of celts and headplates.[9] Presumably, the roles that these artifacts indicated also associated fluidly.

On Social Ranking

There is little indication that headplates, breastplates, celts, and earspools were symbols of social rank. First, demographically, none of the four artifact types crosscuts all age and sex categories of the deceased in expectable proportions at the Seip–Pricer mound, the Hopewell site, Ater mound, or the more removed Turner site, where demographic information is available (Appendix 7.2). The four artifact classes were not found with both sexes in similar proportions at most of these sites, excepting breastplates and earspools at Seip–Pricer (2 of 16 combinations of artifact classes and sites). However, there, breastplates and earspools were found much less often than expected with subadults compared to the subadult:adult ratio in the mound, and earspools were not found with subadults at all, decreasing the likelihood that at this site, breastplates and earspools were symbols of rank. In the other sites, breastplates, celts, or earspools were sometimes found with a few subadults as well as adults but, again, not at expectable proportions compared to the subadult:adult ratios at these sites.

A second indication that the four artifact types were not symbols of rank is possibly found in the lack of their mutually exclusive distribution among burials. In a rank society, a person falls in one rank group and should not bear the badges of other rank levels. However, one must be careful here, because gifting during mortuary ceremonies could account for the observed overlap of the four artifact types among burials.

Headplates and Celts

The formal nature and burial distribution of two of the artifact classes—headplates and celts—suggest something about the roles they indicate. Headplates take their place cross-culturally next to crowns, feathered headdresses, and other elaborate items worn on the head as potential natural symbols of leadership, i.e., heading a social unit. The rarity of these copper items in comparison to

populations of burials at large would support this interpretation as well. Only 15 of the 575 burials excavated from the Seip–Pricer, Ater, and Edwin Harness mounds and the Hopewell site, or 2.6%, had the item; 2.6% is a reasonable percentage of leaders compared to a general populace within a society. This figure would also suggest that the social unit led by persons who wore headplates was effectively large: a whole dispersed hamlet community led directly by such individuals, or a key sodality that, in turn, played some important, community-wide, sociopolitical, or ceremonial role. The notion that headplates were symbols of leadership is also suggested by the disproportionate number of headplates at the Hopewell site and in Hopewell Mound 25, which seem to have been preferred places of burial for elite. In addition, headplates are exclusively associated with adult males at the Hopewell site, and where age is known with specificity, the males are old (the 36–49 and 50+ age classes). Celts, breastplates, and earspools, in contrast, each have some association with females and subadults at Hopewell and/or the other sites of interest (Appendix 7.2).

Some headplates had appendages or cutouts, or were cutouts, of the power parts of animals, or other animal referents, including deer antler stubs, a full rack of deer antlers, elk antlers, four claws of possibly a feline, ears or wings of a kind, a feather, and a bear-based or other composite creature,. Most of these features refer to power and suggest the association of these kinds of headplates with leadership, specifically with a shaman-like cast (Carr and Case, Chapter 5, Table 5.5; Carr et al., Chapter 13, Appendix 13.2).

The animal imagery of headplates could also refer to animal-totemic groups such as clans, phratries, or moieties; most of the animals just named were clan totems of social groups among the historic Woodland Native Americans (Thomas et al., Chapter 8; Trigger 1978). This association could be used to argue that leaders marked by headplates were clan heads, or at least were recruited from the clans that their headplates represented. However, within the Scioto valley and across Ohio, headplates are largely dissociated from animal power parts,[10] which can strongly be argued to have indicated clan affiliation (Thomas et al., Chapter 8).[11] Animal power parts are natural and effigy jaws, teeth, talons,

claws, and such that frequently were drilled with one or two holes to suspend them as pendants for display, and that come from species that correspond well to the animal totems of historic Native American clans.

It is likely that the leadership roles that copper headplates symbolized varied according to whether they stylistically referred to animals or were plain, and varied over time. Carr and Case (Chapter 5, Tables 5.5) document that, in the Scioto-Paint Creek area, headplates with animal symbolism associated in burials most closely with shamanic paraphernalia (copper cutouts with cosmos symbolism, other geometric copper cutouts, raw iron, silver, and copper), whereas plain headplates associated with some of these items but also others having secular connotations (some antler and bone batons, stone celts). Also, over time (Carr and Case, Chapter 5, Table 5.7), plain headplates became increasingly more segregated in burials from shaman-like paraphernalia, until at the end of the Middle Woodland period, in Ater Mound, headplates were buried fully apart from shaman-like items. This was not the case for headplates with animal symbolism. Finally, the leadership roles marked by plain headplates appear to have had domains of power beyond the local community level by at least the end of the Middle Woodland period, as determined by the spatial distributions of these items across the floors of certain burial mounds (Carr and Case, Chapter 5, Tables 5.6 and 5.7). In contrast, the domains of power of leadership roles indicated by headplates with animal symbolism appear to have resided in the local community, alone. The reader is referred to Chapter 5 for the analytical details supporting these inferences.

Copper celts, like headplates, are relatively rare, found in only 5.2% of the 575 burials excavated from the four sites. They, too, could mark some form of leadership of a whole, dispersed community, either directly or through a sodality key to a community at large. Bernardini and Carr (Chapter 17) raise the possibilities that celts were associated with a suite of intertwined meanings, including the building of dugout canoes and long-distance travel; the spirit canoes of shaman; and the construction of ceremonial centers through deforestation and the building of charnel houses, tombs, and other ritual structures.

The association of celts with warfare in Mississippian iconography of the Southeastern Ceremonial Complex (Brown 1976:126; Phillips and Brown 1978:13, 18–19, 1984:plate 204; Waring and Holder 1945:10–11, 15) should also be mentioned. All of these proposed associations imply power, the acquisition of power, or its application in dangerous domains (mortuaries, warfare). These referents support the idea that celts were leadership symbols, power being a message one would expect to be communicated by a leadership symbol. Leadership in any of the several ceremonial or political arenas just mentioned could have been marked by celts, as it was in the Southeastern Ceremonial Complex (Brown 1976:126; Muller 1984:26).

As with headplates, celts are largely dissociated from natural and effigy teeth, talons, claws, and other animal power parts that probably indicate clan affiliation.[12] It is unlikely that recruitment to leadership roles indicated by celts was through totemic group lines.

The possibility that headplates and celts both represent leadership, of differing kinds, is indirectly supported in another way. Of the four copper artifact classes, including headplates, celts, breastplates, and earspools, only headplates and celts are rarely found together, and then only in one case.[13] All other combinations of these classes occur together in moderate frequencies at the four sites. In addition, the clans that regularly filled the two social roles marked by headplates and celts are mutually exclusive (Thomas et al., Chapter 8, Tables 8.12, 8.13). The strong dissociation of headplates and celts among graves and in the clans associated with them implies two social roles that were mutually exclusive in almost all instances. Two complementary leadership roles that shared responsibility over two fundamentally different domains—such as the red war chiefs and white peace chiefs of the historic Southeast (Lankford 1992)—is one inviting, possible interpretation (Thomas et al., Chapter 8.

Breastplates and Earspools

The social roles marked by breastplates and earspools can, like those of headplates and celts, be inferred from their frequency and contextual distributions. Breastplates and earspools are too

frequent within the Hopewell site at large, Hopewell Mounds 25 and 23, and Seip–Pricer, Harness, and Ater, to have represented society-wide leadership (Appendix 7.3). Their moderate frequencies would not discount them from representing rank levels within society, but their demographic distributions do (see above). Their restriction to only some persons within the mounds and, again, their biased age-sex distributions do not accord with their having symbolized dual social divisions. It is suggested, instead, that breastplates and earspools marked the members of two prestigious ceremonial societies or other sodalities. This interpretation would accommodate (1) the moderate frequencies of breastplates and earspools within mounds and/or sites, (2) their occurrence almost always with adults, (3) their occurrence with both males and females but more so males, (4) their joint occurrence with some individuals, (5) certain indications that breastplates indicated more prestige than did earspools, and (6) the increasing frequency of both kinds of items in materially richer mounds and/or sites.

That sodalities are indicated by the first five characteristics of breastplates and earspools can be illustrated by the sodalities of the Western and Eastern Puebloan societies of the American Southwest, where such groups are well documented, and supplemented with available information from the Great Lakes–Riverine tribes.[14] (1) In the Southwest, percentages of persons within a community that belong to a sodality can be low to high, depending on the pueblo, the ceremonial function of the sodality, and the community's demographic history. Sodalities that divide a pueblo into contrasting groups may number from 2 to 14, that is, with group sizes from about 7 to 50% of the adult (male and/or female) population. Wide diversity in the sizes of sodalities, from few to many persons of a tribe, characterizes the sacred "pack" organizations, Midewiwin society, dual divisions, and other societies of Northern and Central Algonkian tribes.[15] The 4% to 24% frequency of breastplates and earspools among persons within each of Hopewell Mounds 25 and 23, Seip–Pricer, Harness, and Ater (Appendix 7.3) fits comfortably with the Puebloan and Algonkian ethnohistoric record. (2) Among Puebloan peoples, membership in

sodalities other than dual divisions is conferred primarily upon adults or youths being initiated into adulthood. Algonkian pack organizations for warfare, healing individuals, healing the whole tribe, sorcery, and shamanism, and the traditional shamanic Midewiwin society, naturally had only or primarily adult members, who could carry out the societies' tasks.[16] These age distributions echo the predominantly adult age association of Scioto Hopewell breastplates and earspools (Appendix 7.2). (3) With the exception of tribal-wide dual and multipartite social divisions, Puebloan sodality membership was most commonly restricted to males, males with the support of their wives, or males and females but with males holding positions of leadership or levels of achievement. Algonkian Midewiwin societies varied among tribes and over time as to whether only men or both men and some women were given membership.[17] These situations recall the bias for breastplates and earspools in Scioto Hopewell sites to have been associated with men (Appendix 7.2). (4) Among some Puebloan groups, a person can belong to up to several different ceremonial societies at once,[18] bringing to mind those Scioto Hopewell persons who were buried with both breastplates and earspools. (5) In some Puebloan tribes, ceremonial societies vary in prestige and power. The greater power and prestige of Mide shaman over other kinds of spiritual practitioners is analogous.[19] If breastplates and earspools marked sodalities in Scioto Hopewell societies, four pieces of evidence would imply that the sodality marked by breastplates was more prestigious than that marked by earspools. Breastplates are larger and more visible physically than earspools, suggesting their relative social presence. Also, most breastplates took much more copper to make than a pair of earspools. Further, breastplates are much less numerous in the Scioto Hopewell record at large (burials and caches) and, thus, more distinguished than earspools. Finally, the total numbers of individuals buried with breastplates at the four sites of interest is fewer than the number of individuals buried with earspools (Appendix 7.3). Arguments for an equality in the prestige marked by breastplates and earspools are not as strong.[20]

Sodalities documented in the Puebloan Southwest and elsewhere have other characteristics, for which evidence can also be sought in the Scioto Hopewell record. Most Puebloan ceremonial societies have memberships that cross-cut clan affiliation, some societies have multiclan memberships controlled by one clan, and a few societies have members from only one clan.[21] Like the common Southwestern situation, membership in the possible Scioto Hopewell ceremonial society indicated by breastplates does not appear to have been restricted by animal-totemic group, such as clan, phratry, or moiety. Breastplates and natural and effigy animal power parts such as teeth, talons, and claws, which seem to indicate animal-totemic groups (Thomas et al., Chapter 8), strongly dissociate among Hopewell burials across Ohio (Case and Carr n.d.). In addition, in those sites where a few burials do have both breastplates and power parts, power parts of different species are found, suggesting that persons from multiple animal-totemic groups could have been members of the possible sodality indicated by breastplates (Thomas et al., Chapter 8; Case and Carr n.d.).[22] Finally, breastplates were frequently painted or patinated with images of animals that among historic Woodland Native Americans were common totems for clans. The range of animal species found on breastplates is wide within and among sites (Carr 2000c, 2000d).

Recruitment to the sodality thought to be represented by earspools likewise was not tied to animal-totemic group affiliation. Earspools and natural and effigy animal power parts strongly dissociate among Hopewell burials over Ohio. Where power parts occur with earspools, the parts represent diverse species of animals, suggesting that membership in the possible sodality marked by earspools included persons from a range of totemic groups (Thomas et al., Chapter 8; Case and Carr n.d.).[23]

Within a few ceremonial societies in the Puebloan Southwest, and within the Woodland Midewiwin society, different levels of prestige were open to members by achievement. To attain higher levels in the Mide required not just personal perseverance, but heavy financial and/or service obligations and psychological fortitude (Grimm 1983:133; Radin 1945:68).[24] In contrast, Scioto Hopewell breastplates and earspools do not seem to have been marks of two rungs on a ladder of achievement within a single sodality, with less frequent breastplates having symbolized greater achievement. At none of the sites studied here were breastplates and earspools distributed hierarchically among burials, with all persons having breastplates also having earspools, but not vice versa. Breastplates and earspools would seem to have indicated different sodalities. It is possible, however, that having a breastplate or earspool marked not simply membership in two sodalities, but attainment of a prestigious level within each of them. At the same time, breastplates and earspools did not indicate leadership within sodalities, because these items are too common within the mounds of interest.

It was suggested above that headplates and celts might have marked direct leadership over a whole, dispersed hamlet community, or indirect societal leadership through leadership in two key sodalities that carried out critical society-wide sociopolitical and/or ceremonial tasks. If the latter was the case, the two sodalities hypothesized to have been marked by headplates and celts would not have been the same sodalities as those whose members and/or achievers were symbolized by breastplates and earspools. A breastplate or earspools were found with only some (one-half to two-thirds) of the individuals buried with a headplate or celt (see Note 9).

Evidence for other potential sodalities in Scioto Hopewellian societies is presented in Chapter 8 (Note 21) by Thomas et al. and in Chapter 13 (The Issues of the Social Evolution of Magicoreligious Practioners) by Carr et al. However, these cases are not as well developed and convincing as those for breastplates and earspools. For additional, contextual evidence that earspools marked a corporate social group, see Ruhl (Chapter 19, Contextual Interpretation: The Social and Ritual Significance of Earspools).

Summary

A small range of possible sociological meanings can be attributed to headplates, celts, breastplates, and earspools, given their formal natures,

frequencies, and contextual distributions. All were items that marked a good amount of prestige, in a sequence from high to moderate prestige, from headplates to celts to breastplates to earspools. However, none of these artifact classes were symbols of rank, nor did they mark levels of achievement within a single sodality. It is most probable that headplates and celts symbolized leadership at the scale of the dispersed hamlet community, or multiple communities in the case of plain headplates late in the Middle Woodland Period. Headplates and celts also could have symbolized leadership within two sodalities that were essential to community-wide function. The two leadership roles indicated by headplates and celts were complementary and almost never combined in one person. Recruitment to these two social roles was not restricted by clan or other totemic animal group. Breastplates and earspools probably symbolized membership in two distinct sodalities or attainment of a particular level of achievement within them. Membership in neither of the sodalities was tied to clan or other animal-totemic group, and a person could be a member of both sodalities. Community leadership, marked by headplates or celts, was not contingent upon being a member of a sodality symbolized by breastplates or earspools; nor were persons with headplates or celts the leaders of sodalities symbolized by breastplates or earspools. It is possible that the sodality marked by breastplates was more prestigious than that marked by earspools. In all, the social roles indicated by headplates, celts, breastplates, and earspools were fluidly combined, save the largely mutually exclusive leadership roles indicated by headplates and celts.

The Sociological Meaning(s) of the Clusters of Burials under the Mounds

With an understanding of the different mortuary functions of the sites and mounds of interest, and the sociological meanings of some key artifact types buried with persons there, the groundwork has been laid for interpreting the possible sociological or other cultural meanings of the clusters of burials under those mounds. Greber thought that the major clusters of burials under Seip–

Pricer, Seip–Conjoined, Edwin Harness, and Ater represented social segments that differed in "rank" or "prestige" (e.g., Greber 1979a:45, 1979b:37), and that those under Hopewell Mound 25 did not (Greber and Ruhl 1989:46–64). However, the logic and data with which these interpretations were made was found above to be suspect. The strategy of this section of the chapter is to document more fully, and with more sociologically relevant data, major archaeological patterning among the burial clusters under each of the five mounds, then to propose a priori a series of alternative, possible interpretations of the cultural meaning(s) of the burial clusters, and finally to evaluate each interpretation relative to the documented empirical patterns. The alternative interpretations to be weighed suggest that different burial clusters represent persons of different social rank, leaders in different social roles, leaders versus followers, age sets or gender groups, members of different ceremonial sodalities, persons of different clans or phratries, persons who died deaths that were classified differently, persons placed in different religious categories, and members of different dispersed hamlet communities who were buried together to solidify an alliance among the communities. The last interpretation is the only one found acceptable empirically. I begin with the three mounds of Seip–Pricer, Seip–Conjoined, and Edwin Harness, and then proceed to Hopewell Mound 25 and Ater.

Seip–Pricer, Seip–Conjoined, and Edwin Harness Mounds

Greber (1979b:32–36) summarized some remarkable structural similarities among the Seip–Pricer, Seip–Conjoined, and Edwin Harness mounds (Figures 1G, H, I). Seip–Pricer and Edwin Harness both had three clusters of burials on their floor.[25] Both Seip–Conjoined and Edwin Harness had a three-room charnel house on their floor. Each room at Harness contained a burial cluster, while at Seip–Conjoined, only two did; one room was left empty, but was structurally well defined and appears analogous to the other rooms at the two sites. (An explanation of why no burials exist in the third room is given below.) A tripartite building or screen probably existed under Seip–Pricer, but few postmolds are

known to confirm it. Both Seip–Pricer and Seip–Conjoined are oriented approximately east–west, while Harness is oriented approximtely north–south. Greber equated the three burial clusters of Seip–Pricer and the three charnel house rooms/burial clusters of Seip–Conjoined, from west to east, to each other and to the three burial clusters of Harness, from north to south. The western clusters of Seip–Pricer and Seip–Conjoined, and the northern cluster of Harness, were each found to be physically larger, to have more artifacts per person, and to have more copper breastplates than the other two clusters within these mounds. In addition, at both Seip–Pricer and Harness, their respective western and northern clusters each had more extended burials, a large, specialized artifact deposit, and a fabric canopy or apparent canopy over a grave, in contrast to the other clusters.

These insights of Greber's have been extended more fully in Table 7.1, adding comparisons among all clusters of a mound, and adding mortuary variables that are relevant to sorting out the cultural significance of the clusters. The general pattern that Greber found continues to hold. At Seip–Pricer, there is a systematic decline in a wide variety of mortuary traits from the western cluster, through the middle cluster, to the eastern cluster of burials: the number of persons per cluster; total floor area; spaciousness as measured by the floor area per grave; the number and percentage of extended inhumations, a treatment that was found above to indicate higher prestige; average artifact "quantity" as indicated by Greber's rank sum statistic; the number and percentage of individuals with headplates and celts, which may indicate society-wide or prestigious sodality leaders; and the number and percentage of persons with breastplates, which may indicate membership in a sodality or attainment of a particular level of importance within that sodality. The trend for earspools, which may similarly indicate sodality membership or achievement, comes close to following the general trend. At Seip–Conjoined and Edwin Harness, information is available on fewer mortuary traits but, respectively, the progressive west-to-east decline and progressive north-to-south decline hold.

A number of cultural interpretations of these patterns can be ruled out, drawing in part on what has been inferred above about site function and the sociological meaning of artifact classes. The idea that the three or two clusters of burials were different rank groups can be ruled out for several reasons, following contemporary definitions of ranking and principles of mortuary theory summarized in Chapter 6. First, at Seip–Pricer, where detailed demographic information is available, none of the clusters have persons of various age and sex categories in the proportions one would expect for a rank level of a society. This is true even when age groups are distinguished liberally, simply as adults versus subadults. Adults strongly predominate over subadults in the middle cluster, with a possible male bias. More normal age distributions are found in the eastern and western clusters, but females probably predominate at least in the eastern cluster. Second, no artifact class or other material trait that could have been a symbol of a rank level is evident for any of the three mounds. No class or trait simultaneously is common within a single cluster, distinguishes among clusters, represents a significant investment of energy, and occurs with multiple age groups and both sexes within a cluster (see Selection of Mortuary Traits That Indicate Rank, above, and Appendix 7.2). A third reason for discounting the idea that the clusters of burials represent rank groups is that none of the three mounds exhibit among their burial clusters a pyramidal distribution of persons of varying prestige, that is, where there are fewer persons of top rank and increasing numbers of persons of lower rank levels at the base of the pyramid. This is a pattern that occurs more or less in rank societies. Instead, in all three mounds, the reverse is true. Clusters of persons that apparently had more prestige, on the average, as measured by multiple indicators, also have more persons. For example, at Seip–Pricer, the cluster with the most persons is the western one, and it also has the greatest floor area per burial, the highest number and percentage of extended inhumations, and the greatest number of persons with items of prestige, including each of headplates, celts, breastplates, and earspools, as well as a large artifact deposit

Table 7.1. Characteristics of Spatial Clusters of Burials under Five Scioto Hopewell Mounds

Cluster characteristic	West cluster (W)	Middle cluster (M)	East cluster (E)	Summary of cluster relationships
		Seip–Pricer mound		
Group size (number of individuals)	47	37	18	W > M > E
Sex ratio (M:F)	2:4 M < F	5:2 M > F	1:5 M < F	Female–male–female
Subadult:adult ratio	5:16 S < A	1:19 S ≪ A	4:19 S < A	Normal–very adult–normal
Extended burials (number of individuals; % within cluster)	6 (12.8%)	2 (5.4%)	2 (11.1%)	W > M, E
Floor area (spaciousness)	Large	Medium	Small	W > M > E
Floor area/grave (spaciousness)	Large	Medium	Small	W > M > E
Grave form	Log tombs	Log tombs	Log tombs	W = M = E
Special canopy?	Yes	No	No	W > M, E
Special artifact deposits?	12 breastplates arranged over a 51 cm celt	No	No	W > M, E
Average rank-sum (Greber 1979a)	Highest-ranking burials on average	Intermediate-ranking burials on average	Lowest-ranking burials on average	W > M > E
Headplates (leaders) (number of individuals; % within cluster)	1 (2.1%)	0 (0%)	0 (0%)	W > M > E
Celts (leaders) (number of individuals; % within cluster)	8 (17.0%)	3 (8.1%)	0 (0%)	W > M > E
Breastplates (sodality member, achiever) (number of individuals; % within cluster)	18(38.3%)	5 (13.5%)	0 (0%)	W > M > E
Earspools (sodality member, achiever) (number of individuals; % within cluster)	7 (14.9%)	8 (21.6%)	0 (0%)	W ~ M > E

Seip–Conjoined mound

Cluster characteristic	West cluster (W)	Middle cluster (M)	East cluster (E)	Summary of cluster relationships
Group size (number of individuals)	24	19	0	W > M > E
Extended burials (number of individuals; % within cluster)	None	None	None	W = M = E
Floor area (spaciousness)	Large	Medium	Small	W > M > E
Floor area/grave (spaciousness)	Large	Smaller	No burials	W > M
Grave form	Log tombs	Log tombs	Log tombs	W = M
Special artifact deposits?	1 person has 38% of breastplates in mound	No	No	W > M, E

Edwin Harness mound

Cluster characteristic	North cluster (N)	Middle cluster (M)	South cluster (S)	Summary of cluster relationships
Group size (number of individuals)	68	48	22	N > M > S
Extended burials (number of individuals; % within cluster)	12 (17.6%)	3 (6.2%)	1 (4.5%)	N > M > S
Floor area (spaciousness)	Large	Large	Small	N = M > S
Grave form	Log tombs	Log tombs	Log tombs	N = M = S
Special canopy?	Possibly	No	No	N > M, S ?
Special artifact deposits?	Yes	No	No	N > M, E
Breastplates (sodality member, achiever) (number of individuals; % within cluster)	15 (22%)	3 (6.2%)	1 (4.5%)	N > M > S

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Table 7.1. (*continued*)

Cluster characteristic	East cluster Summary of (M) (E) cluster relationships			Hopewell Mound 25					Summary of cluster relationship
	A1	A2	B	C	D1	D2	E	F	
Group size (number of individuals)	1	2	5	35	13	3	30	4	C > E > D
Sex ratio (M:F)	n/a	1:0	0:1	4:2	3:1	0:1	1:2	2:1	too little data
Subadult:adult ratio	n/a	0:2	0:2	1:31	0:9	0:1	0:30	1:3	all adult dominant except F
Floor area (spaciousness)	Very small	Very small	Small	Medium	Small	Small	Large	Very small	E > C > D1, D2, B > others
Floor area/grave (spaciousness)	n/a	Medium	n/a	Small	Medium	Medium	Medium	n/a	E = D1 = D2 = A2 > C
Extended burials (number of individuals; % within cluster)	0 (0%)	2 (100%)	0 (0%)	26 (74%)	9 (69%)	1 (33%)	29 (97%)	2 (50%)	E, A2 > C, D1 > F, D2
Special artifact deposits?						Altar 2 riches	66 of 72 celts, 95 of 125 breastplates, and 16,000 pearl beads with B260–261; deposit of 109+ copper cutouts; Altar 1 riches	60 of 102 earspools and 5,000 pearl beads in B7	E > F > D > others
Average rank-sum (Greber 1979a)	Similar	Similar	Similar	Similar	Similar	Similar	Similar	Similar	C = D = E
Headplates (leaders) (number of individuals; % in cluster)	0 (0%)	0 (0%)	0 (0%)	2 (5.7%)	1 (7.7%)	0 (0%)	5 (17%)	1 (25%)	E > D1, C > others
Celts (leaders) (number of individuals; % in cluster)	0 (0%)	0 (0%)	0 (0%)	1 (2.8%)	1 (7.7%)	0 (0%)	3 (10%)	0 (0%)	E > D1 > C > others
Breastplates (sodality member, achiever) (number of individuals; % in cluster)	0 (0%)	0 (0%)	0 (0%)	5 (14%)	2 (15%)	0 (0%)	8 (27%)	2 (50%)	F > E > D1, C > others (% basis)
Earspools (sodality member, achiever) (number of individuals; % in cluster)	0 (0%)	1 (50%)	1 (20%)	8 (23%)	5 (38%)	0 (0%)	5 (17%)	3 (75%)	F, A2 > D1 > C > E > others (% basis)

Raymond Ater mound

Cluster characteristic	North cluster (N)	South cluster (S) (not completely excavated)	Summary of cluster relationships
Group size (number of individuals)	48	11	N > S
Subadult:adult ratio	7:25 S<A	1:8 S ≪ A	Normal–adult
Extended burials (number of individuals; % within cluster)	None	None	N = S
Floor area (spaciousness)	Large	Small	N > S
Floor area/grave (spaciousness)	Small	Large	N < S
Grave size	Small	Large	N < S
Grave form	Mostly log tombs	Log tombs	N = S
Special artifact deposits?	No	1 person has 50% of breastplates and 33% of celts in mound	N < S
Average rank sum (Greber 1979a)	Similar to S	Similar to N	N = S
Headplates (leaders) (number of individuals; % within cluster)	2 (4.17%)	0 (0%)	N > S
Celts (leaders) (number of individuals; % within cluster)	2 (4.2%)	1 (9.1%)	N < S (%); N > S (#)
Breastplates (sodality member, achiever) (number of individuals; % within cluster)	1 (2.1%)	4 (36.4%)	N < S
Earspools (sodality member, achiever) (number of individuals; % within cluster)	3 (6.2%)	3 (27.3%)	N < S (%); N = S (#)

and a fabric canopied tomb. The same inverse pyramidal structure holds for Seip–Conjoined and Edwin Harness. Thus, the three clusters of persons under each mound differ in their average prestige, and perhaps their average social "wealth," but not in social rank.

Some other possible sociological interpretations of the burial clusters under Seip–Pricer, Seip–Conjoined, and Edwin Harness also are not plausible. It is logical to ask whether the different clusters might have distinguished leaders of different roles from each other and from a portion of followers. This idea is compatible with indications that Seip–Pricer contained only a portion of a community, with emphasis on prestigious individuals (see Selection of Burials That Are Representative of a Society, above). The interpretation also is in accord with the overall material richness of Seip Pricer, which makes it analogous in certain ways to Hopewell Mound 25—a clear burial place for many elite (see Regional Patterning, above; Seeman 1979a:392–393). Evidence, however, does not bear out the idea. At Seip–Pricer, none of the artifact classes that conceivably might have been badges of leadership roles is found in only one cluster of burials and found with most burials in that cluster. This is the case for copper headplates, copper celts, marine shell, copper nostril inserts, copper crescents, obsidian bifaces, mica sheets, batons, and boatstones. These artifact classes occur with a few persons in a cluster and are scattered among all three clusters at Seip–Pricer.

A third possible sociological interpretation that does not fare well empirically is that different burial clusters represent age sets or gender groups. Persons differing by age or sex are not segregated among burial clusters at Seip–Pricer, where detailed demographic information is available (Table 7.1).

A fourth idea, that the different clusters represent different ceremonial societies or other sodalities thought to have been marked by breastplates and earspools (see The Sociological Meaning of Copper Headplates, Celts, Breastplates, and Earspools, above), can also be eliminated. Although these artifact classes are widely enough distributed among persons at Seip–Pricer and Edwin Harness to have symbolized sodalities, they are not segregated by cluster (Table 7.1). It is not known how these items were distributed at Seip–Conjoined.

It is possible that the spatial clustering of burials under the three mounds represented ceremonial or sodalities other than those marked by breastplates and earspools. If the persons buried within a cluster were members of one sodality, their additional membership in sodalities marked by breastplates and earspools poses no problem ethnologically. Cross-culturally, it is not uncommon for persons to be allowed to join multiple sodalities. Further, if the clusters of burials under a mound represented sodalities, the data would show that the sodalities differed in their prestige and/or wealth, based on the variation among clusters in the commonality of prestigious persons within them. Again, this poses no ethnological problem. However, other than spatial segregation, there is no material marking or badge of these posited sodalities to be found in the tomb forms or artifact classes associated with corpses in the three clusters. The interpretation remains possible, but is weak.

A fifth potential sociological interpretation of the burial clusters under each mound is that they represent different animal totemic groups, such as clans or phratries (sets of clans reciprocally obligated to each other). This idea can be evaluated with the distribution of species of animal power parts, which most likely represent clan membership or leadership (Thomas et al., Chapter 8), among burial clusters (Appendix 7.4). At Seip–Pricer, where information is available, species that would represent clans or sets of species that would represent phratries do not segregate by burial cluster. Instead, feline power parts occur in all three clusters. Moreover, there is not an equitable distribution of burials with potential clan markers among the three clusters, as one might expect if clusters represented clans of one or more kinds, nor is there a similar diversity of potential clan symbols among clusters, as might be expected if clusters represented phratries. The western cluster, which contains the greatest proportion of persons of high prestige, as indicated by multiple measures, has the greatest number and diversity of posited clan markers.[26]

It is important to consider factors other than sociological ones that might have determined burial within clusters under the three mounds. A sixth, cross-culturally common cause of intrasocietal mortuary variation that might explain the burial clusters is the circumstances of death of the deceased and their social classification (Binford 1971:22; Carr 1995b:153). This factor is hard to track without skeletal information on mode of death, but does not appear to have determined the cluster in which a person was buried. If one grants that circumstances of death are often linked to age, sex, and social role, then the occurrence of persons of a variety of ages, both sexes, and many social roles within single clusters of burials at Seip-Pricer (Table 7.1) gives little indication that persons who died different deaths were segregated at burial. Another argument against the idea that different circumstances of death led to segregation of burials into clusters is that it would require a strong correlation between mode of death and the several kinds of social role distinctions witnessed to vary regularly from western to eastern clusters and northern to southern clusters under the three mounds. Mode of death would have had to have correlated with whether or not a person was a community-wide leader indicated by headplates, a community-wide leader indicated by celts, a high achiever in a sodality possibly indicated by breastplates, a high achiever in a sodality possibly indicated by earspools, and possibly other prestigious social roles marked by other artifact classes not examined but encompassed in Greber's rank-sum statistic (e.g., conch shells, pearls). It is more likely that if mode of death had been tied strongly to social role, it would have been tied to only a few specific occupations rather than the broad spectrum of them just listed.

Philosophical–religious beliefs are strong determinants of mortuary practices—as common as sociological ones cross-culturally (Carr 1995b)—and must be weighed for whether they led to burial in clusters under the three mounds. One potential religious interpretation of the clusters is that they represent persons bound for different afterlives. Not uncommonly, cultural belief dictates that there are multiple afterlives and that these are in different locations. The Me-

dieval Christian division of heaven and hell, upward and downward, and the Inuit division of the Land of the Day and Land Under the Sea, toward sunrise and the direction opposite sunrise (Ariès 1974; DeSpelder and Strickland 1999:52; Merbs 1989), are examples. A common correlate of the belief in multiple afterlives is the idea that the soul of the deceased can be guided to its socially appropriate afterlife by positioning the body and/or its grave toward that afterlife. The European Middle Ages practice of orienting the body toward Jerusalem or the Inuit way of orienting the body toward one of their two afterlives document this cultural logic. Perhaps the directionally oriented clusters of burials under Seip–Pricer, Seip–Conjoined, and Edwin Harness follow this cross-cultural pattern, with afterlives having been thought to be located in the two directions of the end clusters, and up or down for the middle clusters, or some such belief. This kind of interpretation cannot be corroborated empirically, however. At Seip–Pricer, for which a floor plan is available, the graves within each end cluster are not oriented in the direction of the cluster. In addition, for the interpretation to hold, it would be necessary to link beliefs about multiple afterlives and their directions to the sociological distinctions of the clusters in their general prestige and in the specific social roles more or less common in them. This argument seems overly complex. Alternatively, if the clusters represented sodalities that differed in prestige and in the afterlives to which their members went upon death, the archaeological distributions of various social roles among clusters might be more easily explained. However, no material marking or badge of these sodalities beyond cluster assignment is apparent in the tomb forms or artifact classes found in the three clusters. Finally, note that cross-culturally, burial location (e.g., in clusters) within a cemetery is determined by religious beliefs sometimes, but not predominantly (Carr 1995b:181).

The Burial Clusters as Communities. Setting aside the above, empirically falsified or at least unsupported interpretations, what is to be made of the spatial clusters of burials under Seip–Pricer, Seip–Conjoined, and Harness? A strong hint comes from two extensive cross-cultural

surveys of the determinants of mortuary practices made by Carr (1995b) and Binford (1971). Carr (1995b:163, 181) found that, of the many and diverse determinants of mortuary patterns examined, the horizontal social position of the deceased was the one factor most frequently associated with the location of the deceased's grave within a cemetery. Binford's (1971:22) survey revealed the same association, and with greater strength.

Within societies of middle-range complexity, such as those of the Scioto Hopewell, horizontal distinctions include primarily kinship group, residence, and sodalities, which by definition typically crosscut kinship and residence. In the cases of Seip–Pricer, Seip–Conjoined, and Edwin Harness, no support was found for the notion that the burial clusters were kinship groups (clans or phratries) or ceremonial or other sodalities. This leaves residence to be investigated. Could the burial clusters under each mound represent members of different dispersed communities, with three communities at Seip–Pricer, three at Edwin Harness, and two at Seip–Conjoined?

There are multiple reasons for believing this interpretation to be true. It brings order in explaining a variety of particular facets of the mortuary records of the three mounds, as presented above and in Table 7.1 and Appendix 7.4. The interpretation also complements existing understanding of the Scioto Hopewell mortuary realm in an ethnohistoric light. The first reason for accepting the interpretation is simply the patterning found cross-culturally in grave location as a strong material correlate of horizontal social distinctions, cited above, as applied to the three mounds.

Second, the social composition of each burial cluster under the three mounds, to the extent known, has the characteristics of a community. Each cluster has persons of a range of prestige, leadership roles, and sodalities. At Seip–Pricer, Seip–Conjoined, and Edwin Harness, each burial cluster includes some elite and also persons of lesser prestige. Extended burials, shown above in multiple ways to indicate high prestige, occurred in small numbers in all three sections of Seip–Pricer and Edwin Harness. Graves elaborated with log tombs housed most of the floor burials at Seip–Pricer and all of the floor burials at Seip–Conjoined, suggesting that those selected for burial from each posited community had at least a moderate amount of prestige.[27] Persons who had social roles of key responsibility of one kind or another, including possible society-wide leaders, sodality leaders, persons of high achievement within sodalities, and other ceremonial leaders of import, occurred in all three burial clusters at Seip–Pricer and all three at Edwin Harness, as one would expect of a sample of persons from a community. At Edwin Harness, persons interred with breastplates were found in all three burial clusters. At Seip–Pricer, copper headplates, celts, breastplates, and earspools occurred in only the two larger of the three clusters, but one to a few individuals with conch shells occurred in all clusters, and the smallest and largest burial clusters each had one person with a mica sheet mirror. Conch shells were closely associated with the use of the black drink in public ceremonies in the historic Southeast (Hudson 1976:229, 373, 398) and with top leadership roles in Mississippian society at Spiro (Phillips and Brown 1978, 1984). The distant sources of both conch shells and mica also suggest their association with prestigious social roles.

Third, the idea that the burial clusters under the three mounds represent communities helps to explain the distribution of apparent clan markers among the clusters at Seip–Pricer—the one mound for which data are available. At Seip–Pricer, feline power parts that probably indicate a feline clan occur in one or more burials in all three clusters. Bear canines and/or claws do as well, although their identification as clan markers is suspect (see Note 11). Other species of power parts that probably mark clans occur in only one or two burial clusters (Appendix 7.4). This patterning is in line with the idea that the burial clusters represent communities because, cross-culturally, a clan can be localized within one community, distributed among communities, or both. In addition, there is a wider diversity of animal species and possible clans represented by animal power parts in the western burial cluster, which is the largest. If burial cluster size is some reflection of community size, implying that the western cluster of burials came from the

largest community, then the broader range of apparent clans indicated for that large community is sociologically reasonable. Finally, only a small minority of individuals within Seip–Pricer are identified to possible clan by an animal power part. This may suggest that these artifacts represented some prestigious role within a clan. If so, the occasional occurrence of prestigious clanpersons in each cluster, with a good number of more common clanpersons, would reinforce the general pattern of their having been persons of a range of prestige in each social unit, as one would expect of a sample of persons from a community.

Fourth, the community interpretation of the burial clusters helps to explain their age–sex compositions at Seip–Pricer, where demographic information is available (Table 7.1). Two of the clusters there have normal age distributions and all three have adults, subadults, and both sexes, as communities should have. At the same time, the particular balances of adults to subadults and males to females probably vary significantly from cluster to cluster. This diversity is not what one would expect of different social segments, such as lineages or clans *within* a community. Within a small community, rules about who is to be buried where—within a communal charnel house or not—should be similar among closely interacting social groups. In contrast, different communities might vary significantly in their rules of burial, particularly in the case of a community burying some of its dead in a charnel house within a different community.

A fifth reason for interpreting the burial clusters under the three mounds as communities is that it makes sense of their inverse pyramidal distributions of prestige; that is, for each mound, clusters with more burials also had higher proportions of persons with prestigious goods. In real-life terms, larger communities were wealthier and had higher proportions of individuals with prestige. This situation is reasonable: larger communities would have had bigger labor pools for organizing public efforts and for acquiring material resources, as well as more potential mates, each resource of which would have augmented the development of prestige. In contrast, the observed, inverse pyramidal distributions of prestige are the opposite of what would be expected in

a case of social ranking, where higher ranks usually have fewer persons (Carr, Chapter 6). None of the other interpretations offered above for the burial clusters explain the strong, pyramidal pattern of differential prestige among them, either.

The observed, inverse pyramid of prestige and its explanation as the result of community size fall in line with Chagnon's (1979) demographic theory of the creation of social prestige in middle-range societies. Chagnon posed that a Big Man becomes big not simply through his calculated generosity to kin and community persons, thereby obligating them and their labors to him (Sahlins 1972), but through his and his lineage's reproductive success. More people equate to more potentially harnessed labor and material resources. The multidimensionally greater prestige of the larger social units implied by the larger burial clusters under the three mounds of interest (Table 7.1) follows this expected pattern.

One particular manifestation of this demographically based phenomenon may be the greater diversity of leadership and other elite social roles represented in the larger burial clusters under Seip–Pricer and the greater proportion of persons in those roles. The record would suggest that the largest community at Seip–Pricer, indicated by the western burial cluster, had societywide leaders or sodality leaders of primary and secondary prestige, marked by headplates and celts, respectively, as well as somewhat less prestigious persons of achievement within sodalities, symbolized by breastplates and earspools. In the smaller, middle burial cluster, persons of primary prestige with headplates are missing, and the other three social roles are represented, but at lower percentages than in the western cluster. In the smallest, eastern lobe, no individuals accompanied by these prestigious role markers were found, although persons with a conch shell or a mica sheet were present.

A sixth line of support for the interpretation of the burial clusters as communities comes from its good fit with a widespread metaphor in the historic Eastern Woodlands. Across the East, equations were drawn between domestic dwellings, on the one hand, and villages, tribal segments, ceremonial buildings, and/or mounds, on the other. These equivalencies were used to

foster the family-like ties and cooperation one would find in a household at a broader social scale. In the Scioto Hopewell case, the burial of dead from different communities together in a charnel house and under a single mound would have symbolized an intercommunity alliance.

More specifically, a now well-known and convincing ethnographic analog for the large charnel houses under Scioto Hopewell mounds is the concept of the "Big House"—domestic dwelling writ large (Greber 1979b:28, 1983:26–27). The correspondence between an individual dwelling and a large ceremonial house is found in the Shawnee language (Greber 1979:28, 1983:27) and a similar correspondence between domestic dwellings and mounds was found in the 18th Century Muskogee language of the Creek of Alabama and Georgia (Knight 1989:280). At a broader scale is a correspondence among the individual dwelling, the ceremonial dance ground (Greber 1979b:28; Swanton 1931:10–11, in DeBoer 1997:228), and the ceremonial center at large (DeBoer 1997:230–232). These particularistic equations are aspects of a much more fundamental, worldwide, and shamanic-rooted equation of the domestic dwelling, the ceremonial ground or structure, and the ceremonial site with the cosmos, and an equation of their center, center post, or smoke hole with the vertical World Axis that joins the levels of the cosmos (Eliade 1964:262, 264–265; see also Pearson and Richards 1994:12; Siegel 1996:317). In a somewhat different line of thought, the domestic dwelling has also been likened to more inclusive social units, such as the entire village or a congregation of bands or tribal segments. This logic occurred, throughout the Eastern Woodlands, among Muskogee, Yuchi, Iroquoisan, Siouan, Caddoan, and Algonquian speakers (DeBoer 1997:229). Thus, the house was used as a metaphor for a wide range of units of varying scale—from the family to community to multicommunity cooperative unit to cosmos, which in turn were symbolized physically by a house, a large ceremonial building, a ceremonial dance ground, or a ceremonial center—depending on the social context. The symbolism emphasized the family-like ties and cooperation within the unit thought of as a house.

If the charnel houses or structures under Seip–Pricer, Seip–Conjoined, and Edwin Harness were similarly equated by Scioto Hopewellian peoples to dwellings, with the potential for referencing any of a wide spectrum of social units, then the burial of members of multiple dispersed communities within each charnel house would fit well with the Eastern Woodlands cultural logic. In this case, the dispersed communities buried within a charnel house would have symbolized their cooperation and their identity as a cooperating social unit. Moreover, the use of segregated spatial clusters of graves to symbolize the different communities would be natural. Spatial locus, itself, would have been a sufficient and most visible material means for symbolizing community identity.

The conclusion reached, then, is that the three clusters of burials and/or the three charnel house rooms under the Seip–Pricer, Seip–Conjoined, and Edwin Harness mounds represent three dispersed hamlet communities that buried some of their dead together. The purpose of this joint burying of the dead was to express cooperation among the three communities and to solidify a three-way ritual alliance among them. This act, by its mortuary and spiritual nature, would have been a very substantial, structurally and ideologically potent, and long-lasting means of fostering cooperation. In particular, burial of the bodies of the dead from multiple communities together within one charnel house could have symbolized the eternal cooperation of the ancestors from those communities with each other—a sacred contract. In turn, this cooperation at the spiritual level would have served as a model for behavior among the living, with attendant consequences from the ancestors for those living descendants who violated the contract. This was the cultural logic of the historic Woodland and Algonkian Feasts of the Dead (Heidenreich 1978:374–375; Hickerson 1960; Trigger 1969;106–112), which involved the burying together of the dead from multiple communities and/or tribes, and which would be reasonable analogs for the ideology and rough strategy of alliance-making found among the Scioto Hopewell. (See Carr, Chapter 12, Feast of the Dead, and below, Contextual Support for

the Historical Reconstruction, for details on this analogy.)

A Regional Interpretation of the Seip–Pricer, Seip–Conjoined, and Edwin Harness Mounds. The interpretation of the three burial clusters and/or charnel house rooms under each of the three mounds as a symbol of a three-community ritual alliance has been based thus far on information at only the intrasite scale. Recall from the opening of this chapter that the Seip and Liberty earthworks are only two of five in the Scioto–Paint Creek area that have similar tripartite designs involving a square, a large circle, and a small circle and that share certain metrics (Figures 7.1a–e). Significantly, the five earthworks are dispersed among three different and major river valleys in the region: Seip and Baum in main Paint Creek, the Old Town works at Frankfort in the North Fork of Paint Creek, and Works East and Liberty in the Scioto valley near the confluence of Paint Creek (Figure 7.2). Also significant, in each of the three valleys, only one of the tripartite earthworks contains burial mounds: Seip, Old Town, and Liberty. Baum and East do not.

It is proposed here that both the three clusters of burials known from under the mounds at Seip and Liberty, the analogous three conjoined mounds within the Old Town Works, and the tripartite forms of the earthworks in the main Paint Creek, the North Fork, and the Scioto valleys, symbolized a formal, ritual alliance among three dispersed hamlet communities in the three valleys (Figure 7.3). The alliance was maintained by the communities burying their dead together at Seip, Old Town, and Liberty, probably by other jointly attended ceremonies within these earthworks, and perhaps by the communities pooling labor (Carr, Chapter 3; Ruby et al., Chapter 4; Bernardini 1999) to build the earthworks, their charnel houses, and/or their mounds. It is also proposed that the Baum earthworks, which neighbors Seip in main Paint Creek valley and lacks mounds inside it, was a part of the ceremonial landscape of the community in that valley, but had different ceremonial functions than Seip, which does have burial mounds. Likewise, Works East in the Scioto valley, which lacks mounds inside it, could have complemented the Liberty earthworks downstream as a part of the ceremonial landscape of the community in that valley (Figure 7.3). The different celestial or other alignments of Baum from Seip, and of Works East from Liberty, also suggest their complementary functions (Carr, Chapter 3: Earthwork Orientation). Thus, a community might have had multiple, functionally diverse, ceremonial centers within it.

The idea that Seip and Baum were contemporaneous, functionally differentiated earthworks within a single community, and likewise Liberty and Works East, is strongly supported and finds precedence in the earlier pair of sites of Mound City and Hopeton. These are adjacent to each other, functionally distinct in being filled with or largely empty of mounds, and are now known to have been contemporaneous, suggesting their use by one community (Ruby et al., Chapter 4).[28] Other lines of evidence for the functional complementarity of earthworks within a community are presented in Chapters 3 and 4.

In the community organization terms defined by Ruby et al. (Chapter 4) and reviewed at the beginning of this chapter, the three communities in the three river valleys would each have been a local symbolic community. Each would have been comprised of a network of persons who shared a constructed sense of identity and common purposes, and who lived in the vicinity of each other. Because each community was distant from the others and segregated in its own river valley, one of its purposes would have included using and maintaining the lands around it, if not owning them (i.e., territoriality). Another purpose would have been enacting various ceremonies together within the one or more earthworks within the community's lands. The degree of fluidity of each community in its membership is unknown.

There are multiple lines of evidence at a regional scale that support the reconstruction of the tripartite alliance, beyond the many kinds of intrasite data already presented. First, the likelihood that three local symbolic communities comprised the main of persons living in the two branches of Paint Creek and adjacent portions of the Scioto around the tripartite earthworks in those valleys is reasonable in light of
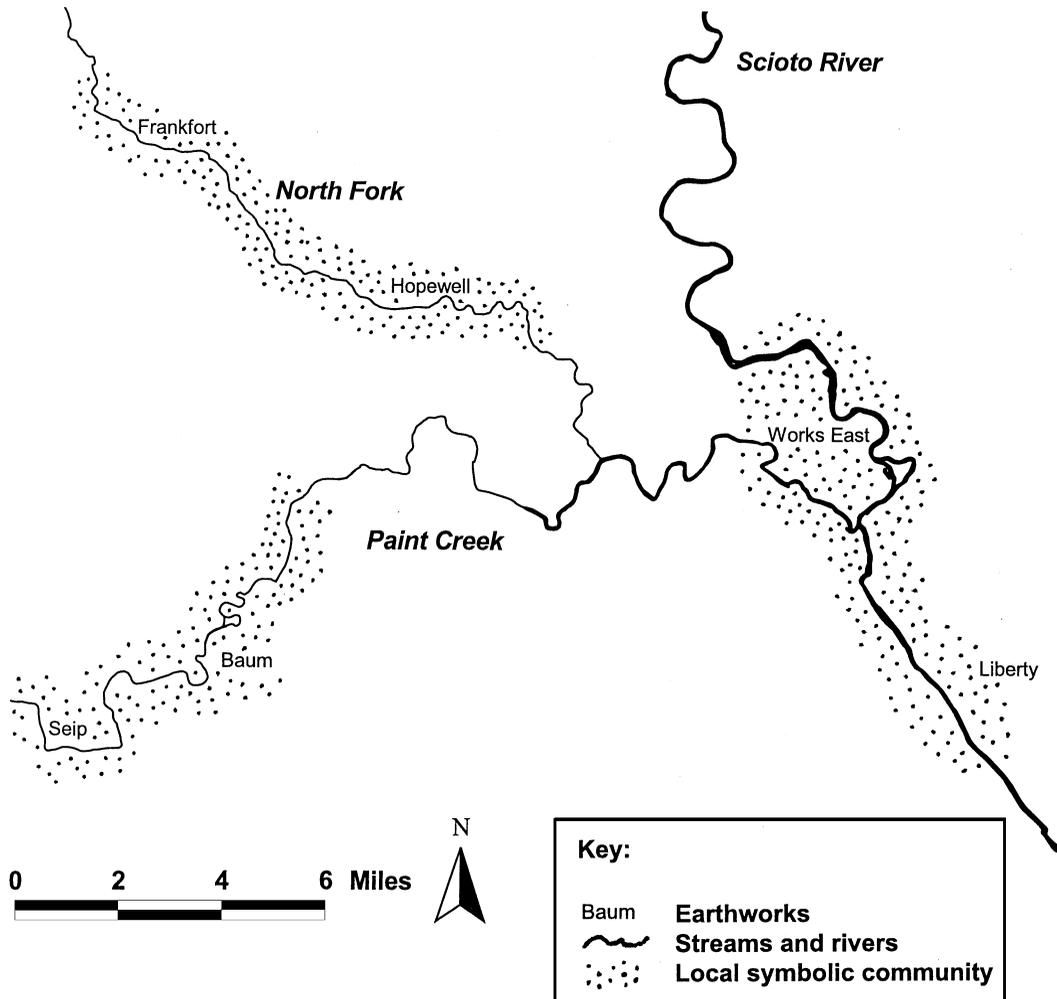
Figure 7.3. Three proposed local symbolic communities of dispersed households in the Scioto valley–Paint Creek valley region. The expanses of the communities beyond the two earthworks that each encompasses are unknown.

archaeological evidence for the scale of Scioto Hopewellian local symbolic communities, as estimated by Ruby et al. (Chapter 4). They used cross-cultural data on the interaction catchments of swidden farmer communities, regional survey information on Middle Woodland habitation site and mound group spacings in the neighboring Licking–Muskingum drainage, and patterning in a histogram of the overland distances between major earthworks in the Scioto–Paint Creek region to estimate the catchment sizes of local symbolic communities and sustainable communities in the Scioto–Paint Creek area. Local symbolic communities had catchment diameters of 5 to

13 kilometers and sustainable communities had catchment diameters of 13 to 25+ kilometers. A local symbolic community 5 to 13 kilometers in diameter would have fit comfortably in each of the three valleys, with a good amount of buffer between them (Figure 7.3). In main Paint Creek, the Baum earthwork, which is closer than Seip to the main Paint Creek–North Fork confluence, is 17 kilometers away from this junction. This distance is greater than either the radius or the diameter of a local symbolic community, and would have provided a local symbolic community that included Seip and Baum quite a bit of buffer from a neighboring local symbolic community in the

North Fork. Likewise, the Old Town Works in the North Fork is about 23 river kilometers from this confluence, providing yet more buffer for a local symbolic community that might have included Old Town from one in main Paint Creek valley. Finally, from the confluence of main Paint Creek and the North Fork to the Scioto valley is another 11 river kilometers, and from there to Works East an additional 4 kilometers, totaling 15 kilometers. Communities in main Paint Creek and the North Fork would have been well buffered from a community in the Scioto valley that focused on Works East and Liberty.

A second piece of evidence that supports the notion of a tripartite alliance is the 13 to 25+ kilometer catchment diameter sizes calculated by Ruby et al. (Chapter 4) for sustainable communities in the Scioto–Paint Creek area. Sustainable communities are regional-scale social networks within which mates, labor, food, and other material resources are regularly exchanged, offsetting local demographic and subsistence variations. Sustainable communities can correspond to a local symbolic community or integrate multiple, local symbolic communities. The close alliance proposed here among three local symbolic communities would suggest that the three together, rather than each one separately, constituted a sustainable community. This identification of the three as a sustainable community and, by extension, the reconstruction of the tripartite alliance upon which the identification is made, are borne out through a comparison to the data of Ruby et al. The land distances from the midpoint between Seip and Baum to the midpoint between Works East and Liberty to the midpoint between Old Town and Hopewell,[29] which are proposed here to be within one sustainable community, are 24, 22, and 16 kilometers, respectively. These distances fall neatly within the range of the catchment sizes of single sustainable communities in the broader Scioto–Paint Creek area, as calculated by Ruby et al.

Third, the idea that three Hopewellian communities in the main Paint Creek, the North Fork, and the Scioto valleys were allied with each other through mortuary ceremonies is supported by a stylistic analysis of fabrics from the mortuaries at Seip, Liberty, and other sites in the three valleys (Carr and Maslowski 1995:328–339). Certain distinctive stylistic traits were found to characterize fabrics manufactured in each of the three valleys, where cloths with those traits were concentrated. However, cloths with traits distinctive of one valley were also found occasionally at sites in the other two valleys. All three valleys were in this way interlinked stylistically.[30] This sharing of fabric styles among sites in different valleys can be explained in several ways: as the exchange of fabrics among the three valley communities, who then made the materials into burial clothing, shrouds, and tomb canopies for use in their own earthworks; as the intermarrying, among the three communities, of persons who made the fabrics; and/or as the burial of clothed or shrouded persons from the three communities in each others' earthworks. Each of these interpretations implies that the three communities in the three valleys were tied together, either formally as through alliance or informally through negotiated, individual, or lineage-arranged material exchanges and/or marriage agreements. The explanation that fabric styles became shared through intercommunity burial equates to the interpretation, here, of the burial clusters under Seip–Pricer, Seip–Conjoined, and Edwin Harness having been the dead from separate but allied communities.

A fourth and especially convincing piece of stylistic information that supports the interpretation of three communities allied through mortuary rites and other means is the extraordinary similarity between the charnel house under the Edwin Harness mound and the apparent charnel house under the Seip–Pricer mound, as revealed by the distribution of its graves (Greber 1983:87–88). The two buildings would have been the same length and width and almost fully the same shape. This strong architectural equivalence implies a very close connection between the builders of the two charnel houses—closer than that suggested by the similar designs of the Seip and Liberty earthworks at large. The equivalence of the charnel houses suggests at least the sharing of design details among community leaders who planned the structures, and may point to the pooling of planning efforts and labor among the two communities to build the

two ceremonial houses. Both interpretations, being concerned with mortuary buildings, coordinate with the notion of allied communities that buried their dead together and shared in other mortuary activities.

A last kind of stylistic information suggesting that the three communities were allied closely through mortuary rites is the shared metrics of the Seip, Baum, Old Town, East, and Liberty Works. All five earthworks in the three valleys are comprised of a large circle of about the same area (16 hectares), a small circle of about the same area (4 hectares), and a square of about the same area (11 hectares) (DeBoer 1997:232–232). Detailed land surveying and aerial photographic work (Romain 2000:58, 59) has shown that the absolute dimensions of some of the earthworks are very close: The small circles at Seip, Baum, Old Town, and East have diameters within 40 feet of each other (5.6% error), and the squares at Old Town and East have sides within 20 feet of each other (1.9% error). In addition, the dimensional similarities of the earthworks in turn allow the sharing among them of intriguing and detailed geometric relationships. For all five earthworks, their small circles have a diameter approximately equal to the side of a square nested in their large square (i.e., *ad quadratum* geometry). For all but Baum, their squares fit very closely within their large circles (i.e, the diagonals of their squares are close to the diameters of their large circles). For all but Baum, the diagonals of their squares are approximately equal to one-third the circumference of their large circles (i.e., equal to the side of an equilateral triangle inscribed within their large circles), while at Baum, a side of its square is close to one-third the circumference of its large circle (Romain 2000:43–54). All of these close similarities in areas, sizes, and proportional relationships, like the very close metrics of the charnel house under Edwin Harness and the apparent charnel house under Seip–Pricer, indicate the sharing of architectural details among the community leaders who planned and organized the building of the earthworks, perhaps the sharing of construction efforts among the communities, and close alliance relationships among them.

In conclusion, multiple lines of evidence at both the intrasite and the regional scales suggest that three local symbolic communities, in main Paint Creek valley, the North Fork of Paint Creek valley, and an adjacent section of the Scioto valley, were closely allied and formed a sustainable community. The three communities repeatedly buried their dead together within earthworks in each other's lands, and may have shared in the planning and building of their earthworks.

The interpretation of the burial clusters and charnel house chambers under each of Seip–Pricer, Seip–Conjoined, and Edwin Harness as representing three communities begs the question of which riverine communities were represented by which burial clusters. Also curious is the fact that the charnel house under the Seip–Conjoined mound, while having three chambers, had burials in only two of them. Why? These questions can be answered with good probability, and are in the summary section below. However, to lay out the logic of these answers requires first an exploration of burial patterning under Hopewell Mound 25 and the Raymond Ater mound. In addition, these sites provide an important diachronic view of the development and decline of the tripartite alliance. To these sites we now turn.

Hopewell Mound 25

The Hopewell site lies in the North Fork of Paint Creek, south of the Old Town works at Frankfort (Figure 7.2). Its enclosing walls do not have a tripartite structure as do those of Seip and Liberty. Its largest mound, number 25, has a floor plan that, on first appearance, looks distinct from those of Seip–Pricer, Seip–Conjoined, and Edwin Harness (Figure 7.1J). Seven spatial clusters of burials under Mound 25 were defined by Greber (Greber and Ruhl 1989:50), and eight by Case and Carr (n.d.), in contrast to the three clusters under Seip–Pricer, Seip–Conjoined, and Harness. Does the Hopewell site have a place sociologically within the regional patterning of the five tripartite earthworks described above? And what do the clusters of burials under Hopewell Mound 25 represent culturally? This section documents a number of strong structural similarities between Hopewell Mound 25 and Seip–Pricer, Seip–Conjoined, and Edwin Harness, and interprets their regional relationships to each other.

Table 7.1 lists the physical characteristics of the eight clusters of burials defined by Case and Carr (n.d). Of the eight clusters, significantly three (C, D1, E) stand out in their size, indicators of prestige of the deceased, and central location. One cluster (F) is small but symbolically rich and four others (A1, A2, B, D2) are less impressive in both size and indicators of prestige. Each of the central burial clusters, C, D1, and E, has a larger number of persons (13–35). Each has individuals accompanied by headplates and celts, which probably were symbols of society-wide leadership or sodality leadership, and by breastplates and earspools, which likely were symbols of membership or achievement within two different sodalities. In addition, C, D1, and E each have a high percentage (69%–97%) of persons who were inhumed rather than cremated—a likely prestigious burial treatment (see Regional Patterning, above)—and a more spacious floor area than those other clusters that are bounded. Cluster F has many fewer individuals but contains burials with a headplate; breastplates; earspools, totaling 60 in one case; a conch shell that may indicate ceremonial leadership (see Seip–Pricer, Seip–Conjoined, and Edwin Harness Mounds, above); copper and mica cutouts; unique copper nose inserts that may have had a shamanic reference to breath and spirit; bone skewers that may have been used in anchoring temporary fabrics over tombs (Brown 1979:217; Greber 1979b:35; Hall 1979:260) and that may indicate a shamanic role in burial preparation and/or body processing; and/or a protective, pearl-symbolized water barrier. Only half of the burials in cluster F are extended, however. In contrast to the burials in these four clusters are those in clusters A1, A2, B, and D2. All of these clusters have only one to five persons and lack individuals with copper headplates, celts, and breastplates. Two of the clusters also lack persons with earspools. Neither of the two clusters, A2 and D2, which are spatially bounded, occupies much floor area.

The small number of persons contained in clusters A1, A2, B, D2, and F and their spatially removed locations from the central clusters of burials C, D1, and E suggest the distinct nature of the former clusters from the latter, central ones. The almost complete lack of material indicators

of prestige for the burials in clusters A1, A2, B, and D2 further suggests their socially peripheral nature. They may have been accompaniments of a kind (e.g., spouses, relatives), denied access to more central burial, perhaps not unlike the individuals in Hopewell Mound 23 (see Regional Patterning, above, and Note 6). The persons in cluster F also appear symbolically to have been socially marginal, but in a different manner. They may have been too potent with power, especially spiritual power, for burial with the central clusters of persons. The pearl water barriers that surround Burials 6 and 7 of cluster F, the very rare copper nose inserts found with them, and their bone skewers possibly used in processing bodies, with all its implications for working with the souls of the deceased (Huntington and Metcalf 1979:61–87), imply this interpretation. Significantly, the only other Scioto Hopewell example of a person buried with copper nose inserts—Burial 2 under Seip–Pricer—also was accompanied by bone skewers, was surrounded by a pearl water barrier, and was placed with others at the edge of the burial clusters there. It is not uncommon, cross-culturally, for persons with extraordinary spiritual power to be buried marginally or bounded from the rest of society (e.g., Merbs 1989; Middleton 1982).

Taking the five burial clusters A1, A2, B, D2, and F to have been individuals who were socially peripheral or anomalous leaves the three central clusters of prestigious individuals. These clusters, being three, falling in a line, and in their association with headplates, celts, breastplates, and earspools, suspiciously recall the three clusters of burials and/or charnel house rooms under Seip–Pricer, Seip–Conjoined, and Edwin Harness. Did the three clusters under Hopewell Mound 25 and those under these other sites have the same sociological meaning?

Greber (Greber and Ruhl 1989:55–56) found no significant difference among these clusters in the rank sum of counts of certain artifact classes, and concluded that the persons in the clusters did not differ in "rank." However, the list of artifact classes that she used was not tailored for discriminating differences in prestige or ranking (see Selection of Mortuary Traits That Indicate Rank, above). Table 7.1 shows that mortuary

traits relevant to vertical social distinctions do reveal systematic differences among clusters C, D1, and E. Cluster E, on the southwest end of the line of three, has the highest number and percentage of individuals with headplates, celts, and breastplates, and persons that were inhumed rather than cremated. It also has the largest total floor area and is among a few clusters with larger amounts of floor area per grave. Cluster D1, in the middle between C and E, is the second most impressive in its percentage of headplates, celts, and breastplates and has the highest percentage of persons with earspools. It also has the second-largest floor area per grave and a similar percentage of persons inhumed to that in cluster C. The least impressive cluster in most of these several ways is cluster C. Again, this directional patterning of vertical social differentiation among persons buried in the three clusters recalls the directional patterning under Seip–Pricer, Seip–Conjoined, and Edwin Harness.

Most of the eight possible interpretations evaluated above for the burial clusters under Seip–Pricer, Seip–Conjoined, and Edwin Harness can be assessed for the clusters under Hopewell 25. There is no evidence that the material differences among burial clusters C, D1, and E symbolized rank distinctions within a society (Table 7.1). None of the clusters have persons of a wide range of age categories in the proportions expectable for a rank level of a society. In fact, there is only 1 known subadult among the 70 persons identified to age class in the three clusters. Further, the clusters of burials are not distinguished by any mortuary traits having the characteristics of symbols of rank, i.e., traits that are common within a cluster of burials, distinguish among clusters, differ among each other in the energy investments they involved, and are found with most or all persons in a cluster, including a wide range of age categories and both sexes. All three clusters share in all the fancy artifact classes that are common enough to have possibly represented symbols of rank. Finally, the clusters do not form a pyramidal structure, whereby group size decreases with group prestige. Instead, the nearly largest group, E, has the greatest proportion of burials with indicators of prestige, for several different indicators.

The ideas that clusters C, D1, and E represent leaders of different kinds, leaders versus followers, different sodalities, or different clans or phratries also do not conform with the data (Table 7.1, Appendix 7.4). Probable symbols of leadership (headplates, celts), sodalities (breastplates, earspools), and clans or phratries (animal power parts) do not distinguish the clusters. Badges or material markings of religious sodalities other than those marked by breastplates and earspools are not evident. Broad age sets that might have distinguished adults from subadults were not represented by the burial clusters because nearly all the deceased were adults. There are not the demographic data available to evaluate whether finer age grades of adults, or gender groups, were segregated among the burial clusters. The religious interpretation of the burial clusters as persons destined to different afterlives in different directions is not supported. The northeast, middle, and southwest directions of clusters C, D1, and E, respectively, are not mimicked by a systematic orientation of the graves within each cluster. It does not seem possible to either rule out or support the interpretation that the three clusters signify different circumstances and social categories of death. However, the sociological differences between the burials in the three central clusters as a whole and those in the five peripheral ones suggest that at least this spatial division of individuals was not linked to circumstances of death. If the division had been, it would imply an unlikely correlation between mode of death and the several social roles found in the central burial clusters but not in the peripheral ones.

The most parsimonious explanation of the three burial clusters is that they represent, as at Seip–Pricer, Seip–Conjoined, and Edwin Harness, members of three different dispersed hamlet communities, but with the additional restriction that the selected persons were primarily highly prestigious ones. The extraordinarily prestigious nature of the persons buried under Mound 25 compared to those buried under Seip–Pricer, Seip–Conjoined, Edwin Harness, and other Scioto Hopewell mounds has been inferred above (see Regional Patterning, above) from a broad suite of evidence: the total mound volume of Mound 25, the total amounts and diversity

of Hopewell Interaction Sphere finished artifacts and exotic raw materials within it, the very large number and sizes of ceremonial caches of items, the extrafine quality of crafting of some artifact classes, the almost-complete lack of subadults who would not have had time to achieve much prestige or to realize that inheritance, the greater proportion of males compared to females as best as can be estimated, and the very high percentage of apparently prestigious inhumations versus apparently less prestigious cremations.

The identification of burial clusters C, D1, and E as members of different communities is supported, as at Seip–Pricer, Seip–Conjoined, and Edwin Harness, by several kinds of evidence. These include: spatial segregation within a cemetery as a cross-culturally common form of symbolizing horizontal social position; the occurrence of prestigious individuals with key, artifact-symbolized social roles, including leaders and sodality members marked by headplates, celts, breastplates, and easpools, in each of the burial clusters, as one would find in different communities; the presence of the same clans (feline, wolf) rather than different clans in at least two of the three clusters, as one would find when single clans are distributed among communities rather than localized; the apparent occurrence of the greatest number of clans in the largest cluster (C), which might indicate the largest community with the greatest potential for clan diversity; and the spatial segregation of the burial clusters as a natural symbol of communities separated in space but within the circle of a cooperative social unit, represented by the mound.[31] Burial clusters C, D1, and E do not demonstrate, unlike at Seip–Pricer, Seip–Conjoined, and Harness, an "inverse pyramid" structure, whereby prestigious persons are found increasingly more commonly in clusters of greater size that may represent larger communities with more labor potential. However, this pattern is not to be expected necessarily if each community selected primarily important persons for burial within Mound 25, which is in line with the mound's elaborate character. Not enough information on the age and sex distributions of the burials in the three clusters is available to assess whether the distributions approximate what would be expected from a community.

Hopewell Mound 25 in Regional Perspective. A reasonable sociological position for the Hopewell site within the Scioto–Paint Creek area can be defined from the understanding that the three large burial clusters under Hopewell Mound 25, like those under the Pricer, Conjoined, and Harness mounds, were members of three different communities, but persons of primarily high prestige. The scenario is as follows. Within the main Paint Creek valley, the North Fork of Paint Creek valley, and the adjacent portions of the Scioto valley resided three dispersed hamlet communities, one in each valley. Each of the three communities had within its lands an earthwork that was used to bury some of its members and some of the members of the two other communities with which it was closely allied. These earthworks were, respectively, Seip, the Old Town Works, and Liberty. Persons of a broad spectrum of prestige were buried in the mounds at these three sites. Also within the lands of each community was a second earthwork used for different purposes. These earthworks were, respectively, Baum, Hopewell, and East. Baum and East appear to not have been used much or at all for burying the dead, because they lack burial mounds. Little of their functions beyond this is known. Hopewell served a function alternative to Old Town, as Baum did relative to Seip, and East did relative to Liberty, but this function was also distinct from that of Baum and East. Specifically, Hopewell was the burial place of largely a select group of important persons who filled social roles of key responsibility in each of the three communities, in contrast to the somewhat broader populations buried at Seip, Liberty, and Old Town. In addition, Hopewell was aligned celestially in a direction different from Old Town, suggesting the complementary ceremonial functions of these two earthworks in the North Fork of Paint Creek valley, analogous to the complementary celestial orientations and functions of Seip and Baum in main Paint Creek valley, and of Liberty and Works East in the Scioto valley.

The idea that the three central clusters of burials under Mound 25 represent persons from three communities situated in the three different river valleys is supported with regional-scale

data by the above-described stylistic analysis of fabrics from Seip, Liberty, Hopewell, and other sites (Carr and Maslowski 1995). Fabric attributes that were found to be distinctive of Seip and main Paint Creek valley, where cloths with those attributes were concentrated, were also noted in occasional cloths at Hopewell. Likewise, fabric attributes that were distinctive of Hopewell and the North Fork of Paint Creek, where cloths with those attributes were concentrated, were also shared in occasional cloths at Seip.[32] As discussed in greater detail above, the shared fabric styles could indicate the exchange of fabric between communities in the two valleys, intermarriage among them, and/or the burial of clothed/shrouded persons from the two communities within each other's earthworks. All of these possibilities suggest ties of alliance among the two communities.

The interpretation that the three communities were in close social relationship with one another is also supported with regional-scale data by stylistic similarities in the architecture of Hopewell Mound 25 to that of Seip–Pricer mound, Seip–Conjoined, and Edwin Harness (Greber and Ruhl 1989:62–63). Mound 25's final form was a conjoining of three mounds, analogous to the three conjoined submounds within Seip–Pricer, to the final form of Seip–Conjoined, and to one or more analogous construction features of Edwin Harness.[33]

Beyond the basic reconstruction of the burial of prestigious persons from three communities at Hopewell Mound 25, there are three additional, essential interpretations that can be inferred from intrasite and regional data. First, it is possible that Hopewell, Seip, and Liberty served as burial grounds for small numbers of certain special individuals or representatives from communities beyond the three allied ones discussed thus far. Each of these sites had some to many smaller mounds that sometimes held one to a few individuals, who may have been members of communities additional to the primary three. At Hopewell, there were at least 36 small mounds beyond the large Mounds 25 and 23; at Seip, there were 16 not counting Seip–Pricer and Seip–Conjoined; and at Liberty, there were 13 beyond the Edwin Harness mound. Further, the burials under Mound 25 in the peripheral, small clusters A1, A2, B, and D2 might also fit within this interpretation. The Old Town earthwork apparently had many mounds within and around it (Moorehead 1892:115) beyond its three conjoined mounds (Moorehead 1892:133; Squire and Davis 1848:plate XXI, 60–61). One of these (no. 17; Moorehead 1892:131) has been excavated, and it contained only six skeletons.

Second, it is unlikely that the three communities in main Paint Creek valley, the North Fork valley, and the adjacent Scioto valley conceived of themselves as one integrated society with a sense of identity and a symbolic center separate from the constituent communities. This is suggested by the regional positioning of the Hopewell earthwork. Although Hopewell was a special burial ground for important persons from all three proposed communities, it was not located centrally among them. It could have been located so, east of the confluence of the North Fork with main Paint Creek and west of the confluence of Paint Creek with the Scioto. Instead, it was built within the lands of one of the three apparent valley communities—that in the North Fork.

Third, it is unlikely that the three communities were integrated through one or a few strong, centralized leadership positions with supracommunity domains of power—political, religious, and/or symbolic of the unity and well-being of the communities at large (e.g., Earle 1997: Frazer 1935, vol. 4; Huntington and Matecalf 1979:123–124, 153–183; Peebles and Kus 1977; and Winkelman 1992:69–75). These positions might have been symbolized by elite residence and/or burial in a central location, as is so common among chiefdoms and kingdoms (e.g., Huntington and Metcalf 1979:123), but this was not the case in the Scioto–Paint Creek area. On the contrary, the inequitable location of the Hopewell site, in conjunction with the shared cemeteries within the lands of each of the three communities, suggest the more or less equal but separate social character of the three communities, with the one community that was focused on

Hopewell and Old Town in the North Fork having had some historical, demographic, material, or other advantage over the other two communities. This regional picture accords well with the intrasite archaeological records of Seip–Pricer, Seip–Conjoined, and Edwin Harness, which also point to three communities of variable stature and wealth (see below).

The lack of regional-scale evidence for strong, centralized supralocal leadership is also in line with a more direct study of Scioto Hopewellian leadership made by Carr and Case (Chapter 5) with mortuary data. There, leadership is found to have been characterized by many decentralized, complementary roles distributed among multiple persons rather than by centralized authority in one position. The power of most of the leadership roles appears to have been based within the local community, but two roles may have had broader domains of power across the three communities in main Paint Creek, the North Fork valley, and the adjacent Scioto valley. The two roles, which were marked by plain copper headplates and conch shells with dippers for serving drink, were both public ceremonial leaders that lacked shamanic trappings. The role marked by copper headplates might best be described as an incipient priest or a priest-chief, who had yet to dominate the supralocal political landscape, which was shared by many kinds of local community leaders. The nature of the role marked by conch shells and dippers is unclear.

Chronology

The regional structure of three allied communities, each with two earthworks, as just presented, is a static view that conceivably might constitute the culmination of historical developments in the area or be a somewhat misleading compression of historically related but not synchronous activities. Did the large, submound mortuary structures at Seip, Liberty, Old Town, and Hopewell operate over the same time span? Were there shifts over time in the community or communities that hosted multicommunity burial ceremonies, as power relations among communities changed? A detailed picture of cultural behavior on the ground requires better chronological con-

trol over the archaeological record than available, but some parts of the picture are known.

Prufer (1961a:702–714, 1964a:44–52) concluded that the Hopewell site, Seip, and Liberty all had operated during a "Middle Hopewell" period, distinct from the use of earlier Mound City and Tremper, and later Ater and Turner, among other sites. His chronology was based on the relative degree of resemblance of these Hopewell mortuary sites to generally earlier, Adena ones, considering a wide range of artifact types and mortuary architecture and practices. DeBoer's (1997) seriation of most earthworks in the Chillicothe area, based on several covarying aspects of their morphology, places Baum, Seip, Works East, and Liberty on the same time plane, preceded by Old Town, the square of Hopewell, and the subrectangle of Hopewell, in that reverse order.

Prufer's and DeBoer's approaches to chronology are too coarse, not having taken into consideration the now-known long duration over which the multiple mounds and embankment sections within at least some single earthworks were built (Greber 1983:92, 1997:221). Ruhl's (1996; Ruhl and Seeman 1998) seriation of Ohio Hopewell earspools by their morphology illustrates well the problem with taking a sitewide seriation approach. The seriation shows that the items from each of Hopewell, Seip, and Liberty have a very wide and nearly equal range of forms, suggesting the long and similar periods of use of all three sites. The range encompasses that expressed by earspool forms from Ater and Turner, which first appear in the seriation somewhat later than Hopewell, Seip, and Liberty. Thus, for an archaeological chronology for the Chillicothe area to be accurate and satisfying requires it to focus on the ordering of specific, individual features within sites, such as charnel house floors, mound building, and embankment building, rather than sites as wholes.

Becoming more specific, both the charnel house under Edwin Harness and that presumed to have occurred under Seip–Pricer can be closely estimated to have been used in the same or very close decades. Twelve calibrated beta-count radiocarbon dates from the charnel house under

Edwin Harness (Greber 2003:108) and three from the charnel house under Seip–Pricer (Greber 1983:92; 2003:103) range in their means from the late A.D. 200s to the early A.D. 400s, and do not show a statistically significant difference between the two structures, although the dates from Edwin Harness are generally somewhat earlier than those from Seip–Pricer. The likelihood of overlap in the times of use of the two mortuary areas is increased if one further considers the extended periods over which the mortuary areas would have been used. Greber (1997:215), taking a broad view of the Seip–Pricer mound within the context of the Seip site at large, believed that the charnel house under it was probably used about three generations.[34] Finally, Ruhl's (1996; Ruhl and Seeman 1998) seriation of earspools from Seip–Pricer and Seip–Conjoined largely mixed into one sample and from Edwin Harness, as reanalyzed by Greber (2003:96), shows no indication that the burial floors of Edwin Harness and those under Seip–Pricer/Seip–Conjoined differ significantly in age.

The dating of the floor of Hopewell Mound 25 is problematic. Two early-run, wood and bark radiocarbon dates with high variances (Prufer 1964a:45) and one recent, more precise wood date from Burial 260/261 (Greber 2003:102–103) calibrate to the 40 B.C.-to-A.D. 70 range. One other recently run wood date from Burial 260/261 and three from Altar 1 (Greber 2003:102–103) have calibrated averages between A.D. 245 and A.D. 398. Six obsidian hydration dates, which provide maximum estimates of age and are relevant to uncertain proveniences within the mound (Hatch et al. 1990), have means that spread uniformly between 78 B.C. and A.D. 106. These contrast with two obsidian hydration dates from Seip, with means of A.D. 256 and 347. It is possible that the old wood problem and curation of obsidian account for the set of early dates from Mound 25, but the number of these early dates says that these factors should not be used lightly to reject the dates. It is also unclear why obsidian curation would have occurred at Hopewell more than at Seip under this supposition. The overall thrust of the dates from Hopewell Mound 25 suggests that the mortuary area under the mound was at most contemporaneous with those under Seip–Pricer and Edwin Harness, and probably was begun earlier—either slightly or substantially—with an unknown length of use.

Information on mound and earthwork construction at Hopewell and Seip hints at the building of Hopewell Mound 25 earlier than the Seip–Pricer, Seip–Conjoined, and Edwin Harness mounds, sometime prior to the solidification of the three-valley alliance, its ideology and symbolism, as well as the close contemporaneity of the latter three mounds. Hopewell Mound 25 initially was built as one mound over the several clusters of burials on its floor. Later, two smaller mounds were appended to it, giving it a trilobate form similar to the initial form of Seip–Pricer, the initial and final form of Seip–Conjoined, and possibly the initial form of Edwin Harness (see Note 33). If the building of the central mound of Hopewell 25 preceded that of Seip–Pricer, Seip–Conjoined, and Edwin Harness, it is possible that the idea of trilobate mound construction in the area developed after the central portion of Mound 25 had been built and that its end mounds were appended later, when this idea was carried out at Seip–Pricer and Edwin Harness and/or Seip–Conjoined. This would have kept mortuary symbolism in the three communities analogous. The tripartite theme may have reached its final elaboration in the building of the tripartite earthworks around Seip–Pricer and Seip–Conjoined, as well as Edwin Harness and the mounds at Old Town, long after the simpler, subrectangular formed embankment and its appended square at Hopewell had been set in place. Greber (1997:215) concluded that the circular embankment around Seip–Pricer and Seip–Conjoined, and the square of the Seip site, were constructed after these mounds, relatively late in the Middle Woodland Period. This sequence would explain the difference in shape of the earthwork at Hopewell from the tripartite forms of Seip, Baum, Old Town, Liberty, and Works East.

This diachronic interpretation, and the asymmetry of the Hopewell site's architecture compared to that of the tripartite earthworks, hangs together well internally and is not unexpectable from the perspective of how regional

social–material landscapes build up over time. It is unusual to find perfect symmetry in the material expressions of a cultural system at the landscape scale. Social–material landscapes develop over generations—in this case over several or more generations (Greber 1997:210–211, 214–215)—during the course of which personnel are born and die, and social and ideological change can occur. At the same time, it is good to remain open to an alternative and/or complementary interpretation. The distinct shape of the Hopewell earthwork might indicate the choice of its builders to symbolize, in some way, the leadership and prestige dimensions of those buried there over the symbolizing of intercommunity alliance.[35]

There is one key piece of evidence that speaks to the possibility that the durations of use of the floors under Hopewell Mound 25 and Seip–Pricer were long enough to have overlapped in time. For the Ohio Hopewell world, where about 1,000 burials have been excavated and over 850 have been reported with their grave contents (Case and Carr n.d.), only 3 are known to have had copper nose inserts. These are Burials 6 and 7 under Hopewell Mound 25 and Burial 2 under Seip–Pricer. Each of these persons was an adult 20–45 years age, was buried at the margin of their mound floor, had two bone awls, one to three breastplates, and metallic buttons, and lacked almost all forms of shamanic equipment. Burial 7 at Hopewell and Burial 2 at Seip–Pricer both were surrounded by very rare water barriers formed with hundreds of pearls. The three burials have little that is not in common. All of these shared mortuary features suggest some form of well-defined social role that was very limited in its time–space distribution. The implication is that the burial of these individuals on the floors of Hopewell 25 and Seip–Pricer probably occurred within a generation of each other, at most, and that the floor of Hopewell Mound 25 was probably used over an extended period of time, almost or barely overlapping with the floor of Seip–Pricer.

This conclusion is reinforced by the burial on the floors of these two mounds of two extraordinarily large copper celts, which are unique in the Hopewell world and are within only 2 cm. in length of each other (58 cm., 60 cm.). One celt was found in an artifact deposit that covered skeletons 260 and 261 in Mound 25; the other in an artifact deposit on a clay platform in Seip-Pricer. This evidence of contemporaneity must be qualified with the possible differential curation and final burial of the two celts.

The above chronological information, in consort with the previous mortuary and artifact style analyses, suggests that the joint burial of persons from three different communities situated in main Paint Creek, the North Fork, and neighboring parts of the Scioto probably occurred contemporaneously at the Seip–Pricer mound in main Paint Creek and the Edwin Harness mound in the Scioto. It is possible that the joint burial of prestigious persons from the three communities at Hopewell Mound 25 also occurred at this time, but an earlier period of joint burial for most persons is more likely. If earlier, it may have been that mortuary-based alliance activities among the three communities began with the burial of their elite together (at Hopewell) and, with time and solidification, broadened to a wider spectrum of members of each community (at Seip and Liberty). There is no evidence one way or the other for changing power relations among the communities over time.

Raymond Ater Mound

The Ater mound is located in the North Fork of Paint Creek valley, just over a half-mile southeast of the Old Town Works and three and a half miles northwest of the Hopewell site. It is distinct from the Seip–Pricer, Seip–Conjoined, Edwin Harness, and Hopewell 25 mounds in several ways. First, it is not encompassed by an earthwork or just outside of one.[36] Second, the mound has two lobes instead of three and, probably, two burial clusters instead of three on its floor. The number of burial clusters found under the mound is not known for certain. Two clusters were documented, but two-thirds of the north lobe was destroyed before excavation commenced and could have covered one or more additional clusters. The most probable number of burial clusters, however, is two, equivalent to the number of

mound lobes. At Seip–Pricer, Seip–Conjoined, and Edwin Harness mounds, the number of burial clusters equates to the number of mound lobes or other mound architectural distinctions (see Note 33). Third, few postmolds are known from Ater, and these do not indicate a charnel house or other enclosure. Fourth, from Ruhl's (1996; Ruhl and Seeman 1998) seriation of Ohio Hopewell earspools, it appears that use of the Ater mortuary floor began significantly later than the first known burial activity at Hopewell and later than burial activity at the Seip–Pricer and Edwin Harness mounds, in line with Prufer's (1961a, 1964a) coarser placement of Ater "later" than Hopewell, Seip, and Liberty. There are no radiocarbon dates from Ater.

Greber (1979a:51) concluded from her study of the burials at Ater that, as a whole, they represented a rank society. However, the criteria and data patterns that she employed to come to this conclusion were not stated. She did not think that the burials in the two clusters were distinguished by rank because the rank sums of counts of the artifact classes she studied did not differ significantly between the clusters. Instead, Greber said that the persons were segregated into two clusters by their connections, or lack thereof, to a "leader" in one or both of the clusters.

Table 7.1 shows that, contrary to Greber's reading of the data, there are strong patterns that differentiate the two extant clusters of burials at Ater. Burials in the south cluster are, on the whole, more prestigious than those in the north cluster for several mortuary traits. The south cluster has a greater number and percentage of extended burials, more floor area per grave, larger graves on the average, a greater number and percentage of individuals with breastplates, a greater percentage of persons with celts, a greater percentage of persons with earspools, and a single individual (Burial 51A) with half of the breastplates and a third of the celts recovered from the mound. Paralleling these indicators of prestige, the adult-to-subadult ratio is much higher in the south cluster. These multiple, correlated differences between the two clusters recall the same reinforcing set of indicators of prestige that distinguish the three clusters of burials under the Seip–Pricer, Seip–Conjoined,

Edwin Harness, and/or Hopewell 25 mounds. The one exception to the pattern is headplates; they were missing from the south cluster yet two were found in the north cluster.

It is harder to interpret the cultural meaning of the clusters under Ater than the previous mounds analyzed, because a significant proportion of the mound floor is unknown, and it was less rich in sociologically diagnostic artifacts than were the floors of the other major mounds examined here. It seems safe to conclude that the two clusters do not represent rank groups. The subadult-to-adult ratio in the south cluster, which was fully excavated, is not what one would expect of a rank level of a society. Also, none of the prestigious artifact classes that evidence significant energy investment is common enough in either of the clusters to represent a symbol of rank, is found in one cluster and not the other, and is found with all age groups and both sexes (Appendix 7.2). Further, a pyramidal distribution of prestige is lacking: although the smaller, southern cluster is materially richer on the average, there is as much variation in burial treatment among individuals within the cluster for each mortuary characteristic.

There is no indication that the clusters represent leaders of different kinds, leaders versus followers, or different sodalities. The two known clusters are not distinguished qualitatively by probable symbols of leadership (headplates, celts) or sodality membership or achievement (breastplates, earspools) (Table 7.1). No material symbols of other kinds of sodalities are apparent. Broad age sets that might have distinguished adults from subadults are not evidenced because both clusters of burials include persons of both age categories. Whether the two clusters varied in the finer age categories and sexes present in them cannot be evaluated for lack of data. The religious interpretation, that persons in different burial clusters were bound to different afterlives in different directions, is not corroborated by the orientations of graves within a cluster. These vary widely. Different circumstances and social categories of death seem unlikely to have led to the deceased having been buried in the two clusters, because this would imply a correlation between mode of death and the several social

roles that distinguish the south and north cluster in their commonality or presence–absence. Clan or phratry affiliation could explain the sorting of persons into two clusters, though data are much too sparse to assess (Appendix 7.4).[37]

The idea that the two known burial clusters represent members of two different communities is supported by many of the diverse lines of evidence found at Seip–Pricer, Seip–Conjoined, Harness, and Hopewell 25. These are: spatial segregation within a cemetery as a cross-culturally common form of symbolizing horizontal social position; the occurrence of prestigious individuals with key, artifact-symbolized social roles in each of the burial clusters, as one would find in different communities; and spatial segregation of the burial clusters as a natural symbol of communities separated in space but within the circle of a cooperative social unit, represented by the mound and its circumscribing gravel rings. At the same time, the two clusters under Ater lack an "inverse pyramid" distribution whereby important persons would be found most commonly in the larger of the two clusters that might represent a larger community with more labor potential. Also, there is a smaller diversity of animal species and possible clans represented by animal power parts in the larger, northern cluster than the smaller southern cluster. If burial cluster size reflects community size, however, one would expect the larger community and cluster to have the greater potential for clan diversity and a greater number of clans. Thus, the interpretation that the burial clusters at Ater represent different communities is reasonable, but not as clearly supported as in the case of the other four mounds analyzed above.

Ater Mound in Regional Perspective. The Ater mound is one of a large number of Middle Woodland and apparent Middle Woodland mounds in the Chillicothe area (e.g., Bourneville, McKenzie, Rockhold, West, Westenhaver) and elsewhere in Ohio (e.g., Hazlett, Clyde Jones, Kohl, Martin, Melvin Phillips, Rutledge, Stone, Wright–Holder, Yant) that were not located within or just outside an earthwork. The mounds are isolated or occur in clusters of two or three. Of these mounds and mound clusters, all that have

been excavated excepting Ater had few persons, generally 1 to 4, and occasionally as many as 10 to 15 (Carr Chapter 13; Case and Carr n.d.). They included ordinary to more prestigious persons who were clearly only a part of a small social group, which would equate to a "residential community," or several interrelated residential communities in the terms of Ruby et al. (Chapter 4). In some cases, these social groups were probably similar to the small Adena social units that earlier gathered to bury some or all of their dead in typically small mounds and mound groups over the region (Clay 1987, 1991).

In contrast, the Ater mound included 59 excavated person, with approximately 40% of the mound not recovered. Thus, the number of persons probably buried on the floor of Ater was larger than that buried on the floor of Seip–Conjoined ($n = 43$) and Hopewell Mound 23 ($n = 48$), and could have approached the numbers buried on the floors of Seip–Pricer ($n = 102$) and Hopewell Mound 25 ($n = 95$). It is reasonable, then, to interpret Ater within the context of the regional spatial–ceremonial organization indicated by these larger mounds, the earthworks of Seip and Hopewell that encompass them, and the related, tripartite, mound-bearing earthworks of Old Town and Liberty.

If Ater mound was similar in some fashion to Seip–Pricer, Seip–Conjoined, Hopewell 25, and other large mounds within earthworks with tripartite symbolism, two questions immediately arise: Why was Ater mound not accompanied by an earthwork? And why did Ater mound have only two clusters of burials on its floor instead of three? In the regional interpretation to follow, it will be assumed that the number of burial clusters under Ater was actually two, paralleling the number of lobes of the mound like the architecture of other sites (see Note 33).

Geographically, Ater was built in the North Fork of Paint Creek valley, between the Old Town Works and the Hopewell site. From the above reconstruction of the three allied communities within the greater Chillicothe area, Ater would have fallen within the lands of the dispersed hamlet community in the North Fork that focused on Old Town and Hopewell, not considering the dimension of time.[38] The one preserved piece

of fabric from Ater links it stylistically to the Hopewell site (Carr and Maslowski 1995:331) within this community, rather than to others.[39]

Temporally, the burial floor of Ater mound probably dates to a time when the charnel house under Seip–Conjoined was used, or not much later. The logic for this is as follows. The charnel house under Seip–Conjoined has been estimated by Greber (1979b:37; 1997:215) to have been used after the charnel house that presumably existed under Seip–Pricer, and during a time when Seip–Pricer was heightened with more soil and gravel.[40] From the radiocarbon record at Seip (Greber 1983:89–92; 2000; see above), this would have been sometime relatively late in the Middle Woodland sequence, when Ater is estimated by traditional typology to have been used (Prufer 1961a, 1964a). The placement of the use of Ater's burial floor specifically after Seip Pricer's had been mounded and during or shortly after the use of Seip–Conjoined's burial floor is suggested by Ruhl's (1996; Ruhl and Seeman 1998) earspool seriation. In the seriation, earspools from Ater are interdispersed among those in a mixed sample from Seip–Pricer and Seip–Conjoined, not over the entire seriation sequence for Seip, but only over the last of it (Ruhl 1996, Appendix B), which probably pertain more to Seip–Conjoined (see Greber 2003:96).

The lateness of Ater and its two-part rather than three-part organization together suggest the possibility that Ater represents a two-community remnant of the three-community alliance, which had begun to collapse. This inference is strongly corroborated by the layouts of the burial floors under Seip–Conjoined in relation to the layouts of the floors under Seip–Pricer and Ater. The charnel house under Seip–Conjoined is like the reconstructed Seip–Pricer building in having had three rooms. However, burials were placed in only two of the rooms of the Seip–Conjoined charnel house (Figure 7.1h, Table 7.1), while all three rooms at Seip–Pricer were used for burial. In this regard, Seip–Conjoined is transitional between the three-section charnel house under Seip–Pricer and the two-cluster floor under Ater. This seriation of mound floor forms and the dates of use of the mound floors bring up the possibility that the Seip–Conjoined charnel house was

built by three allied communities with the intention that all three would bury some of their dead within its three chambers, as at Seip–Pricer, but that this event was not realized. Specifically, one of the three communities may have broken off their part of the alliance and not buried their dead in the Seip–Conjoined charnel house. The other two communities did, and continued their part of the alliance. This two-community alliance then seems to have carried forward for a while, and was materialized again in the two lobed, probably two-burial cluster cemetery of Ater.

Also supporting this reconstructed history of alliances is the fact that the three primary mounds over the three sections of the Seip–Conjoined charnel house were never joined together by a single earthen mantel, as the three primary mounds over the three burial clusters at Seip–Pricer had been. Thus, Seip–Conjoined was not completed in two ways: by joint burial and by uniting the burial clusters under one mantel. Significantly, both of these actions had previously been metaphors for intercommunity cooperation.

Following the logic of the historical reconstruction one step further suggests which of the three allied communities parted ways: the one situated in the main Scioto valley and focused on Liberty and Works East. Three pieces of evidence support this conclusion. First, the two mounds that have charnel houses with only two burial clusters–Seip Conjoined and Ater–are located in the main Paint Creek valley and the North Fork of Paint Creek, respectively, implying the continuation of the mortuary alliance by the communities in these two valleys. Second, the two communities that are hypothesized to have retained their alliance are, sensibly, the ones that are closest geographically to each other: in main Paint Creek and the North Fork. The more distant community in the Scioto valley is the one hypothesized to have broken away. Third, the section of the charnel house at Seip–Conjoined that was empty of burials is the smallest one. By extrapolation from the trend of decreasing material richness of the burial clusters from the large to the medium-sized, used sections of the charnel house under Seip–Conjoined, the smallest, empty chamber within the charnel house would

have represented the materially least rich community in that mound. This conclusion is also inferable from the trend in decreased richness from the large to the medium-sized to the small burial clusters under each of Seip–Pricer and Edwin Harness. Significantly, of the three communities once within the tripartite alliance, the one that appears to have been least wealthy is the community in the Scioto valley. The Edwin Harness mound in the Scioto valley is noticeably poorer in its numbers, diversity, and qualities of fancy artifact classes than Seip–Pricer and Seip–Conjoined in main Paint Creek valley and Hopewell Mound 25 in the North Fork (Greber 1979b:33, 37). In sum, the valleys in which two-cluster burial floors occur, geographic distances among the three communities, and consideration of community wealth all converge on the conclusion that it was the community in the Scioto valley that left or was removed from the tripartite alliance.

Finally, the reconstructed history of alliances offered here suggests an answer to the question of why the burial mound of Ater, with a burial population size in the range of that of the Seip–Pricer, Seip–Conjoined, Edwin Harness, and Hopewell 25 and 23 mounds, was anomalously not accompanied by an earthwork Throughout this chapter, the case is made that charnel house construction, mound building, and earthwork building were each fundamental aspects of intercommunity alliance formation and symbolization. The tripartite form of charnel houses, mound architecture, and earthworks described here is thought to have symbolized these intercommunity relations and to evidence of them. In addition, the possibility that allied communities in the three valleys pooled their planning efforts and labor to build each others' ceremonial centers is a reasonable inference in light of the very close similarities in the sizes and shapes of the tripartite earthworks and charnel houses in the three valleys (see A Regional Interpretation of the Seip–Pricer, Seip–Conjoined, and Edwin Harness Mounds, above) and the overlap among valleys in the reconstructed catchments of their labor pools (Carr, Chapter 3; Ruby et al., Chapter 4; Bernardini 1999). In this context, the absence of an earthwork around the Ater mound can be explained by the waning

of efforts at alliance creation and the contraction of labor pools when the floor of Ater mound was used and thereafter. We know that geometric earthwork–burial mound complexes ceased to be built in the Scioto–Paint Creek area near the end of the Middle Woodland Period. One logical possibility would be sometime after the mounding of Seip–Conjoined's burial floor and during the use of the Ater cemetery.

Summary of the Historical Reconstruction of the Tripartite Alliance and Its Fall

Multiple, reinforcing archaeological patterns at the intrasite and regional scales suggest that three dispersed hamlet communities, situated in the main Paint Creek valley, the North Fork of Paint Creek valley, and an adjacent section of the Scioto valley, buried some of their dead together under several mounds in each others' lands. These mounds minimally include Seip–Pricer, Seip–Conjoined, Edwin Harness, and Hopewell Mound 25 and could also include the three conjoined mounds within the Old Town Works. Through burying some of their dead together, the communities would have symbolized and sanctified a formal alliance among themselves, wedding together their ancestors in an essentially permanent afterlife existence and, by extension, giving strong reason for the living to uphold the principles of alliance. Alliance-creating activities may also have involved the three communities participating together in other ceremonies, planning together the architecture of their earthworks, mounds, and charnel houses, and pooling their labor to build these meeting places. The repeated, tripartite form and very similar sizes of Seip and Baum in main Paint Creek valley, Old Town in the North Fork of Paint Creek valley, and Liberty and Works East in the adjacent Scioto valley, as well as the nearly identical form and size of the charnel houses under the Edwin Harness and Pricer mounds at Liberty and Seip, strongly suggest common architectural planning at the least.

The identity of the three burial clusters under each of Seip–Pricer, Seip–Conjoined, Edwin Harness, and Hopewell 25 as portions of

dispersed communities was determined by both a process of elimination and reinforcing positive lines of evidence. Reasons why the burial clusters could not have been rank groups include their wrong age–sex distributions, and the lack of symbols of rank, which would have been identifiable from the goodly amount of energy invested in them, their age-sex distributions, and their segregation among burial clusters. The burial clusters could not have distinguished leaders of different kinds, leaders versus followers, sodalities of different kinds, or clans because apparent symbolic markers of these roles and social groups crosscut the clusters at each mound, where data on them are available. Age sets and genders were not segregated among clusters, given the demographic profiles of the clusters. The deceased's circumstances of death and consequent social categorization, as well as the afterlife to which the deceased was bound, also could be eliminated as the causes of the burial clusters. Many positive lines of support were found for the idea that the clusters represented communities. These include, for most or all of these sites examined, the following: spatial segregation within a cemetery as a cross-culturally common means for symbolizing horizontal social distinctions; the occurrence of persons of a range of leadership roles, sodalities, clans, and prestige within each cluster, as would occur in a community; the expected occurrence of the largest number of persons of key social roles and the greatest diversity of clans in the largest burial clusters, which may represent demographically larger communities; the age–sex distributions of the clusters, where known; the inverse-pyramidal distribution of indicators of prestige, such that larger burial clusters had persons of higher prestige and greater proportions of them; and the circumscription of some tripartite burial clusters within a charnel house, which in the historic Eastern Woodlands was likened to a domicile, which in turn represented the family-like ties and cooperation within a family, a community, multiple communities, or the cosmos. The sharing among Seip, Liberty, and Hopewell of certain fabric stylistic traits that originated in different valleys also aligns with the interpretation that the three communities buried some their dead together at these sites, although alternative interpretations such as fabric exchange and intermarriage among communities are also possible.

The three communities in Paint Creek valley, the North Fork, and an adjacent section of the Scioto valley may have differed in population size, and thus their potential for organized labor, acquiring resources, and developing prestige, in accord with Chagnon's (1979) demographic theory of the foundations of prestige differentials in middle-range societies. This situation is indicated by the different sizes of the major burial clusters under each of Seip–Pricer, Seip–Conjoined, Edwin Harness, and Hopewell 25, and the positive correlation between the size and the material richness of the clusters under the first three of these mounds.

The particular communities represented by each of the three major burial clusters under each of the four mounds is hinted at by the relative material richness of the burials in each cluster compared to the overall richness of burial mounds in the different river valleys. The richest and largest of burial clusters possibly contained the dead from a community in the North Fork of Paint Creek valley, focused on the Old Town Works and the extraordinarily endowed Hopewell site. The burial clusters of middling material richness and size possibly contained the deceased from a community in the main Paint Creek valley, centered in part on Seip, with its Pricer and Conjoined mounds of secondary richness. The poorest and smallest burial clusters may have held the dead from a community in the Scioto valley focused on Liberty and Works East. The Edwin Harness mound at Liberty was significantly poorer in the amount and quality of the fancy artifact classes it contained relative to Seip–Pricer, Seip–Conjoined, and Hopewell 25. This mapping of valley communities onto burial clusters is corroborated by the particulars of the history of changes to burial floor layouts in the Scioto–Paint Creek area.

Each of the three communities appears to have had multiple, functionally differentiated earthwork ceremonial centers within them. An earthwork with burial mounds for persons of a broad but not full spectrum of prestige distinctions and an earthwork apparently without burial

mounds respectively characterize Seip and Baum in the main Paint Creek valley, as well as Liberty and Works East in the Scioto valley. An earthwork with burial mounds presumably for persons of a wide but not complete range of prestige distinctions and an earthwork with burial mounds for largely prestigious adults respectively characterize the Old Town Works and the Hopewell site in the North Fork of Paint Creek valley. In each valley, the two earthworks also differed in their celestial or other alignments, indicating their complementary ceremonial functions. The pattern of multiple, functionally differentiated ceremonial centers within a single community appears to have had its roots in the Scioto-Paint Creek area as far back as the early Middle Woodland, as expressed by the pair of sites, Mound City and Hopeton.

The asymmetrical location of the specialized and prestigious Hopewell site in one of the valleys, rather than its placement central to all three, suggests that the three communities probably did not think of themselves as one integrated society with a symbolic center. Nor is it likely that the three communities were integrated through one or a few strong, centralized leadership positions with power over multiple communities. Instead, the communities were joined by alliance with their orchestration apparently facilitated in part by two kinds of incipient, supralocal leadership roles, marked by copper headplates and conch shells with spoon dippers. Differences among the communities in material wealth and social prestige account for the particular community and valley within which the Hopewell site was built.

Toward the end of the Middle Woodland Period, mortuary data suggest that alliance efforts wavered and that one community—probably that in the Scioto valley focused on Liberty and Works East—subdued, broke off, or was removed from its relationships with the other two. Evidence includes: a transition from mounds with three major burial clusters and lobes (Seip–Pricer, Harness, Hopewell) to mounds with two burial clusters and/or lobes (Seip–Conjoined, Ater), a charnel house (Seip-Conjoined) that apparently was planned and built for use by three communities but was actually used by only two, and the build-

ing of a large mound (Ater) equivalent in size to Seip–Pricer, Seip–Conjoined, and Hopewell 25 but without an accompanying tripartite earthwork.

EASTERN WOODLANDS CONTEXTUAL SUPPORT FOR THE HISTORICAL RECONSTRUCTION

The reconstruction that three river valley communities buried their dead together within shared cemeteries, and by so doing established a permanent alliance among their ancestors in an afterlife and a template of proper action for the living, is not surprising and gains support in the broader milieu of mortuary-related alliance practices in the Eastern Woodlands over time. Common burial was used to unify otherwise discrete local bands, villages, tribal segments, and tribes at multiple times and places in the Woodlands (Carr, Chapter 12, Feast of the Dead). Closest to hand, at the earlier Hopewellian Tremper mound in the southern Scioto valley, the cremated remains of ca. 375 individuals were comingled in four depositories within a single charnel house, which was then covered with a single mound (Mills 1922). Weets et al. (Chapter 14) suggest with multiple lines of evidence that the cremations represent persons of four clans, most likely from multiple Hopewellian communities in the general area. Elsewhere in the Woodlands, at the Hopewellian mound sites of Pinson, Tennessee and Helena Crossing, Arkansas, deposits of co-mingled cremated persons and broken pots from local and distant places have been interpreted as the remains of mortuary ceremonies aimed at cementing relations among local and foreign social groups (Mainfort 1986:31, 35, 46; 1988:167–168). Earlier in time, during the Late Archaic through the Early Woodland, at the Williams–Sidecut mortuary complex in the Lake Erie basin of northern Ohio, the cremations and bundles of between 656 and about 1000 individuals were intermingled in 20 mass burial pits, with one to 100 individuals per pit (Stothers and Abel 1993:68). The remains appear to several archaeologists (references in Stothers and Abel 1993:73) to indicate an interaction center, where local bands that were normally dispersed

across the basin gathered on occasion to form one or more regional bands, bury their dead, exchange gifts, trade, feast, and reaffirm their social ties. Smaller, similar Archaic–Early Woodland cemeteries are documented at the Hickory Island No. 2 and Marblehead sites in the basin (Stothers and Abel, pp. 73, 75). All of these instances recall the mechanism and logic of alliance-building used by protohistoric and historic Huron and Algonkian peoples in their Feasts of the Dead (Heidenreich 1978:374–375; Hickerson 1960; Trigger 1969:106–112; Carr, Chapter 12). The Feasts drew people from neighboring villages and tribes—and in the Algonkian case sometimes from distances of several hundred miles—to bury their recent dead together in single ossuaries, feast, dance, sing, display their warrior prowess, give gifts, court, and arrange marriages. The numbers of corpses, attendees, and given gifts each totaled above 1000 in the largest Feasts. In the Huron case, most of those buried together in an ossuary came from villages within the tribe, which was spread over a territory about the size of Ross Country, Ohio. The bones of all of the deceased, which were believed to retain their "body souls", were stirred together on burial, intermingling the body souls of the ancestors and forming a sacred alliance among the ancestors and, by implication, among the living. (For further details see Carr, Chapter 12). The tripartite charnel house cemeteries blanketed by a single mound at each of Seip, Liberty, and Hopewell fit easily within the above-mentioned modes of burial and logic of alliance formation found sporadically across the Eastern Woodlands over the millennia, and support the reconstruction here of the tripartite alliance.

The potency of this contextual support for the reconstruction of the tripartite alliance lies not only in the analogous forms of burial and their correlation with alliance-building, but also in a more basic, underlying logic or metaphor that all of the cases above, as well as the Scioto Hopewellian instances, seem to express materially. Each case appears to exemplify a fundamental equation between the fate of the body and the fate of the soul, with the implication that souls of the deceased can be manipulated by manipulating the body. In the Huron and

Algonkian Feasts of the Dead, this logic is explicitly documented ethnohistorically: cremated remains were stirred together in ossuaries in order to associate the body souls of the deceased closely with each other. In the other cases, the logic is inferable from the co-mingled or otherwise associated bodily remains. The metaphor equating the fate of the body with the fate of the soul has a world-wide distribution (Hertz 1907, 1960a) and a "natural" symbolic quality (Douglas 1970), making its appearance in the Woodlands in these several cases expectable. This basic logic appears to underwrite the correlation between joint forms of burial and alliance-building in all of the above instances and makes for a strong contextual argument that, in the Hopewell case, three river valley communities buried their dead together within shared cemeteries in order to create a permanent alliance among themselves.

In the Seip, Liberty, Hopewell, and Tremper cases, a second metaphor provides additional contextual support for the reconstruction of the tripartite alliance. This metaphor is the common Woodland equation of the individual dwelling, and the family-like ties and cooperation it represents, with the ceremonial house of the larger community—here the Hopewellian charnel house in which the deceased from multiple communities were buried together (see above, The Burial Clusters as Communities).

THE TRIPARTITE ALLIANCE IN THE PERSPECTIVES OF ANTHROPOLOGICAL THEORY AND BROADER, SOUTHERN OHIO CULTURAL HISTORY

The archaeological reconstruction made here, of three valley communities that were allied intimately through burying their dead together, can be enriched considerably by placing it in a comparative sociological, ecological–evolutionary context. In particular, the tripartite alliance in the Scioto–Paint Creek area can be characterized as a comparatively advanced form of regional alliance—one of the kinds that may immediately precede the formal development of tribal sociopolitical units with pan-community

sodalities and a sense of identity. This rendering follows from an ecological–evolutionary theoretic framework on the development of alliances and tribes (Carr 1992a; see also Braun 1977; Braun and Plog 1982; Ford 1974; Voss 1980). In addition, the tripartite alliance can be placed in the context of the long-term culture–historical development of alliance strategies in the Scioto region and neighboring areas, which accords with the theory. Contextualizing the tripartite alliances both theoretically and historically in turn shows the reconstruction to be reasonable and expectable.

Cross-culturally, regional alliance networks among communities within social landscapes of middle-range complexity usually widen and intensify during periods of increasing subsistence, social, demographic, or natural environmental risks at the local level (Braun and Plog 1982; Voss 1980). Alliances between local groups widen because they can serve directly or indirectly as channels by which local subsistence inequities are leveled (Piddocke 1965; Suttles 1960; Vayda 1968), population is redistributed (Rappaport 1968, 1971), and/or political safety is secured (Chagnon 1983). It can be argued theoretically and demonstrated ethnographically that as risk increases in social landscapes of middle-range complexity, alliances among communities develop in a regular way that is typical of human, adaptive decision making. Adaptive strategies are created and chosen in an "ordered sequence" (Figure 7.4) (Slobodkin and Rappaport 1974). Initial responses are behavioral and costly in activity and energy but, being structurally noncommittal, are reversible and allow the person or social group to easily enact other responses later and thus to retain long-term flexibility. As perturbations become more intense, continuous, and predictable, adaptation is accomplished through structural changes. These release the person or social group from costly, continuous, behavioral responses but commit him/her or them to a narrower range of future adaptive options. Similarly, alliances are initiated with reversible economic transactions and political mechanisms such as the exchange of easily replaced utilitarian goods, the exchange of socially unrestricted valuables, networks of cooperation organized around Big Men, and the exchange of elite-restricted goods (Bohannan 1955; Chagnon 1983; Dalton 1977; Flannery 1967; Malinowski 1922; Mauss 1925; Wiessner and Tumu 1999). Alliances are escalated to longer-term, less reversible, social structural, political, and economic commitments through intermarriage, and may be culminated with binding sacred agreements, such as the burial of the dead (and their souls) from different communities in a common cemetery (Eggan 1964; Levi-Strauss 1969a; Rosman and Rubel 1971; Trigger 1969). During the latter alliance developments, a regional tribe may formally crystallize as a stable, bounded group with the establishment of pan-community sodalities (essentially permanent social structures) and a shared sense of pan-community identity, i.e., ethnicity. Centralization of leadership roles in the hands of one or a few political positions having power or authority across the tribe is not essential for the process of alliance and tribal development, although it may be involved in or follow such development.

The pattern of shift to more structural and committal forms of alliance strategies laid out here is most easily bridged to ecological–evolutionary literature (see above) on social networks that cites local subsistence, demographic, or natural environmental factors as the causes of escalation. However, I would emphasize that an equally valid factor is socially generated cycles of competition and cooperation internal to and among local groups (e.g., Bender 1978, 1985; see also Cannon 1989; Spielmann 2002). This image seems to accord especially well with the large ceremonial deposits that characterize mounds in the Scioto–Paint Creek area (Carr et al., Chapter 13). In addition, the cause of the actual sequencing from behavioral, structurally noncommittal, and reversible alliance strategies to more structural and committal ones is not simply a direct function of increasing risk of a kind, but also related to the intervening social–psychological factor of levels of trust, which require time and familiarity to develop. To be blunt, one does not initiate alliances with others by burying one's loved ones together with theirs.

In this theoretical light, then, the alliance among three Scioto Hopewellian communities

Exchange of utilitarian goods

Exchange of socially unrestricted valuables

Exchange of elite-restriccted goods

Intermarriage

Sacred agreements (e.g., joint burial)

Intercommunity sodalities

Reversible
strategies

Arranged through
individual agents

Structurally
more committal
strategies

Negotiated through
leaders of groups
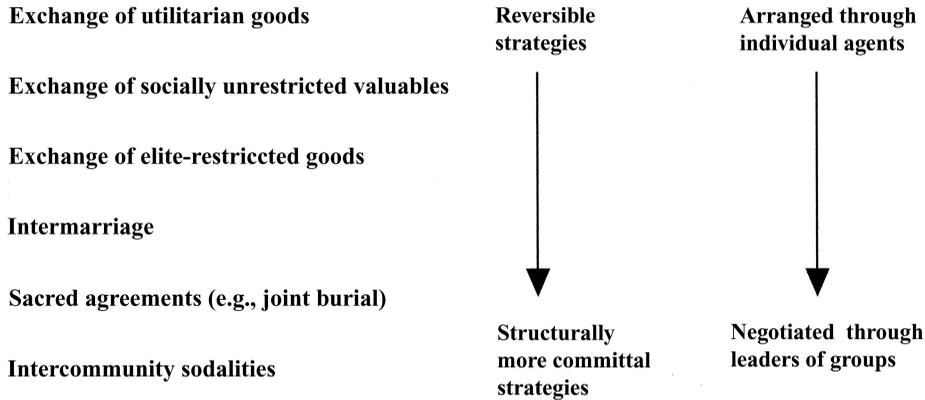
Figure 7.4. Progressive strategies for building alliances among communities within social landscapes of middle-range complexity (Carr 1992a).

who buried some of their dead together can be inferred to have been a comparatively advanced form of alliance—on the edge of tribal development and in line with the rise of sodalities, which are argued here to have existed and to have been marked by breastplates and earspools (see The Sociological Meaning of Copper Headplates, Celts, Breastplates, and Earspools, above).

This same conclusion is reached when the tripartite alliance is seen culture-historically as an outgrowth of earlier alliance strategies in the Scioto region and immediately neighboring areas, which follow a developmental sequence in line with the theory. The thrust of archaeological evidence from the greater southern Ohio area, along with the reconstruction of the tripartite alliance, suggest that many of the above-listed adaptive strategies for creating alliances were chosen, and in roughly their predicted order, in response to documented long-term increases in sedentism, population densities, and concomitant subsistence and political risks (Fischer 1974:55; Perzigian et al. 1984; Prufer 1967; Scuilli et al. 1982; Seeman 1986:576; Seeman and Branch n.d.; Tatarek and Scuilli 2000). In the Late Archaic, alliances were initiated and maintained with the exchange of utilitarian lithic resources and exotic marine shell, copper, and lithic valuables through apparently individually established trade partnerships (e.g., Cook 1976:65, 97; Ford 1974:394–398; Goad 1978:89–106; Griffin 1978:231; Smith 1986:30–32, 41; Walthall

1981:5–15, 37; Winters 1968). These were high-energy yet flexible endeavors. In the Early Woodland, alliances were further developed economically and politically through the formation of leader-centralized networks within and among Adena local kin groups. Such leaders are evident in the fancy grave goods within some tombs, their central location on the mound floor, and sometimes the focal spatial layouts of other graves around them (Aument 1990; Clay 1991; Dragoo 1963:19; Webb and Snow 1974:72).[41] These networks of leader-centralized negotiation among communities would have been more efficient than *ad hoc*, multiperson interaction among communities, but also evidenced the first sign of longer-term, structural commitment. From the Early Woodland through the Middle Woodland in southern Ohio, mortuary rituals certainly became more highly structured, showed greater long-term commitment to cooperative efforts, and involved a broader set of social units. Adena mortuary rituals focused on generally small mounds and mound clusters that probably tied together only closely related localized kin groups (Clay 1987, 1991), whereas Hopewellian ceremonies involved the building and use of big charnel houses, other substantial wooden architecture, and large-scale mounds and earthworks that must have involved a wider range of persons with deeper commitments to projects of long duration (cf. Greber 1997). The analyses made here of the clusters of burials under Seip–Pricer, Seip–Conjoined, Edwin Harness, and Hopewell

Mound 25, and the analysis made by Weets et al. (Chapter 14) of the Hopewellian Tremper mound in the Scioto valley, firmly suggest that the persons involved in mortuary rituals at the earthworks of Seip, Liberty, Hopewell, and Tremper came from multiple communities, and that these persons buried their dead together within the same mounds—an ultimate, sacred, and essentially irreversible act of alliance. Sodalities, which are thought to be evidenced by the breastplate and earpool symbols of membership or achievement of their members, also appear to have developed by this time. It is unclear, however, whether the members of these sodalities were drawn from multiple localized kin groups within single communities or from multiple communities that constituted a formal tribe (Service 1962); breastplates and earpools from different valley communities have not been studied stylistically to extract this information. Whatever the case, it is logical that sodality organizations such as these laid the social foundations necessary for the eventual nucleation of Scioto peoples into large villages during the Early Late Woodland (e.g., Dancey 1988, 1992; Seeman and Dancey 2000) and the formation of tribes at some unclear point in time prior to the Historic period. Finally, the process of alliance development in the Scioto drainage, late in the Middle Woodland, was apparently accompanied by the formation of two kinds of supra-community leadership roles, marked by plain copper headplates and conch shells with shell spoons. These leaders shared power with many other kinds of local community leaders in a decentralized arrangement (Carr and Case, Chapter 5; Thomas et al., Chapter 8).

In sum, the archaeological reconstruction of three Scioto Hopewell communities that buried some of their dead together can be characterized as a comparatively advanced form of regional alliance. The perspectives of both ecological–evolutionary theory about regional alliance development and long-term, archaeologically documented trends in the development of alliance networks in the Scioto area, which follow the theory, allow this conclusion. Thus, both theoretically and empirically, the reconstruction of the tripartite alliance is a reasonable one.

REVISITING THE QUESTION OF SOCIAL RANKING IN LIGHT OF ALLIANCE SYMBOLISM

The mortuary practices that were materialized at Seip, Liberty, Hopewell, and Ater and that are investigated here and were explored by Greber (1976, 1979a, 1979b; Greber and Ruhl 1989) do not evidence social ranking. Within the mounds of Seip–Pricer, Edwin Harness, Hopewell 25, and Ater, none of the artifact classes that represent an unusual energy investment and that were common enough to have been symbols of rank was found with adults, subadults, males, and females in the proportions one would expect in a rank level of a society. Nor were individual artifact classes of these kinds concentrated in single burial clusters as one would expect if the different clusters represented different social ranks. Additionally, none of the burial clusters was comprised of adults, subadults, males, and females in the proportions one would find in a rank level. It is true that the burial clusters within each of the four mounds varied in the prestige of the persons and/or the commonality of prestigious persons that they contained. However, prestige was not distributed pyramidally, whereby group size decreases as group prestige increases, as one would expect among rank levels of a society. Nor, alternatively, was prestige distributed equitably, whereby groups of different prestige were of approximately similar size. Instead, the materially richest clusters of burials had the most individuals.

These results may, to some readers, seem surprising, given that the Scioto Hopewell mortuary record in Ohio is much richer than the Havana mortuary record in the lower Illinois valley by any account (e.g., Seeman 1979b:392–393; Struever 1965), yet the Havana record does indicate social ranking through several kinds of mortuary patterning (Carr, Chapter 6). It is possible that ranking in Scioto Hopewell societies was expressed in mortuary traits other than those selected by Greber (1976, 1979a, 1979b; Greber and Ruhl 1989) and/or me for study. Although the theoretically and empirically obvious traits within single mounds have been explored here, intermound distinctions within single earthwork

complexes remain to be evaluated; so, too, do the interlocal distinctions between mounds within earthwork centers and the small mounds in one- to three-mound clusters without embankments, which dot the Scioto and Paint Creek valleys. The mound in which a person was buried could have served as a very substantial symbol of the person's rank and would fit the cross-cultural patterns whereby within-cemetery burial location is sometimes determined by the vertical position of the deceased, although less strongly than by horizontal social position (Binford 1971:22; Carr 1995b:181), and whereby differences in cemetery locations are determined foremost by vertical social position (Carr 1995b:162). The possibilities in these regards for the Ohio record are quite numerous.[42] A few are explored in Note 43, with strong implications but no definitive results, due to data gaps.[43]

Despite these qualifications, it may still be unsettling for some archaeologists that no evidence for ranking was found within mounds like Seip–Pricer that had large numbers of persons. I propose that a broad anthropological view of the nature of mortuary practices brings sense to these results by shifting our sociological expectations of them. Specifically, mortuary practices are symbolic behaviors that have potential for communicating, reinforcing, or challenging a diversity of social, philosophical–religious, or other cultural concerns (Binford 1971; Cannon 1989; Carr 1995b). As in any domain of symbolic behavior, the particular concerns that are communicated and the relative emphases with which they are communicated depend on cultural and personal values at that time and place and in that social context; in other words, cultural and personal messages are prioritized for their behavioral and material expression (Carr 1995a). In this light, Scioto Hopewell societies may very well have been organized by principles of rank, but ranking may have been thought by them to be less critical for expression in the extremely charged and powerful mortuary social domain of a single charnel house or mound than other dimensions of social differentiation.

Two such key dimensions that appear to have been given a central place by Scioto Hopewellian peoples in their mortuary symbolism are community affiliation and relationships of alliance among communities. These seem to have structured the basic tripartite layout of four known cemetery floors in the Chillicothe area, the structure of their covering mounds, and, in two instances, the form of their encompassing earthworks. Secondary value was given within charnel houses to other social dimensions of differentiation, including society-wide leadership (headplates, celts), membership or achievement within a sodality (breastplates, earspools), achieved prestige generally (extended burial), and other social roles not reported here. These were marked materially, but in much less impressive ways. Social ranking—if it existed—may also have been valued and expressed secondarily within charnel houses and, perhaps, within the entire mortuary realm. For instance, ranking might have been expressed in ephemeral, nonmaterial media not recorded archaeologically, such as funeral procession or seating order or funeral oratory, song, dance, or grieving displays. Cross-cultural survey has shown that the vertical social position of the deceased is commonly expressed in some of these nonmaterial media (Carr 1995b:163–164). These transient forms of symbolic expression, in contrast to the permanent symbolizing of community affiliation and alliances by cemetery layout and mound and earthwork architecture, would imply a secondary valuation of the expression of social ranking in the mortuary social contexts of a single charnel structure and a single ceremonial center. Also, ranking may have been symbolized at a geographic scale beyond the intimacy and practical visibility of a charnel house. As suggested above and in Note 43, persons of different rank may have been buried in different mounds within a mound group or earthwork center, or among different mound groups or earthworks. These possible symbols of differential ranking, though substantial materially, would not have been so easily perceived at one moment in time by one sweep of a person's eye, making them less "visible" practically than the very apparent internal organization of a charnel house and, presumably, the ceremonies within it (see Carr 1995a:185–187, 192–196 for a discussion of contextual versus physical visibility). This situation again would suggest the

placing of a secondary value on rank organization compared to the more immediate concerns of community affiliation and alliance relationships, which were expressed in charnel house layout. Finally, ranking might have been given expression primarily in cultural domains other than the mortuary realm, and in media more relevant to the living and their social interaction, such as fabrics for clothing (Carr and Maslowski 1995:337), costumery (Keller and Carr, Chapter 11; Carr 2000c), tattooing, or other methods of body marking (Greber 1983:33; Moorehead 1922:169; Shetrone 1926:214).

The conclusion that social ranking—if it existed–was given secondary symbolic expression relative to community affiliation and alliance in the mortuary realm is supported by the historical roots of Scioto Hopewellian mortuary practices. The earliest Scioto Hopewell charnel house, under the Tremper mound, and the ceremonies that were carried out in it, strongly emphasized alliance relationships and showed little or no clear expression of rank differences among persons or sets of persons. There, the cremations of some 280 individuals were mixed together, obscuring their identity, and laid to rest in a single depository, emphasizing the collective. Another 95 cremations were likewise intermixed and placed in three other depositories. Also, all of the ritual paraphernalia used for the cremation and other ceremonies within the charnel house, totaling approximately 500 items, were deposited together in a single large deposit, obscuring individual and group ownership and marking a cooperative social unit. The only possible hint of differences in prestige (perhaps rank) in the charnel house is the placement of the deposit of ceremonial artifacts near the large deposit of cremations and farther from the three other, smaller deposits of cremations.

Finally, the inference that social ranking was given secondary valuation in the large Hopewell charnel houses of the Scioto valley also concurs with the surprising visibility of clan symbolism there (Thomas et al., Chapter 8). Clan membership is like community affiliation and intercommunity alliance in being a kind of horizontal social identity. The symbolic marking of all of these horizontal social forms implies a strong emphasis in Scioto Hopewell societies on horizontal social ties and divisions and, reciprocally, less emphasis on vertical distinctions, such as ranking.

Social Complexity in the Scioto and Havana Regions Compared

A perennial issue in Hopewell archaeology has been the difference in complexity of Scioto and Havana Hopewellian societies, and the relationship of this social difference to differences in natural environment and human demography. The greater overall richness and scale of Scioto Hopewellian remains has led to the widely shared conclusion that Scioto Hopewellian societies were more "complex" than Havana ones. Struever (1965:212–213) systematized this view, pointing to the larger numbers of persons given preferential burial treatment, the greater differentials in burial elaboration, the larger burial populations, the greater numbers and forms of status-indicating artifacts, the superior workmanship of such objects, and the more extensive communal earthwork projects found in the Scioto area than in the Illinois valley. Struever concluded that Scioto Hopewellian societies were organized as chiefdoms, whereas Illinois valley Hopewellian societies were tribal. Greber (1979a) and Braun (1979) reinforced this position with their mortuary analyses, in which they respectively saw evidence for social ranking in Ohio Hopewellian burial populations and a lack of social ranking in an Illinois Hopewellian burial population. Seeman (1979b:406–407) attributed the greater complexity of Scioto Hopewellian societies to what he thought was the greater circumscription of food productive lands in the Scioto drainage than in the Illinois drainage—a situation that would have fostered increases in population densities and social complexity more so in the Scioto area than in Illinois (see also Hall 1973).

Without a firm understanding of social ranking in Scioto Hopewellian societies, and without an adequate study of the nature of leadership in Havana Hopewellian societies analogous to that made by Carr and Case (Chapter 5) for Scioto Hopewellian peoples, it is not yet possible to specify precisely and fully how societies

in the two regions differed in complexity. What can be said now is that the behavioral and material emphases placed on *alliance building* by Scioto Hopewellian peoples, as documented here and in Chapters 13 and 14, appear to have been much greater than in the Illinois case (Buikstra and Charles 1999; Buikstra et al. 1998), and that sustaining populations and communities in the Scioto area were larger in size than those in Illinois (see also J.A. Brown 1979:219; Struever 1965:213). In turn, the larger numbers of people integrated in the Scioto area probably required greater social complexity in various ways–horizontally and vertically–and certainly involved larger and more elaborate cooperative and/or competitive material displays among local groups within sustaining populations there (Carr et al., Chapter 13; Weets et al., Chapter 14). Both greater social complexity and grander cooperative/competitive material displays can be seen as responsible for the grander scale and greater richness of the Scioto Hopewellian material record than the Havana Hopewellian one. Finally, the broader communities and community integration in the Scioto valley can be understood as a counterbalance to the sparser food resources, the fewer alternative, highly productive food resources, and the greater potential for subsistence risks there than in the Illinois valley, as well as the geographically more widely distributed food resources within and beyond the Scioto valley than those circumscribed within the Illinois (Ruby et al., Chapter 4, Table 3).

In sum, the greater flamboyance of Scioto than Havana Hopewellian material remains may relate more to differences in the sizes of integrated, sustainable populations, and to differences in social complexity as a function of that factor, than to differences in local population aggregation and density, which actually appear somewhat greater in the Havana case (Ruby et al., Chapter 4, Comparisons: Similarity and Difference). When characterizing social complexity generally, and the social complexity of Scioto and Havana Hopewellian peoples specifically, it is necessary to consider not only vertical aspects of complexity, such as ranking and leadership, but also horizontal ones, such as sodality and alliance organization.

DISCUSSION OF BROADER IMPLICATIONS

The spatial–ceremonial organization of Hopewellian communities revealed here by intra-site and regional mortuary patterning bears on a number of current interpretations of Ohio Hopewell, and Hopewell more broadly, that have been put forward in the literature. These include the vacant ceremonial center–dispersed hamlet model (Dancey and Pacheco 1997; Prufer 1964a, 1964b; Prufer et al. 1965; B. D. Smith 1992), a view of social organizational diversity within Ohio (Greber 1979a), posited intraregional variation in the social meaning of certain ceremonial artifact types (Greber 1979a), the idea of ceremonial organization focussed on competitive displays (J. A. Brown 1981; Buikstra and Charles 1999), and the role of development of pan-society sodalities in the decline of Hopewell (Braun 1977; 1986).

The Vacant Ceremonial Center–Dispersed Hamlet Model

Prufer (1964a:71, 1964b; Prufer et al. 1965:137), B. Smith (1992), and Dancey and Pacheco (1997) have each offered similar models of the sociopolitical organization of Ohio Hopewell peoples into settlements, or "hamlets", of one to a few households scattered around a single earthwork ceremonial center. The multiple dispersed hamlets around a center were thought to have been integrated into a coherent community through their joint participation in mortuary and other ceremonies within the center, and through their pooling of labor to build the center's earthen and wooden architectural forms (Pacheco 1997). This model was based largely on the regional survey for and excavation of domestic sites (e.g., Dancey 1991; Prufer 1967; Prufer et al. 1965), without detailed study of the social components evidenced in the mortuary records of the centers.

Expanding the view of community organization to include mortuary patterning, as has been done here, brings three fundamental qualifications to the model.

(1) At least some communities built and used more than one earthwork or mound center

at a time within their lands. The different earthworks or mound centers had different ceremonial functions.

(2) Single earthworks and mound centers within the lands of one community were sometimes used, and perhaps constructed, by multiple communities to bury their dead and for other kinds of ceremonies.

(3) At least some communities buried their dead in multiple earthworks—outside of their own lands, in addition to within them.

Firm evidence of the first qualification is found in the age–sex distribution of persons buried in Hopewell Mound 25 and the mounds within the Hopewell site generally, which almost completely lack subadults and appear to have a higher than expected proportion of males. This age–sex distribution, along with the unusual material richness of the site, the high percentage of burials with markers of leadership of various kinds, and the high proportion of inhumations at the site, suggests its specialized use for burying predominantly persons of high prestige. By implication, other persons from the community or communities that used the Hopewell site were buried elsewhere, at other earthworks, mound complexes without embankments, and/or isolated mounds. Another form of evidence presented in this chapter, that some communities built and used more than one earthwork at a time within their lands, is the pairing of a tripartite earthwork with burial mounds and another earthwork of a different function in each of three different dispersed hamlet communities in three different valleys. The earthwork pairs are Seip and Baum in the main Paint Creek valley, the Old Town Works and Hopewell in the North Fork of Paint Creek valley, and Liberty and Works East in the Scioto. The two earthworks of each pair also were oriented celestially or otherwise in different directions, indicating their complementary ceremonial functions. Extant chronological data do not allow the contemporaneity of earthworks of different functions within the same valley to be evaluated, but do indicate the contemporaneity of earthworks of different functions in different valleys (Hopewell with Seip and Liberty). Other lines of evidence that point to multiple,

functionally differentiated earthworks or mound centers having been used by single communities in southern Ohio are detailed by Carr (Chapter 3) and Ruby and Charles (Chapter 4).

Strong evidence for the second and third qualifications, that some earthworks were built and used by multiple communities, and that some communities buried their dead in earthworks both within and outside of their lands, is found in the three main clusters of burials that recur under each of the four mounds of Seip–Pricer, Seip–Conjoined, Edwin Harness, and Hopewell. Multiple reinforcing lines of evidence presented above point to the identification of these clusters as distinct communities rather than other kinds of social units. Even the particular communities represented by each cluster—foreign and local—under each of the four mounds could be deduced from three independent kinds of evidence. The planning, if not the construction, of single earthworks and charnel houses by multiple communities is strongly suggested by the close sizes, shapes, and/or complex geometries of these structures.

Social Organizational Diversity

Greber (1979a) concluded from her mortuary analyses of the Seip–Pricer, Seip–Conjoined, and Raymond Ater mounds and the Burial Place at Turner, and from her overview of Hopewell Mound 25, that "Hopewell peoples of southern Ohio lived in societies with different structure and organization" (Greber, p. 57). She specifically saw the society supposedly represented by the Raymond Ater mound to be internally less complex than that supposedly represented by the Seip-Pricer mound and Seip–Conjoined (Greber, p. 51). Whereas Seip society was thought by Greber to have been structured strongly into three rank groups, evidenced by redundant material indicators (Greber 1979a:41–45; 1979b:37), Ater society was thought to have been divided into two groups of roughly equal rank, which were focused around leaders and/or their kin (Greber 1979a:51). The Burial Place at Turner earthwork was thought to indicate little vertical differentiation but a variety of kinds of crosscutting horizontal distinctions (Greber, p. 54). In a later

analysis, Greber (Greber and Ruhl 1983:55–58) found no rank differences among three major segments of the society supposedly represented under Hopewell Mound 25. She concluded this despite the greater material wealth and powerful symbolism with which individuals in this mound were laden compared to persons in Seip–Pricer and Seip–Conjoined, where she did see ranking.

Greber's conclusion that social structural diversity in the Chillicothe area ranged from weakly ranked to strongly ranked societies, and from societies with two rank groups to societies with three, is ethnologically improbable. The sites of Ater, Seip, and Hopewell are within only 20 overland kilometers or a short canoe trip of each other, are situated in very similar environments, and are not separated by any topographic barriers. Hopewellian communities in the vicinity of these sites would have been subjected to similar levels and kinds of demographic and environmental stresses, rather than diverse conditions that would have fostered the significant differences in social complexity posed by Greber. The social structural differences reconstructed by Greber for this small area are of a scale that distinguish middle-range societies in distinct ecological settings at greater distances (e.g., Flannery 1967; Wiessner and Tumu 1999) and approach the distinctions between Contact-period Native American societies of the northeastern and southeastern Woodlands areas.

The unlikely social landscape drawn by Greber probably derives in part from three methodological problems in her studies, as described previously. First are the sampling inequities among the mounds examined. For example, Ater mound and the mounded Burial Place at Turner, which were thought to indicate simpler social structures, were excavated only in part, while Seip–Pricer and Seip–Conjoined, which were thought to indicate more complex social structures, were excavated completely. Incomplete excavation at Ater and the Great Burial Place could have resulted in undocumented social roles and categories there. The second methodological problem pertains to the broader scale of the earthwork. Greber made the "normative" assumption (Carr, Chapter 3) that a single mound constituted a complete cemetery

for a society, rather than possibly some particular segment of a society, the whole of which was buried in the many mounds of an earthwork at large and elsewhere. She did not envision that the mounds she analyzed for different earthwork societies might have represented different kinds of social segments that are not comparable and that do not give insight into differences in total social structure among earthwork societies. Thus, Hopewell Mound 25 was found by Greber to express less vertical social differentiation than Seip–Pricer, I would conclude, not because the society that used Mound 25 was simpler than the society that used Seip–Pricer, but because Mound 25 was apparently the burial place for primarily key social figures of a restricted (high) range of social importance, whereas Seip–Pricer seems to have been a burial place for a broader spectrum of society. The final methodological problem that may have led in part to Greber's unlikely regional social reconstruction is the lack of close relevance of the mortuary variables that she selected to the issue of vertical social differentiation and ranking.

Greber's improbable conclusion about social organizational diversity also stems from a more fundamental, normative assumption of hers that was popular in mortuary archaeological circles at the time of her writing: that the structure of mortuary remains reflects the structure of the society that produced them (e.g., Binford 1964b, 1971; Braun 1979; J. A. Brown 1971; Goldstein 1981; Saxe 1970; Tainter 1975a). In contrast, the analysis presented here aligns with more recent understandings of mortuary behavior, which admit a much broader spectrum of causes of patterning in mortuary remains. Relevant here are the key insights that many factors other than the internal social structure of a society can be primary determinants of the structure of a cemetery, and that multiple societies may choose to bury their dead together in a single cemetery.

This more modern and complex view of the mortuary records opens the possibility that, in the case of Scioto Hopewell mortuary remains, *the foundation determinant of their content and organization was intercommunity alliance organization and its associated ideology*, not internal

social organization. This foundation determinant is concluded here to have been responsible for the triads of burial clusters and/or charnel house chambers under each of Seip–Pricer, Seip–Conjoined, Edwin Harness, and Hopewell Mound 25, and their distinction from the pair of burial clusters under Ater mound. Thus, Ater mound did not represent a simpler society than Seip–Pricer, but a simpler alliance organization among communities later in time. Upon this basic mortuary theme of alliance, the effects of other determinants of mortuary practices and mortuary remains, such as the marking of leaders, sodalities, and clans, were then overlaid at the large mounds studied here.

Significantly, the alliance view of the Scioto Hopewell mortuary record offered here explains archaeological anomalies that the internal social organization view does not. Among these anomalies are: the one empty chamber of the tripartite charnel house under Seip–Conjoined, the lack of an earthen mantel unifying the three lobes of Seip–Conjoined into one mound, the addition of lateral mounds without underlying burials to the central mound of Hopewell 25 in order to create a three-lobed appearance, and the lack of an earthwork around the large Ater mound. Finally, the alliance interpretation is harmonious with known Historic-period sociopolitical and mortuary practices of Native Americans of the northern Woodlands (Heidenreich 1978; Hickerson 1960; Trigger 1969), whereas the wide yet localized social organizational diversity hypothesized by Greber (1979a) does not have ethnographic analogs in this culture area.

In sum, from the modern viewpoint taken here, Hopewell mortuary patterning within the Scioto drainage seems homogeneous in cause. Greber's interpretation of societies with diverse social structures in a small area appears to be an artifact most fundamentally of a normative assumption that single cemeteries equate to single societies, a normative assumption that mortuary variability is caused primarily by intrasocietal structure, and incomplete representation of societies who buried their dead over a broad landscape. Additional problems were created by the use of mortuary variables that lacked close relevance to the topic of vertical social differentiation and ranking and, perhaps, intramound sampling.

Regional Uniformity in the Social-Symbolic Meaning of Headplates, Celts, Breastplates, and Earspools

Greber (1979a:56–57) concluded that symbolic artifact classes such as breastplates may have had different social meanings at Seip, Liberty, Hopewell, and Ater. She drew this inference from her interpretations that each of the earthworks represented a single community and that these communities differed in their social structure—the context in which breastplates and other artifact classes were employed. In support of her conclusion, Greber pointed to the different percentages of the burials at these sites that had breastplates, the different ranges of prestige of persons who had breastplates within and among sites, and the unique case of Burials 258 and 259 in Hopewell Mound 25, which had a very large number of breastplates.

All of these varying features of the Scioto Hopewellian archaeological record are easily explained within the reconstruction of the spatial–ceremonial organization of communities presented here, without calling upon differences in the meaning of elite artifact classes across locales. Variation among sites in the percentages of burials that had breastplates can be related to the different proportions of burials within the sites that derived from different communities of apparently differing size, material wealth, and prestige. Intersite differences can also be attributed to the functional specialization of Hopewell as a place for burial of primarily prestigious persons compared to the other sites. Variation in the prestige of persons buried with breastplates within and among sites, as indicated by other artifact classes placed with the deceased, is expectable if all breastplates were symbols of sodality membership or a level of achievement within a sodality. Sodality membership and achievement would have been simply one social persona of an individual buried with breastplates, with other dimensions of possible achieved or ascribed prestige having been free to vary. The unusually large number of breastplates buried with Burials 258

and 259 in Hopewell Mound 25 is one example of several similarly large deposits of prestigious items or materials—earspools, mica mirrors, or galena—that were placed with one or two burials at this earthwork and others (Carr et al., Chapter 13, Table 13.2). These large deposits of items with an individual, like the large ceremonial caches that occurred in mounds independent of burials, are most easily understood as the product of cooperative displays, competitive gifting, and/or ritualized material destruction in the course of alliance maintenance, rather than ownership of the items by an individual and his or her social position (Carr et al., Chapter 13; see also Buikstra and Charles [1999] for a Havana Hopewell analog).

The idea that breastplates, and other markers of social roles like headplates, celts, and earspools, had different social meanings in different earthworks makes little sense given the geographic and social closeness of the dispersed hamlet communities that included Seip, Liberty, Hopewell, and Ater. These sites are a maximum of 30 overland kilometers and 38 river kilometers from each other. The communities focused on these sites probably had small enough populations to have required intermarriage among them (Ruby et al., Chapter; 4 Konigsberg 1985:131). In addition, the communities cooperated very closely with each other through the burying of some of their dead together in each other's earthworks. Such multicommunity ceremonies, to have cohered and been effective for such a potent and potentially dangerous activity as processing the dead, would have had to have involved material symbols with regionally shared, important social and religious distinctions and meanings, as well as to have been based in religious conceptual systems that were very similar among communities.

Competition and Cooperation

In the interpretive literature on Ohio and Illinois Hopewell, a tension exists between two points of view: (1) intercommunity social relations were heavily competitive, and (2) intercommunity relations were unusually peaceful, termed a *Pax Hopewelliana*. The first view is based on the material flamboyance of mortuary records, including finely crafted, ceremonial costumery and equipment made of expensive-to-obtain exotic goods, large caches where these items were ceremonially destroyed and deposited on mortuary floors and within mounds, and some burials that were accompanied by large numbers of redundant, gifted items, such as copper celts, breastplates, or earspools. These qualities of the mortuary record are said to evidence "ostentatious, competitive displays" of social wealth and power among local groups "vying with each other for highest prestige" (e.g. J. A. Brown 1981:36; Buikstra and Charles 1999:205, 215), in line with Marxist influenced views of social relations (J. A. Brown 1981:36, citing Friedman and Rowlands 1978; see also Bender 1978, 1985; Friedman 1975; Miller and Tilley 1984). Root sociopolitical causes of such displays of prestige have been thought to be the need to recruit persons through marriage or other means of social affiliation for community vitality and labor, and the show of popularity for aspiring leaders (J. A. Brown 1997b:242–243; 1981:36; see also Bender 1978:217; 1985).

The second view, of peaceful relations, is founded in the pervasive material evidence for long-distance acquisition and/or exchange of raw materials over the midcontinent by Hopewellian peoples, previously held perceptions (now largely disconfirmed) of the long distance exchange of finished goods and/or long-distance intermarriage, and the wide spreading of religious ideas, icons, and artistic styles. These things have evoked the picture of strong mechanisms of peaceful interaction and cooperation among neighboring and distant Hopewellian societies. Hall captured the view when he proposed that the Hopewellian platform pipe had some of the same functions as the historic calumet pipe, which "absolutely ruled out violence" in its presence and enabled a person to walk safely among enemies in the "hottest" of fights and, thus, was an effective mechanism for material exchange among groups (Hall 1977:504–505, also citing Marquette 1966:131, 133).

Further supporting the view of peaceful cooperation are various mortuary data. Excavated skeletons from Illinois and Ohio Hopewellian

sites almost completely lack embedded projectile points or their markings, parry fractures, or bashed in skulls, in contrast to later Late Woodland and Mississippian skeletons and earlier Late Archaic ones (Buikstra 1977:80; C. A. Johnston 2002:112; Mensforth 2001; Milner 1995:232, 234–235; 1999:120–122).[44] Culturally modified human skulls and mandibles, once concluded to represent primarily trophy skulls of young recruits for warfare (Seeman 1988), have been shown through more thorough osteological study (Johnston 2002) to indicate the revering of ancestors and probably a variety of other cultural practices but seldom, if ever, trophy taking. At the Hopewell site, all extant examples of culturally modified human remains are adults (>15 years) and include both sexes rather than males (warriors), alone. In addition, those buried with culturally modified human skulls and mandibles include an equal number of males and females, rather than predominantly males (warriors) (Johnston, pp. 105–114). Significantly, this near absence of skeletal indications of warfare is coupled with a paucity of elite artifacts symbolizing the taking of war captives and trophy parts, and even these few cannot be securely identified as such (Table 7.2). Elite artifacts made of fancy raw materials and representing implements used to inflict wounds are common, but whether they functioned in war divination, hunt divination, or the sending or pulling out of spiritual power intrusions by shamanic practitioners is unclear (Table 7.2). Moreover, these fancy implements that might have been used in war do not associate in burials or ceremonial deposits with the takings of war—the supposed trophy jaws and skulls mentioned above and effigy human parts (Chapter 5, Table 5.5). It is possible, however, that the implements were used in spiritual-level fighting and the sending of power intrusions among individual, shaman-like practitioners of a certain kind, rather than as ritual paraphernalia in actual physical warfare among communities at large.

The image of peaceful cooperation has also been encouraged by anthropological theoretical perspectives during the 1960s through 1980s. The harmony-and-equilibrium orientation of the systems and ecological viewpoints of the Hopewellian world (e.g., Braun 1986:121; Braun and Plog 1982; Ford 1974) popularized the notion of cooperative intercommunity alliances to offset rising local subsistence risks. More recently, Milner (1995) attributed the apparent Middle Woodland peace over the Eastern Woodlands to an increased reliance on seed-producing native plants, which were more plentiful than the shellfish shoals and agricultural lands that focused populations and competition in the Late Archaic and Late Woodland–Mississippian periods, respectively. He also posited that new forms of social organization and intersocietal relations during the Middle Woodland could have dampened tensions and cycles of revenge killings among groups.

Between the competition and the cooperation viewpoints is a middle road, which sees these two as going hand-in-hand in much of social interaction. This view is strongly supported by ethnographic observation and ethnological theory (e.g., Chagnon 1983; Rosman and Rubel 1971:3; Service 1962; Trigger 1969). Seeman proposed such a view for interpreting the Ohio Hopewell mortuary record specifically, despite his more one-sided finding that human "trophy skull" artifacts were largely heads taken in warfare rather than the curated skulls of revered ancestors: "High levels of Hopewell cooperation imply at least some competition for resources and social position . . . and certain themes in Hopewell iconography, the elaborate patterns of Hopewell personal decoration and hairstyling, the conspicuous consumption of exotic artifacts in public ceremonies, and 'monumental' earthwork construction must be seen as relating directly to both processes. . ." (i.e., cooperation and competition) (Seeman 1988:573). Buikstra and Charles (1999:204–205) have called attention to the roles of both cooperation and competition in Havana Hopewell mortuary ceremonialism. They cited a distinction of Morris's (1991) between "ancestor cults", which emphasize lineage unity and the transmission of common property, and "mortuary rituals", which are the social arenas for interpersonal and intergroup competition and for disputing and reworking current status arrangements. Buikstra and Charles (1999:212–214) held that a long mortuary tradition in the lower Illinois valley, going back to

Table 7.2. Possible Indications of Interpersonal Violence in Ohio Hopewelllian Societies, and Alternative Interpretations

Artifact	Site, mound, and burial	Reference	Possible interpretations
Human body referents			
Effigy finger, cannel coal	Hopewell, Md 25, Sk 278[a]	Moorehead (1922:111, 142, fig. 38)	War trophy, disfigure and dishonor the antisocial (Bird 1971:101; Burkett 1997:274; Vizenor 1981:80), ceremonial
Human digit with two perforations and a skull	Hopewell, Md 25, cache	Shetrone (field notes, July 16)	War trophy, disfigure and dishonor the antisocial, ceremonial
Effigy hands of children, pair, copper	Mound City, Md 13, B 4	Mills (1922:452, 552–553, fig. 77)	War trophies, disfigure and dishonor the antisocial, ceremonial
Effigy hand, gracile, mica	Hopewell, Md 25, B 47, Sk 2	Shetrone (1926:95–97, fig. 35)	War trophy, disfigure and dishonor the antisocial, healing hand of a healer
Effigy ear, copper	Hopewell, Md 25, Altar 1	Moorehead (1922:113, 142–143, fig. 39), Greber and Ruhl (1989:123–124, fig 4.45)	War trophy, disfigure and dishonor the antisocial, prestige (Burkett 1997:274)[b]
Effigy human torso, headless, legless, hands (tied?) behind back, copper	Mound City, Md 13, B 11	Mills (1922:455, 552, fig 76)	War captive, executed; ceremonial sacrificial victim
Effigy human body, headless, as a headplate, copper	Mound City, Md 7, B 12	Mills (1922:494–496, 542, fig. 67)	War captive, executed; ceremonial sacrificial victim
Effigy human body, headless, missing lower legs and hands, mica, smaller of two	Hopewell, Md 25, B 34	Shetrone (1926:87–89, 209, fig. 146)	War captive, executed; ceremonial sacrificial victim
Effigy human body, headless, missing lower arms, mica, larger of two	Hopewell, Md 25, B 34	Shetrone (1926:87–89, 209, fig. 146)	War captive, executed; ceremonial sacrificial victim
"Trophy" skulls and jaws	53+	C. A. Johnston (2002) and Seeman (1988:570–571) inventory them	Ancestor worship; few if any were war trophies (Johnston 2002)
Artifacts for inflicting wounds			
Mace, stone	Hopewell site	Ohio Historical Society 283/—	Weapon
Effigy atlatl, mica	Hopewell, Md 25, Altar 1	Moorehead (1922:113, 142–143, fig. 39), Hall (1977:503, fig. 1c)	War or hunt divination
Effigy atlatl, mica	Hopewell, Md 25, Altar 1	Moorehead (1922:113, 142–143, fig. 39), Hall (1977:503, fig. 1d)	War or hunt divination
Effigy atlatl, copper, three	Hopewell, Md 25, deposit of copper designs	Moorehead (1922:plate 124), Hall (1977:503:fig. 1b)	War or hunt divination
Projectile points, quartz and translucent	Many hundreds	Case and Carr (n.d.) inventory them; Carr et al., Chap. 13, Table 13.2	War or hunt divination, sending or pulling out power intrusions
Projectile points, obsidian	Many hundreds	Case and Carr (n.d.) inventory them; Carr et al., Chap. 13, Table 13.2	War or hunt divination, sending or pulling out power instrusions
Effigy projectile points, copper, mica	8+ at Hopewell, Liberty, Ater, Turner sites	Case and Carr (n.d.) inventory them	War or hunt divination, sending or pulling out power intrusions

[a] Md, mound; SK, skull; B, burial.
[b] See also the analogous leather effigy ear from the Mt. Vernon site, Indiana (Burkett 1997).

the Middle Archaic and culminating in the Middle Woodland, involved both of these elements—ancestor cults of individual local groups having been carried out in bluff-crest cemeteries while competitive displays attended by multiple groups were staged in flood plain cemeteries (see also Bullington 1988:238, 240).

The mortuary analyses presented here accord with the intermediate view of Ohio Hopewellian intercommunity social relations as having involved both cooperation and competition, but lean somewhat more toward the cooperation end of the spectrum. The analyses conclude that three communities in neighboring valleys buried some of their dead together repeatedly in buildings that were formally analogous to the "Big Houses" of some Historic-period Woodland Native American tribes. The fact that Historic-period Big Houses connoted the family-like ties and cooperation among those included within them (see references above) suggests the possibility that Ohio Hopewellian mortuary buildings did as well, and that communities may have employed this strong metaphor to symbolize intercommunity cooperative relations. This metaphor would have been especially potent when key individuals of a community who might have served well to represent it in its entirety were buried with key individuals of other communities, as is strongly suggested by the mortuary record of Hopewell Mound 25. Intercommunity cooperation of depth is also evidenced in the probable joint planning and building of the charnel house(s)/burial layouts under the Seip–Pricer mound and the Edwin Harness mound, which were located in different valley communities. These situations of very close cooperation stand apart from the model of Hopewellian communities as peer polities (Dancey and Pacheco 1997:9–10; Pacheco and Dancey n.d.) that might have alternately sponsored multicommunity ceremonies focused on escalating competitive displays (Renfrew 1986). Finally, the very close cooperation among the three communities is indicated by the mortuary nature, itself, of the reconstructed alliance among them, compared to other possible mechanisms of alliance. As discussed previously, alliance mechanisms vary in the degree of trust among parties that they imply, ranging from silent trade and utilitarian exchange to valuables exchange and intermarriage, which are increasingly less reversible and place more at stake. Burial of one's deceased ancestors with those of another group tops out this sequence by implying the eternal cooperation of one's ancestors in the afterlife, and requiring analogous behavior on the part of the living (see The Tripartite Alliance in the Perspectives of Anthropological Theory and Broader Cultural History, above).

At the same time, the mortuary analyses presented here also point to intercommunity social boundaries and competition that were not, ultimately, overcome through joint burial of the dead. Persons from a community appear to have been buried with their own, in a cluster distinct from the burial clusters of other communities, rather than intermingled spatially. Additionally, evidence suggests that sometime toward the end of the Middle Woodland period, the alliance of the three communities in main Paint Creek valley, the North Fork, and the Scioto valley broke apart, leaving only two of the communities allied and continuing their cooperative mortuary tradition. Considering what was at stake socially and spiritually, such a break must have occurred in a context of significant intercommunity tension. Thus, intercommunity cooperation and competition appear to have gone hand in hand, and to have varied in their balance over time, among at least the three Hopewellian communities studied here.

The Decline of Hopewell

Braun (1977, 1986:123–125) has argued that the decline of Hopewellian material flamboyance over the Eastern Woodlands can be traced not to a disruption of any kind, but to the successful, continued development of formal ties of obligation among communities. Specifically, supralocal alliances that depended on the unpredictable negotiations among leaders of communities, and that were reinforced through material shows of prestige and power, became superfluous as formal, multicommunity sodality organizations arose. These organizations would have provided supralocal social channels for leveling out subsistence and other risks, and would have done so more effectively than Hopewellian ritual ties

that had been developed earlier to meet these challenges.

Qualified support for Braun's position can be found in the contextual analysis of breastplates and earspools made here (see The Sociological Meanings of Copper Headplates, Celts, Breastplates, and Earspools, above). These items were identified, from diverse evidence, to have been symbols of membership or achieved prestige within sodalities of two different kinds. It is not known whether the members of each of these sodalities came from within single dispersed communities or spanned multiple communities. Breastplates and earspools were found in the three main clusters of burials under Hopewell Mound 25, in two of the three main burial clusters under the Seip–Pricer mound, and in the two known burial clusters under the Ater mound, all clusters of which were interpreted as portions of communities. Breastplates occurred in all three burial clusters under Harness mound; no information on the distribution of earspools is available for this mound. These distributions could indicate two *specific* sodality organizations, marked by breastplates and earspools, that drew members regionally from two or three communities. The distributions could also indicate, instead, two *kinds* of sodality organizations, specific instances of which were found in each of two or three communities in the region, without formal, multicommunity connections.

In either case, it appears that some Hopewellian peoples in the Scioto region were networked together by sodalities, which would have provided personal channels for the flow of subsistence and other goods across localized kinship and localized residence units. Significantly, breastplates and earspools were much less frequent in early Scioto Hopewell mounds, such as Tremper and those comprising Mound City, than in the later mounds of Seip–Pricer, Harness, and Ater. This may suggest an increase over the Middle Woodland period in the popularity of the sodalities marked by breastplates and earspools, in line with the cultural developments Braun proposed, but pushed back somewhat earlier in time.[45]

The issue of the decline of flamboyant Hopewellian ceremonialism through the development of supralocal sodalities is broached again in Chapter 13, by Carr et al. There, empirical evidence shows that persons who were marked socially by breastplates or earspools gathered for ceremonies in large numbers—so large that the persons must have derived from multiple communities. The data suggest the existence of two specific sodality organizations that bridged multiple communities. The possible existence of a variety of other kinds of multicommunity sodalities (e.g., specialized forms of shamanic practitioners, roles marked by reel-shaped gorgets, panpipes, smoking pipes, bear canines, and elk teeth is also inferred from data on social gatherings in Chapter 13. The multiplicity of sodality organizations hinted at in Chapter 13 for core times of Hopewellian expression in Ohio does not support Braun's thesis. However, these social reconstructions require further corroboration before they can be used to evaluate Braun's idea.

CONCLUSION AND FUTURE DIRECTIONS

This chapter, like the previous one on ranking in Havana societies, demonstrates the necessity of taking a personalized and contextualized approach to studying Hopewellian archaeological records—"thick description" of local society, culture, and prehistory—if an accurate anthropological understanding of the nature of Hopewell is to be obtained. The sociologically contentless structural descriptions of Scioto Hopewell mortuary records that Greber (1979a) employed, following the lead of Binford (1971) and in the vein of others two to three decades ago, led to sociological conclusions that do not bear up under the weight of contextualized, personalized data and that, in certain ways, are ethnologically improbable. Most significantly, the analysis presented here shows that the fundamental cultural determinants of cemetery layout and material variation over space, for each of five key Scioto Hopewell burial mounds, were not social ranking and leadership, as Greber had concluded, but community affiliation and intercommunity alliance structure. In addition, organizational differences among the five mounds were found to have derived not from differences in the internal complexity of

different societies in the region, but from differences in mound and earthwork function and from a change in alliance organization over time.

The centrality of a personalized and contextualized methodology to gaining these insights is shown in a number of specific chains of logic. It was only by linking social roles and actors to material categories such as headplates, celts, breastplates, and earspools—i.e., personalizing the archaeological record—that enough of an understanding of the social composition of the burial clusters under each mound was developed to sort out their identity as portions of distinct, allied communities rather than rank groups. It was only by taking the region rather than the site as the unit of mortuary analysis, and by placing site-specific mortuary patterns in the context of their repetition regionally, that the community alliance interpretation was corroborated by independent regional evidence, that the three valley locations of those communities became evident, and that a change in alliance organization through time was revealed. Taking a regional, contextual perspective was also essential to opening the interpretive possibility that a single community might have buried its dead in multiple, functionally differentiated earthworks and mounds—a site for the burial of primarily prestigious persons who filled key social roles (the Hopewell site) and other sites for the burial of a broader spectrum of social personae (Seip, Liberty). Thus, personalizing and regionally contextualizing the Scioto Hopewellian archaeological record brought clarity to its analysis and anthropological interpretation when a structural and normative one-site-equals-one-society approach, more limited in information, could not.

Left open by this chapter for future research on Scioto Hopewellian communities are the topics of whether they were organized by principles of rank and their overall internal social complexity. Certain dimensions of Scioto Hopewell social organization have been revealed here that will be useful starting points in these endeavors: two leadership roles, marked by headplates and celts; two sodalities or kinds of sodalities, marked by breastplates and earspools; a fundamental division between prestigious persons (and certain kin?) who were inhumed and others of a broader range of prestige who were cremated; and community affiliation marked by burial cluster in the mounds studied. The leadership roles and totemic-animal groups identified in other chapters (Carr and Case, Chapter 5; Thomas et al., Chapter 8) will also be essential to investigating Scioto Hopewell ranking and social complexity.

Also left for future study is the long-standing question of whether Scioto Hopewell societies were more internally complex than Havana and other Hopewellian societies across the Eastern Woodlands, and if so, precisely how (e.g., Beck 1990; J. A. Brown 1981:213, 219; Seeman 1979a:399–400; Struever 1965). The thorniest aspect to this issue will be untangling the contributions of two distinct cultural dimensions to the magnitude and complexity of Hopewell mortuary records: internal social complexity and intergroup cooperative/competitive display in the course of alliance building (Ruby et al., Chapter 4; Buikstra and Charles 1999; Charles 1995). It is now apparent that both factors significantly affected archaeological records in Illinois and Ohio, and that alliance building efforts were probably much greater in scale in Ohio than in Illinois. Thus, the issue of comparative social complexity is tractable only through using a multisite, regional approach to mortuary studies and taking a detailed, role-oriented, personal and contextual approach in both geographic areas. As the material signatures of the two determinants of archaeological richness are more easily separated, the weight of the "awe effect" (J. A. Brown 1997a) in our assessments of social complexity for these two traditions will accordingly diminish.

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NOTES

1. It is unclear to me in reading Greber's (1976, 1979a) central studies whether she assumed *a priori* that Ohio Hopewell societies were rank in Fried's sense, then went on to look at the specifics and complexity of ranking and other aspects of social structure from there, or whether she was attempting to demonstrate ranking methodologically and empirically. Her article that summarizes her dissertation, on Hopewell societal expressions at Seip, Ater, and Turner, gives the impression that she was assuming ranking. The article begins with anthropological assumptions that do not include a discrimination of "egalitarian" social structure from social ranking. Instead, she focused directly on rank societies, stating, "Within the class of rank societies (Fried 1967: p. 109), which probably includes the majority of human societies, there is a wide range of possible complexity. Comparisons of patterns of ranking provide one means of making finer distinctions both within and among such societies" (Greber 1979a:37–38). She then went on to discuss a sociological method for measuring the complexity of ranking in a society, defined a specific quantitative procedure for doing so, and applied it to Hopewell data.

   A complicating matter in reading Greber's (1976, 1979a) works, however, is that she vacillated in whether she followed Fried's (1960, 1967) notions of ranking, and it is sometimes unclear what she meant by the terms rank and ranking. Her dissertation begins with an acceptance of Fried's distinctions: "The fine exposition of Morton Fried (1967) has made it easy to use his defini-

tions, which divide the continuum of social complexity into three parts: egalitarian, ranked, and stratified societies" (Greber 1976:8). A page later, Greber (1976:9) rejected Fried's (1967) distinction between egalitarian and rank societies, seeing that inequalities exist in all societies. She also implicitly rejected his definition of ranking by creating her own definition of it: "In the discussions which follow, relationships between any two social components (which may be single individuals) will be called symmetric if the components are differentiated and of equal rank and asymmetric if they are of unequal rank in the behavior which identifies the relationships between the components" (Greber, p. 9). Here, she used the term ranking as equivalent to some unstated quality such as importance or prestige or power, without qualifying whether that quality is obtained by achievement or inheritance, or whether the number of rank positions in a society is less than the number of members of society—key criteria in Fried's (1960:464–466, 1967) definition of ranking. In some places in Greber's analytical studies and interpretations, her use of the terms "rank" and "ranking" appears to denote only the social importance or prestige or power that she assumed to exist in all societies; in other places, Fried's notion of ranking seems to have been meant; and in other places, it is unclear. For example, her interpretation of the Seip–Pricer mound, "The social structure included 3 main ranked societal divisions."(Greber 1979a:45), could be read in either way. A subsequent statement, "Membership within a given division was *most likely* ascribed (Greber, 1979a:45; emphasis added), suggests that she did not mean Fried's definition of ranking, which requires the ascription of prestige. In contrast, her closing interpretive statements on the Ater and Turner sites use Fried's terminology: "This set of characteristics places this society [Ater] toward the less complex end of the possible range of rank societies" (Greber, p. 51) and "The total impression is one of crosscutting differentiations rather than one of strong hierarchies, bringing a relative amount of complexity within this ranked society" (Gerber p. 55).

2. It is possible to conjecture, for example, that the three clusters of burials within the charnel houses under Edwin Harness and Seip–Conjoined, and the possible charnel house under Seip–Pricer, represented the Upper, Middle, and Lower Worlds of the Hopewellian cosmos (Carr 2000a; Penney 1985), or social divisions tied to them. This interpretation would be in line with the Sky and Earth/Lower World concepts argued by Romain (2000:167) to have been symbolized respectively by the square and circular elements of tripartite earthworks such as Seip and Liberty. DeBoer (1997) has provided other possible social interpretations.

3. It should be noted that the only cross-cultural survey of mortuary practices completed and published at the time of Greber's writing was Binford's (1971) much smaller one. Binford (1971:22–23, Table 1) had found that vertical social position is marked by both the kinds and the amounts of items buried with the deceased, although

Greber did not cite this result to back up her use of the rank-sum method. Greber did, however, cite in her bibliography Tainter's (1975a) dissertation, which contained Binford's cross-cultural survey, but did not use it to evaluate the relevance of her rank-sum statistic. Tainter had found that the vertical social position of the deceased is rarely marked by the quantity of grave furniture—a finding that counters the relevance of Greber's rank-sum statistic.

4. Another aspect of Greber's selection of variables that requires comment is her selection of only those artifact classes that occurred in at least 5%–10% of the excavated burials of a site (Greber 1976:49, 102, 121). She did this in order to minimize idiosyncratic artifact associations and the overweighting of rare objects, but did not consider the sociological effect of this choice. By removing rare artifact classes from study, Greber shifted analytic attention away from potential symbols of leadership and vertical distinctions pertinent to leadership—there being few leaders per capita in a society—and toward broader vertical social distinctions like prestigious sodalities with membership by achievement, rank groups, or conceptual classes. For example, three individuals at Seip–Pricer and Hopewell Mound 25 with copper funnel nose inserts were bypassed from consideration. This strategy turned out to be a good choice for investigating social ranking, but compromised her studies of individually important persons and their distributions among burial clusters (e.g., Greber 1979a:43, 49, 53, 54; Greber and Ruhl 1989:58), upon which she based some of her social interpretations.

5. This result differs from that reported by Greber (1979a:45), who used the identifications of Raymond Baby, which were made with older, male-biased sexing techniques.

6. One possible interpretation of this situation is that those buried in Mound 23 were close consanguines or affines of prestigious persons buried in Mound 25, but were not permitted by cultural rules to be buried in Mound 25, which was restricted to persons of high prestige or certain important social roles. These consanguines or affines may have been inhumed with partial charring as a symbol of their mixed social position, associated with highly prestigious individuals but not highly prestigious in and of themselves.

7. It may be significant that Webb and Snow (1974:169–173) concluded inhumation to be a more prestigious form of body treatment than cremation among Adena peoples of the greater Ohio area. The authors cited multiple lines of evidence, some still relevant today. It may also be relevant that the prestigious burials in the central tombs of some Havana Hopewell mounds (e.g., those at Klunk–Gibson) were uniformly extended inhumations or bundles made of formerly extended inhumations, while less prestigious, peripherally located burials were a mixture of flexed and extended inhumations.

8. For example, at the Hopewell site, if a person was buried with a headplate, he or she had only a 67% (8/12) chance,

of also having a breastplate, instead of a 100% chance, in the hierarchical situation where all persons with a headplate would have a breastplate. Morever, the person with a headplate would also have the same 67% (8/12) chance of having a pair or more of earspools, instead of a 100% chance, in the hierarchical situation where all persons with a headplate would also have earspools (Case and Carr n.d.).

9. At the Hopewell site, 12 persons had headplates, 11 had celts, 29 had breastplates, and 48 had earspools. One person had a headplate and a celt, 8 persons had a headplate and a breastplate, 8 persons had a headplate and earspools, 5 persons had a celt and a breastplate, 6 persons had a celt and earspools, and 16 persons had a breastplate and earspools (Case and Carr n.d.).

10. Of 854 Hopewellian burials in 35 sites across Ohio, 79 have animal power parts (e.g., jaws, teeth, talons, claws), 23 have headplates, and only 6 have both animal power parts and headplates. Of the 35 sites, 11 have burials with animal power parts, 7 have burials with headplates, and only 3 have burials where headplates and animal power parts co-occur (Hopewell, Mound City, Seip) (Case and Carr nd.). Thus, the two kinds of artifacts are strongly dissociated.

11. A possible exception to this interpretation may be bear canines, which are well out of proportion in their representation at Seip–Pricer and at most Scioto Hopewell mortuaries compared to the power parts of other species. It is possible that bear canines marked membership or achievement within a ceremonial society or other sodality, rather than clan affiliation (Thomas et al., Chapter 8). Bear medicine societies were and are common among Algonquian, Iroquoian, and Siouan peoples (Abler and Tooker 1978:515; Dewdney 1975:116–121; Gill 1992:23–25; Tooker 1978:460; Weaver 1978:534). Among the Ojibwa, the bear was a key power for practitioners of the fourth level of the Grand Medicine Society, or Midewiwin (Dewdney 1975:109, 111, 115, 138, 147, 149–150). Thus, one possible bear effigy headplate from Burial 3 under Mound 13 at the Mound City cemetery (Mills 1922:451–452) might indicate a leader of a bear sodality, perhaps dedicated to medicinal practices.

At the same time, Hopewellian bear canines and artifact symbolism might have indicated bear clan membership or leadership because, historically among the Fox, necklaces of bear canines did mark bear clan leadership (Callender 1978b:641 see also Carr and Case, Chapter 1, Figure 1.4 f). Thus, the headplate from Mound City might have indicated leadership in a bear clan, though it was not associated with bear canines.

12. Of 854 Hopewellian burials in 35 sites across Ohio, 79 have animal power parts (e.g., jaws, teeth, talons, claws), 43 have celts, and only 9 have both animal power parts and celts. Of the 35 sites, 11 have burials with animal power parts, 10 have burials with celts, and only 6 have burials where headplates and animal power parts co-occur (Ater, Hopewell, Mound City, Rockhold, Seip,

Turner) (Case and Carr n.d.). Thus, the two kinds of artifacts are strongly dissociated.

13. The only exception where a headplate and a celt were found together in a burial at the four sites considered here is the double Burial 260–261 in Hopewell Mound 25. This burial had 63 celts and 92 breastplates. The burial included an antler-stub headplate of extraordinary mass (thickness, width, and weight) and a unique meteoric iron headplate. It is possible that the association of celts and headplates in this burial resulted from the gifting of the celts rather than the combining of the social roles indicated by headplates and celts in one or both persons. It is also unclear which of the two individuals was associated with which of the artifacts in this double burial, causing further ambiguity in the associations of the social roles marked by headplates and cells.

14. Ethnohistoric information on sodalities in the Great Lakes–Riverine region of the Eastern United States is limited and does not provide a clear foundation for modeling the five characteristics of sodalities examined here and their variation. In addition, among the Central Algonkians of this region, tribal-wide integration and organization appears to have been achieved primarily through clans and phratries based on patrilineal descent, and sometimes through moieties, and only secondarily through special societies that crosscut kinship and residence. Spiritual and ritual matters focused around visions and sacred packs, which were most commonly made and owned by the individual and inherited within his lineage (Callender 1962:26, 31, 65, 77), as well as around the eponymous relationship, the totemic relationship, and naming, which were associated with the lineage or clan (Callender, pp. 29–31; see also Radin [1945:68] for the Siouan Winnebego).

The best-known societies are the Medicine Lodge or Midewiwin (Hoffman 1888, 1891; Radin 1945) and the more recent Dream Drum or Dream Dance cult and Peyote cult (Gill 1982:167–171; Ritzenthaler 1978:755–756; Skinner 1915, 1920; Spindler 1978:716; Venum 1982). Members in these societies typically could come from any sector of a tribe, although Midewiwin membership was traditionally heavily screened and, for the Winnebago, was divided among five ceremonial bands that were responsible for different parts of rituals (Quimby 1960:142). In addition, the Central Algonkian Fox, Sauk, Kickapoo, and Prairie Potawatomi had "sacred pack" organizations that were formed for healing of individuals, healing of the whole community, sorcery, warfare, hunting (especially buffalo), or those blessed by the same spirit. Membership in these organizations was voluntary, nonhereditary, and crosscut clans and lineages (Callender 1962:31; Tax 1937:267). The Menominee similarly had a sorcery organization and emerging Thunder and Buffalo dance cult groups of persons blessed by the same spirit (Callender 1962: 35; Skinner 1915). The Shawnee had a Man-Eating society and probably associations of shaman (Callender 1962:41). Dual divisions that were not based on lineage or clan were found among the Fox,

Sauk, Kickapoo, Potawatomi, and possibly the Shawnee, whereas the Miami, the Menominee, and probably the Illini had true moieties based on clan affiliation (Callender 1978a:615–616, 1994; Tax 1937:268). Dual divisions divided a tribe into groups who competed in games, especially lacrosse, and for war honors and organized dances and rituals (Callender 1962:32, 1978a:616). The Siouan Winnebego had a variety of ritual societies, each open to persons who shared in some common supernatural experience, the most sacred of which was the Night-spirit society (Radin 1945:68–69).

15. For example, the Zuni have 6 kiva groups and 6 divisions of the Kachina cult, and 12 medicine societies, all of which crosscut clans (Eggan 1950:205, 208). The Hopi have a total of 10 men's kiva societies that crosscut clans but are controlled by one clan, with 6 to 8 kiva societies per village (Connolly 1979:548; Eggan 1950:90, 103–104; Titiev 1944:103). Tribal Initiation rites for men divide them into four societies that crosscut clans (Eggan 1950:93-97; Frigout 1979:573). The 14 major ceremonies of the Hopi are controlled by varying clans that head a kiva society (Eggan 1950:103; Titiev 1944:90–92). Beyond the Kachina and kiva societies of the Hopi are their rain, war, curing, and clowning societies, as well as two Flute societies, which each have a more limited membership, but one open to all clans (Eggan, 1950:98–99). The Snake and Antelope societies tend to be more single-clan dominated in membership (Eggan, p. 99–100). Taos and Acoma Pueblos have six and seven kiva groups, respectively (Eggan 1950:243; 1983:728). Membership in these crosscut clans, save the head kiva used by the Antelope clan. Laguna Pueblo has three Kachina dance organizations and seven medicine societies, as well as war, hunt, and clown associations, all of which crosscut clans (Eggan 1950:279, 280–283). Hopi–Tewa have a dual division into Winter and Summer People, and Sandia Pueblo has a dual division into Turquoise and Pumpkin People, all of which crosscut clans (Brandt 1979:731; Eggan 1983:728; Stanslawski 1979:597). Picuris Pueblo is divided into Spring, Summer, Fall, and Winter People ceremonial societies, which crosscut clans (Eggan, p. 728). Tiwa Pueblo has five Corn groups that crosscut clans and a dual division into Winter and Summer People that crosscuts lineages. These various social divisions constitute from 7% to 50% of the adult population of a single pueblo or pueblo-village society, assuming the equitable distribution of persons among divisions of a kind.

In the Great Lakes–Riverine region, dual divisions not based on clan affiliation were found among each of the Fox, Sauk, Kickapoo, Potawatomi, and, possibly, Shawnee (see Note 14) constituting social divisions of roughly 50% of the tribal population. The Siouan Winnebego Medicine Rite, approaching modern times, drew members from a "large" percentage of the tribe (Radin 1945:70). In contrast, memberships in the sacred pack organizations, societies of those who had a similar spiritual experience, and other cult groups of the Central

Algonkians (see Note 14) constituted much smaller percentages of a tribe.

16. The most common means by which a person gains membership in a Puebloan sodality are initiation at the transition to adulthood, selection of a sodality for a child by a biological parent, following the ceremonial path of one's biological father, selection of a "ceremonial father" within a sodality by a youth or adult, trespassing onto a secret ceremony or being subjected to it, being cured by a medicine society, and taking a scalp in the case of war societies. For example, among the Hopi, youths undergo the Tribal Initiation rite into the Kachina society at age 10. Thereafter, boys begin frequenting the kivas of their fathers, typically, but may change kiva affiliation later in life (Titiev 1944:104). The Zuni male is initiated into the kiva organization of his father's or mother's choice at age 8 to 12 years, and may change kiva affiliation thereafter (Ladd 1979:484–485). Admission into the Bow Society requires a man to have taken a scalp and, thus, to be an adult (Ladd, p. 485). Membership in one of the six Kachina cult divisions is through selection by a "ceremonial father" at birth (Eggan 1950:205), but initiation is delayed until adulthood. It occurs in two stages, one at 5 to 9 years of age and the second at 10 to 14 (Tedlock 1979:502). Men and women may be "given" to a medicine society upon being cured, and must become a member for the cure to remain permanent (Eggan 1950:208). Likewise, adults who trespass or are subjected to a curing ceremony must become members (Eggan, p. 208). At Hopi–Tewa Pueblo, young men are initiated into the two kiva groups at between 14 and 18 years of age (Stanslawski 1979:597).

    In contrast to the adult society memberships just mentioned are dual and other tribal divisions of the Puebloans. Typically, a person became a member of these at birth or as a child, sometimes later confirmed by initiation. At Sandia Pueblo, a person was assigned membership into either the Turquoise or the Pumpkin People at birth, in an alternating fashion down a line of siblings (Brandt 1979:731). Summer and Winter People affiliations of the Isleta Tiwa were given to children, likewise in an alternating-sibling manner (Eggan 1983:731). Among the Hopi–Tewa, Summer and Winter People assignments were given to children and confirmed by initiation at adulthood (Eggan 1983:728). Isleta Tiwa parents give their children to one of the five Corn groups (Eggan 1983:731).

    Central Algonkian sodalities for healing, sorcery, shamanism, warfare, hunting, and devotion to a blessing spirit had voluntary memberships (Callender 1962:31), which naturally were primarily or fully adult, being determined by the nature of the activities involved. Membership in the Winnebego Medicine Rite was traditionally comprised of middle-aged or older persons, because there were a set number of positions, which could be filled only upon the death of a member, and because entrance requirements were expensive and psychologically difficult. However, in more modern times, with fewer interested persons, the age of initiates has dropped (Radin 1945:68; see also Grim 1983:116, 132, 133). At the turn of the century among the Ojibwa, a sick child could be initiated into the Midewiwin to cure his or her illness (Grim 1983:68, 116). The Chippewa sometimes admitted children to the Midewiwin through dedication at birth (Quimby 1960:126). In contrast to these primarily adult sodalities, membership in Central Algonkian dual divisions included children through adults in their natural demographic proportions. The Fox, Prairie Potawatomi, and Sauk assigned children to opposite divisions by birth order, in an alternating fashion (Callender 1978a:616, 1994:118).

17. Membership in kiva societies was restricted to men among the Hopi, Zuni, Hopi–Tewa, Hano, and Taos (Eggan 1950:96, 162, 1983:728; Ladd 1979:484–485; Stanislawski 1979:597; Titiev 1944:104). Membership in medicine societies beyond kiva groups was limited to men among the Hopi (Eggan 1950:98). The Kachina cult is restricted to men almost completely among the Zuni (Eggan 1950:205), but not so among the Hopi (Titiev 1944:109) and other Pueblos. However, only men participate in masked Kachina dances throughout the Pueblo region, save among the Santa Ana (Eggan 1983:727). At Acoma Pueblo, both young men and women are recruited into the Kachina society, but only men play an important role (Eggan 1950:243). Similarly, the Zuni medicine societies contain both men and women, but only men hold offices in the societies and perform curing rites (Egan 1950:208).

    In some instances, both men and women are recruited into sodalities. At Laguna and Acoma Pueblos, both young men and women join the kiva organization of the father, and at Laguna, women join the kiva of their husband at marriage (Egan 1950:244, 279, 1983:725). At Laguna, both men and women join the medicine societies. Kachina medicine societies at Santa Ana Pueblo include men and women (Eggan 1983:727). Women's societies, which may have an occasional man, are found among the Hopi, and these parallel the men's groups (Eggan 1950:100).

    The Medicine Rite society of the Winnebago and the Midewiwin of the Ojibwa included both men and women (Hoffman 1888:213; Radin 1945:70). However, among the Ojibwa, shaman members were apparently restricted to males (they were called "old man," indicating their connection with manitou), and were distinct in their degree of knowledge and spiritual capabilities from members who were initiated to cure an illness (Grimm 1983:116) and who apparently could be of either sex. The Fox Sing-Around society, which worked to help the whole tribe during an epidemic or drought, included nearly equal numbers of men and women (Tax 1937:267).

18. Many Pueblos have a Kachina society, as well as kiva or medicine societies. All men and/or women are initiated into the Kachina society, and may join a kiva or medicine society in addition. This is the case for the Hopi, Zuni,

Acoma, and Laguna Pueblos (Eggan 1950; Titiev 1944), for example. At Hopi, a man can belong to several kinds of societies, including a Tribal Initiation society, a Winter Solstice society, and rain, war, clowning, and curing societies (Eggan 1950:89, 90). Analogous society diversity and multi-society membership is found among the Acoma (Eggan, pp. 243–245), Laguna (Eggan, pp. 278–282), Hopi–Tewa (Eggan 1983:729), and Sandia (Eggan, p. 731; Brandt 1979:347), and other communities.

Among most Puebloan groups, a person was a member of only one kiva group or medicine society at a time (e.g., Eggan 1950:244, 279, 280, 485; Titiev 1944:104). Hopi men can belong to multiple kiva organizations but have their most basic affiliation with the kiva society in which they were initiated at the Tribal Initiation rite (Eggan 1950:96).

19. Most commonly in the Puebloan world, any differences in the prestige of sodalities within a tribe are muted. In part, this subtlety arises because the societies complement each other in ceremonial and other social responsibilities. Also, when membership crosscuts clan affiliation and kinship, which is common, it is difficult for one society to concentrate power (Connelly 1979:548). However, there are clear exceptions.

Among the Hopi–Tewa, the Central Plaza kiva society has clear power and leadership in the community, above that of the Outer kiva society (Stanislawski 1979:597). At Laguna Pueblo, there are seven medicine societies under the leadership of one (the Shikane) (Eggan 1950:280). There are also three Kachina dance societies, one of which has priority over the other two in that a member of the most prestigious group can dance in the dances of the other two, but not vice versa (Eggan, p. 279). At Acoma, there are seven kiva societies, one of which is designated "head" in that it is used by the village cacique and the Antelope clan, which is dominant in the community. The other kiva societies, in contrast, have members from multiple clans (Eggan, pp. 243–244). Among the Hopi, the four Tribal Initiation societies, which functioned in the Kachina cycle, were primary. A man could participate in multiple ceremonies in multiple kivas, but his basic affiliation was considered the kiva into which he was initiated at Tribal Initiation. Moreover, initiation into one of the Tribal Initiation kivas was necessary if a man was to participate in the Winter Solstice ceremony (Eggan, pp. 96–97, 105).

Among the Ojibwa, shamanic practitioners of the Midewiwin society appear to have been considered more powerful than the Jossakeed—a class of magicians and jugglers. However, the Jossakeed were not an organized society, and anyone who was successful at performing magic and jugglery could call himself one (Hoffman 1888:222–223).

20. The fact that earspools were technically complex artifacts (Greber and Ruhl 1989:140–149), and might have taken more time to manufacture than breastplates, may cast some uncertainty on the conclusion that a sodality indicated by breastplates was more prestigious than a so-

dality marked by earspools. Further, breastplates are not accentuated in their counts relative to earspools, or in the number of persons buried with them compared to those buried with earspools, at the Hopewell site at large or in Mound 25. These were burial places for the prestigious, and one might therefore expect breastplates and those who owned them to have been highlighted there relative to earspools and earspool owners, if a sodality associated with breastplates was, indeed, more prestigious.

21. Note 14 lists Puebloan ceremonial societies with memberships that range from clan-crosscutting, to multiclan but single-clan controlled, to single clan.

22. Of 854 Hopewellian burials in 35 sites across Ohio, 79 have animal power parts (e.g., teeth, talons, claws), 84 have breastplates, and only 28 have both animal power parts and breastplates. Of the 35 sites, 11 have burials with animal power parts, 11 have burials with breastplates, and only 8 have burials where breastplates and animal power parts co-occur (Ater, Bourneville, Hopewell, Liberty, Mound City, Rockhold, Seip, Turner) (Case and Carr n.d.). Thus, the two kinds of artifacts are strongly dissociated. The diversity of animal power parts with which breastplates occur are as follows: Ater–raptor, wolf/dog, bear, and beaver; Hopewell–feline, wolf/dog, bear, and beaver; Mound City–wolf/dog, bear, and raccoon; Seip–feline and bear; and Bourneville, Liberty, Rockhold, and Turner–bear. Thus, where breastplates associate with animal power parts, the animal species are diverse.

23. Of 854 Hopewellian burials in 35 sites across Ohio, 79 have animal power parts (e.g., teeth, talons, claws), 115 have earspools, and only 30 have both animal power parts and earspools. Of the 35 sites, 11 have burials with animal power parts, 14 have burials with earspools, and only 9 have burials where earspools and animal power parts co-occur (Ater, Bourneville, Hazlett, Hopewell, Liberty, Mound City, Rockhold, Seip, Turner) (Case and Carr n.d.). Thus, the two kinds of artifacts are strongly dissociated. The range of animal power parts found with earspools is wide: Ater–raptor, wolf/dog, bear, and beaver; Hazlett–wolf/dog; Hopewell–raptor, feline, wolf/dog, fox, bear, and beaver; Liberty–feline and bear; Seip–feline and bear; and Bourneville, Mound City, Rockhold, and Turner–bear.

24. In the Puebloan Southwest, ceremonial societies are generally not characterized by ladders of achievement (e.g., Titiev 1944:107). Exceptions are the six kiva groups of Taos Pueblo. There, boys go through the first rites of initiation into a kiva of their parent's selection, but few go through the addition rites of initiation. Those who do not cannot partake in esoteric rituals or hold key leadership positions in Taos government (Eggan 1983: 730).

The Midewiwin societies of the northern and central Algonkian tribes and the Siouan Winnebago usually had four and sometimes eight "degrees", which varied in their knowledge, powers, and prestige (Grim 1983:133; Hoffman 1888:219–220; Ritzenthaler 1978:754). Ojibwa fourth-degree shaman were expected to be able to foresee

events, divine for game, make rain, cure diseases, prolong life, make fetishes, and help others gain their desires. Members who had achieved only one or two degrees usually practiced only a specialty, e.g., making rain, divining for game, or making fetishes (Hoffman 1888:220). The Ojibwa Midewiwin tradition associated the four degrees with the Four Directions and their Four Wind Gods (Hoffman 1888:220). In the Winnebago Medicine Rite, members arranged themselves around the medicine lodge in four directions, which varied in importance (Radin 1945).

25. The group of 13 burials placed above the first gravel layer that covered the primary mounds over the three groups of burials on the floor of Seip–Pricer (Greber 1979a:41, 1979b:34) are not considered here. They clearly were buried after the three groups of floor burials, and may have been functionally distinct, perhaps dedicatory. The five persons buried above the floor at Seip–Conjoined and the two burials above the floor of Edwin Harness (Greber 1979a:46, 1979b:34, 35) are not included for the same reasons.

26. This spatial pattern of animal power parts mimics that of headplates, celts, breastplates, and earspools. If the latter, copper artifacts indicate society-wide leadership or achievement within a sodality, as discussed above (see The Sociological Meaning of Copper Headplates, Breastplates, Celts, and Earspools), then perhaps the animal power parts indicate clan leadership or level of prestige within a clan.

27. Tomb forms are not reported adequately enough at Edwin Harness to assess the frequency and spatial distribution of this mortuary trait there.

28. In contrast to this scenario is Greber's (1997:216–217) proposal that Baum was built by the same community that had built Seip, but later in time, with a "concurrent shift in corporate activities to constructing large enclosures rather than large mounds (Greber, p. 217). Greber's suggestion is without physical evidence of a temporal separation of Seip and Baum (Greber, p. 219). It also runs counter to the continuity of mound building that characterized cultures of the Eastern Woodlands from the Early Woodland Period to the Historic and the post-A.D. 600 calibrated dates from the Russell Brown 3 Mound at Liberty (Seeman and Soday 1980:93, 97).

29. The reason the Hopewell earthwork is included in this study becomes apparent below.

30. Carr and Maslowski's (1995) style analysis identified particular sets of fabric attributes that seem to distinguish social units of varying size and nature within the Scioto–Paint Creek area, as are often found in stylistic studies (Carr 1995a). Of relevance are a regional distinction in stylistic traits between Paint Creek valley as a whole and the Scioto valley, and more local distinctions in stylistic traits among main Paint Creek valley, the North Fork, and the Scioto valley, which would correspond to the three local symbolic communities proposed here. For both of two stylistic attributes relevant to regional and more local distinctions, the range of attribute values for fabrics from the Seip–Pricer mound in main Paint Creek valley was large and encompassed tighter clusters of the attributes' values at the Edwin Harness mound in the Scioto valley. For both of two other regionally and locally significant attributes, the range of attribute values for the fabrics at Edwin Harness in the Scioto valley was large and encompassed tighter clusters of the attributes' values at Seip in main Paint Creek valley. In similar ways, fabrics from the Hopewell site in the North Fork valley—the valley of the Old Town Works—and those from Seip in main Paint Creek valley overlapped in style. In all of these patterns, the sites with tight clusters of attribute values are interpreted to represent the locations of manufacture of the fabrics in the cases of fabric exchange or joint burial of the clothed or shrouded dead, or the locations of origin of the style in the case of intermarriage. The sites with broader ranges of attribute values are thought to have been the recipients of the fabrics or style through intercommunity exchange, joint burial of clothed or shrouded deceased persons, or intermarriage.

31. The burial clusters under Mound 25 were not contained within a single charnel house, as were those at Edwin Harness and probably at Seip–Pricer. The floor of Mound 25 had several post screens or buildings, one around cluster C, one to three around clusters D1, D2, and E, one around cluster A2, and an at least a partial screen near cluster B (Greber and Ruhl 1989:50). However, all the clusters of burials were eventually capped under a single mound, to each end of which two earthen lobes were added.

32. Carr and Maslowski (1995) found four stylistic attributes that distinguished fabrics at sites within Paint Creek as a whole from fabrics at sites within the Scioto valley. They also found attributes that distinguished fabrics at sites in main Paint Creek from fabrics at sites in the North Fork. Two attributes had wide-ranging values at Seip that encompassed tighter clusters of values at Hopewell. Two other attributes had wide-ranging values at Hopewell that included tighter clusters of values at Seip. As discussed in Note 30, the sites with tight clusters of values are interpreted to have been the locations of manufacture of the fabrics or the locations of origin of their style, whereas the sites with wider ranges of attribute values are thought to have been recipients of the fabrics or style.

33. At Hopewell 25, the central mound that covered burial clusters A through F was extended by the later addition of two smaller mounds on its northeast and southwest sides (Greber and Ruhl 1989:42). At Seip–Pricer, the three clusters of burials were each covered by their own mound before being capped with a joining gravel layer and subsequent layers into one mound (Greber 1979a:41). At Seip–Conjoined, the three sections of the charnel house were each covered with a mound, and the mounds overlapped, forming one trilobate mound that was never capped. At Edwin Harness, a submound was built over the middle cluster of burials, but it is not known

whether two other submounds over the remaining two clusters were also built (Greber 1979b:28). However, three stone circles were constructed at a higher level of the mound, apparently over the three burial clusters.

34. Six beta-count radiocarbon assays from the northern section of the charnel house under Edwin Harness have a calibrated weighted average date of A.D. 340/370, while six other assays from the middle section have a calibrated average weighted date of A.D. 260/289/324 (Greber 2003:108). Three assays from the Seip–Pricer charnel house (Greber 1983:89–92, 2003:107) have a calibrated weighted average date of A.D. 421. The three average dates from Edwin Harness and Seip–Pricer are not statistically different from each other by a T′ statistic (5.43) calculated with Stuiver and Reimer's (1993) CALIB program.

   Konigsberg (1985:131) estimated demographically that the mortuary floor under the Seip–Pricer mound was used for one to, at most, three generations. However, he assumed in making this estimate that those buried under Seip–Pricer represented almost the entirety of one local community, which does not appear to have been the case.

35. My suggestion is that the form of the Hopewell earthwork represents the headdress of a leader, on the basis of comparison to masked and hooded human representations in Hopewell art. This idea will have to be elaborated elsewhere.

36. In the area of Chillicothe, Ohio, the half mile distance of Raymond Ater from the Old Town Works is a significant cultural separation. Five earthworks around Chillicothe have nearest neighbors of 2.5 kilometers or less (Mound City–Shriver, Mound City–Hopeton, Hopewell–Anderson) and two have nearest neighbors of approximately 1 kilometer (Mound City–Shriver). Greber (2003:92) also agrees that Ater mound was not associated with an enclosure.

37. The south cluster includes a person buried with the power parts of raptor, wolf, and beaver, whereas the north cluster includes a burial with the power part of an elk. The multiple clan symbols present in the first burial would likely represent the person's own clan and gifts from members of other clans (see Carr et al., Chapter 13). The lack of a clan symbol with each person in a cluster could, in this clan-based interpretation, suggest that a power part symbolized achievement or leadership within a clan, rather than simply clan membership. The occurrence of bear power parts in burials in both clusters would negate the idea that the clusters reflect clan affiliation, if bear power parts indicated a bear clan rather than some ceremonial sodality (see Note 11). This remains unknown.

38. How Ater related within its own dispersed community to the Hopewell site and the Old Town Works is unknown. The three conjoined mounds and other mounds at Old Town have not been dated. The calibrated radiocarbon and/or obsidian hydration dates from floor contexts in Hopewell Mounds 25 and 11 (Greber 2000; Hatch et al. 1990; Prufer 1961a, 1964a), which have means ranging from 78 B.C. to A.D. 398, suggest the uses of

those floors earlier than Ater's, if Ater's was used, as reasoned in the text below, somewhat later than the floor of Seip–Conjoined and later yet than the floor of Seip–Pricer, with a calibrated date of about A.D. 421 (see Note 34). However, a late, mean, calibrated date of A.D. 460 from Hopewell Mound 17 (Greber 2003:103), and the stylistic interdispersion of the earspools from Hopewell over the entirety of and beyond the seriated range of Ater's earspools within Ruhl's (1996: Appendix B; Ruhl and Seeman 1998) earspool seriation, would suggest that the Hopewell site probably had continued to be used through the period when the mortuary floor at Ater was used and afterward.

39. No fabric stylistic data bear on the relationship of Ater to sites outside of the community that was focused on the Old Town Works and Hopewell and that encompassed Ater.

40. Greber's estimation of the younger age of the charnel house under Seip–Conjoined than that thought to exist under Seip–Pricer is based in part on the occurrence of two additions of soil and gravel to Seip–Pricer and only one to Seip–Conjoined, leaving it "unfinished" (Greber 1979b:37). Whereas the three submounds over the three clusters at Seip–Pricer were hidden by a final capping of soil and gravel, the three submounds at Seip–Conjoined were not. It is also possible that the depositing of the large quantities of mica in the final capping of Seip–Pricer while it was being ceremonially finished and the depositing of much mica on the floor of Seip–Conjoined while it was still in use link the cap and floor to the same time (Greber, p. 37), but this cannot be substantiated. Finally, Ruhl's (1996; Ruhl and Seeman 1998) seriation of earspools from Scioto Hopewellian earthworks, as analyzed by Greber (2003:96), hints that the floor of Seip–Conjoined was used after the floor of Seip–Pricer.

41. The leaders who coordinated alliances among Adena local groups have sometimes been called Big Men (Custer 1987; Fitting and Brose 1970:47–48). However, Clay (1992:79–80) convincingly warned that they probably did not have certain qualities of the classic Melanesian Big Man (Sahlins 1963)—specifically, power built on the ability to amass and distribute large quantities of food, and power displayed through mortuary and other ritual at the domestic level. Evidence for large surpluses in Adena archaeological records is lacking, and there is a clear spatial separation of Adena mortuary sites from domestic sites. It is more likely that Adena leaders who coordinated alliances among local groups were those important in arranging intergroup marriages and in facilitating supernatural affairs (Friedman and Rowlands 1978:206–207; Netting 1972).

42. Examples of intermound comparisons yet to be studied within single cemeteries include burial distinctions between the 16 small mounds at Seip (2 excavated) and the 2 larger mounds of Seip–Pricer and Seip–Conjoined; between 17 small mounds at Liberty (5 excavated) and the large Edwin Harness mound; between the large Mounds 25 and 23 and the 36 smaller mounds (17 excavated) at

the Hopewell earthwork; between the mounded Burial Place of the Great Enclosure at Turner, two other locations of burials within the Enclosure, and 6 other mounds having burials; and between the 24 mounds within the enclosure at Mound City. As for intersite comparisons in the Chillicothe area, burial forms in the large and small mounds within the Hopewell, Seip, and Liberty earthworks can be contrasted with those in nearby small mound groups without embankments, such as Bourneville, Rockhold, and West in main Paint Creek valley, and McKenzie, Circleville, and Westenhaver in the Scioto valley.

Certain variables not explored by Greber or me also stand out as potential indicators of ranking. These include artifact morphological types that differ in their materials of construction, and thus the costs of materials acquisition and production, and that also are common enough to have been symbols of rank rather than leadership. Examples include earspools (ceramic, stone, copper, copper with silver overlay, and copper with iron overlay), bear canines (real and plain, real with pearl inset, effigy of bone, effigy of copper or mica), and, possibly, bear power parts generally (claws, canines, jaws).

43. Strong burial distinctions among some mounds within single earthworks, and among mounds in different ceremonial centers, suggest the possibility that Scioto Hopewellian societies were organized by principles of rank. However, the paucity of age and sex information on the skeletal series from these mounds, as well as the uncertainty of their contemporaneity and the known functional distinctions among some of them, prevent the drawing of firm conclusions.

Within the Hopewell site, Mounds 25 and 23 stand as a naturally contrasting set, being the two largest mounds by volume and population at the site and being of similar oblong shape. The burials in Mound 25 as a population are extremely modally distinct from those in Mound 23. The burials in Mound 25 generally have much more elaborate tombs in each of several ways: platforms, walls, floor preparations, and coverings. Elaborations along these four dimensions are 10 to 40 times more common in Mound 25 than in Mound 23. In addition, the number of leaders (nonshamanic and shamanic) and persons of high prestige (e.g., those with earspools, breastplates, crescents, and reel-shaped gorgets) who offered gifts to the deceased, per deceased person, is 24 to 30 times greater for the Mound 25 population than the Mound 23 population (see also Carr et al., Chapter 13, Tables 13.7, 13.8). Mound 25 also is distinguished by five large ceremonial deposits of fancy artifacts, whereas Mound 23 has none.

Some small mound groups that lack embankments, that occur in the general vicinity of Hopewell and Seip, and that may be contrasted with the mounds at Hopewell and Seip include Bourneville, Rockhold, West, McKenzie, Circleville, and Westenhaver. Like Mound 23, all of these small mounds pale in their frequency of tomb elaborations through platforms and wall preparations, and in

the number of leaders and prestigious persons who offered gifts to the deceased at them, compared to these characteristics at Hopewell Mound 25 and Seip–Pricer, on a per-deceased basis. Mound 25 has 23 times the frequency of tomb platforms and 5.7 times the frequency of wall preparations found in the pooled small sites, on a per-deceased basis. Seip–Pricer has 30 times and 5.5 times the frequency of tomb platforms and wall preparations, respectively, compared to the pooled small sites on a per-deceased basis. The numbers of leaders and prestigious persons who offered gifts to the deceased at Hopewell Mound 25 and at Seip–Pricer are 13.5 to 17 times greater and 5.4 to 5.5 times greater, respectively, than the pooled number for the small sites, on a per-deceased basis (see also Carr et al., Chapter 13, Tables 13.7, 13.8, 13.12). Only two of the six small mounds have a ceremonial cache, one each, compared to the five found in Hopewell Mound 25 and the four in Seip–Pricer.

In all, these qualitative contrasts suggest the possibility of two or three rank groups: (a) those buried within earthworks in mounds with high-cost facilities and spectacular offerings (e.g., Hopewell Mound 25, Seip–Pricer), (b) those buried within earthworks in mounds without these special traits (e.g., Hopewell Mound 23), and (c) those buried in small mounds that lack special traits and that are not enclosed by earthworks. The earthwork–nonearthwork distinction between the second and the third sets of burials may or may not be significant with regard to ranking, given their overall similarity in having little tomb elaboration, few or no offerings by leaders, and few or no ceremonial caches.

There are numerous burials in Hopewell Mound 25 and Seip–Pricer that do not have elaborate tombs and lack gifts from leaders. In the interpretation offered here, these would represent persons of rank who had access to burial in these two mounds, but who did not achieve or inherit positions of leadership or other prestigious roles. In contrast, those deceased persons with elaborate and gift-laden tombs would have been persons of rank who did achieve or inherit leadership or other important positions. All of the deceased within Mound 25 or Seip–Pricer would have been persons of the same rank group, probably having been given in joint the same elaborate ceremonies, indicated by their burial within the same charnel house and the specialized ceremonial deposits therein.

I do not currently see the greater frequency of offerings given by leaders and prestigious persons to the deceased in Mound 25 than in Seip–Pricer (2.5 or 3 times greater) as an indication of differences in rank among the deceased in these two mounds. The different frequency of offerings is not paralleled by significant differences in tomb elaboration or the number of ceremonial deposits in the two mounds (1.18 times more instances of platforms or elaborate wall, floor, or cover preparations in Mound 25 than Seip–Pricer on a per-deceased basis; 5 deposits in Mound 25 versus 4 in Seip–Pricer). Instead, the varying frequency of elaborate offerings may

reflect only a functional difference between these two mounds: Mound 25 as a burial place for persons of rank that achieved or inherited leadership or other prestigious roles, and their close relatives of rank, versus Seip–Pricer as a burial place for persons of rank with a wider spectrum of roles, achieved or inherited, prestigious and less prestigious (see Regional Patterning, in text). The differences in age–sex composition of Mound 25 and Seip–Pricer (Appendix 7.1) would bear out this interpretation. It is important not to confound the material mortuary correlates of leadership with those of ranking, as discussed in by Carr Chapter 6.

44. The possibility that Scioto Hopewellian mortuary records do not reflect Hopewellian social relations reasonably accurately because killed warriors and war captives were generally tabooed from burial with other community members in mounds, or were cremated rather than inhumed and thus remain unidentified, should also be entertained. Traditional societies often separate the places or forms of burial of those who have died "bad deaths" from those who have died "good" ones (Carr 1995b).

45. It is not problematic for Braun's interpretation that sodalities seem to have originated within the period of Hopewellian ritual florescence in the Scioto drainage and gained popularity during this florescence. Braun's argument only states that there came a time when multi-community sodality organization became a more effective and economical means for leveling subsistence and other local risks than materially and energetically expensive Hopewellian ritual in the hands of community leaders, bringing the decline of such ritual. Braun's interpretation does run into problems, however, if it can be shown that a rich diversity of sodalities existed during the heart of the Middle Woodland period—a proposition supported to a degree in Chapter 13 by Carr et al.

Chapter **8**

Animal-Totemic Clans of
Ohio Hopewellian Peoples

CHAD R. THOMAS, CHRISTOPHER CARR, AND CYNTHIA KELLER

Studies of prehistoric social organization with mortuary data in the modern tradition of anthropological archaeology have emphasized vertical dimensions of social differentiation over horizontal ones. Ranked lineages, conceptual and economic classes, leaders of achieved or inherited position, power, and authority have been the foci (e.g., Binford 1964; J. A. Brown 1981; Cannon 1989; Howell 1995; McGuire 1992:93–135; Peebles and Kus 1977). Less commonly of concern have been lineages, clans, phratries, dual divisions, sodalities, and informal networks within a society (but see Goldstein 1981; Mitchell 1992; O'Shea 1981). This general emphasis on the vertical is no less true in the case of Hopewell archaeology (e.g., Braun 1979; J. A. Brown 1981; Greber 1979a; Tainter 1978).

In part, this orientation reflects the greater subtlety with which horizontal social distinctions are often distinguished in life and in the mortuary record than vertical ones linked to differences in wealth, control over material resources, and prestige (Carr 1995b; O'Shea 1981). In part, the focus represents an overriding concern in modern anthropological archaeology with the origins of social complexity, and with documenting the degree and kind of vertical complexity in particular societies.

This chapter breaks from this intellectual tradition by searching for the animal-totemic clans that comprised Ohio Hopewellian societies: their identities, organization, and functions. The particular clans, their sizes, their numbers per community and distribution among communities, any formalized ties among them, and any possible distinctions among them in social roles, prestige, and leadership recruitment are our primary subjects. These features of Hopewellian societies we compare to the nature of clans in the historic Eastern Woodlands tribes. Phratries, sodalities, and dual divisions are also of interest, but secondarily, due to the paucity of firm Woodland ethnohistoric and archaeological information on them.

Our study depends most fundamentally on identifying kinds of artifacts that marked the various clans in Ohio Hopewellian societies and that were placed in graves commonly enough to make sociological interpretation possible. The real and effigy power parts (e.g., claws, talons, teeth, jaws, antlers) of animals of various species native to Ohio are found here to have almost certainly marked clans and, also, were fairly frequent grave inclusions. The parts reference animals, which were the most common clan eponyms historically, reference about the same number of

species as the average number of clans per historic tribe, and correspond in their species relative frequencies to the varying commonality of historic clans with different eponyms. Animal power parts also were widely distributed among individuals across the burials of cemeteries and across communities, as one would expect of clan markers. Further, animal power parts were closely associated with sacred packs and clan affiliation among the central Algonquian tribes of the Historic Woodlands. Alternative possible clan markers in the form of animal-effigy platform pipes do not exhibit any of these above similarities to the Historic clan eponyms. They also were deposited primarily in only two ceremonial deposits, in great numbers in each, within the sites of Tremper and Mound City (Mills 1922a, 1922b), rather than distributed widely among individuals in their graves. Further, given their very great species diversity and appearance on smoking pipes useful in trancing, we infer that the animal effigies on platform pipes represented personal power animals, instead.

This chapter begins with a summary of the clans, phratries, dual divisions, and sodalities recorded for Historic Native American tribes of the Eastern Woodlands. Their names, relative sizes, degree of localization, functions, and hierarchical and reciprocal relationships are discussed. Commonalities and differences between clans of the Great Lakes–Riverine (largely central Algonquian) tribes and the Iroquoian tribes of the Northeast, and between these and tribes of the Southeast, are elucidated. Next, the question of what kinds of Ohio Hopewellian artifacts represented what kinds of animal-totemic divisions—clans, phratries, or dual divisions— is addressed. The identity of animal power parts as clan markers is established quantitatively and contextually. The remainder of the chapter reveals various sociological aspects of clanship in Ohio Hopewellian societies by examining the frequency and distribution of clan markers among graves and sites, and their associations with artifactual markers of other social roles. A total of 85 individuals buried with clan markers in 16 cemeteries is so analyzed.

At least nine common animal-totemic clans are identified here to have comprised Ohio

Hopewellian societies: Bear, Canine, Feline, Raptor, Raccoon, Elk, Beaver, Nonraptorial Bird, and Fox. Subdivisions of some of these animal-totem categories, and possible clans marked by rare artifacts that referenced the opossum, turtle, insect, snake, and fish, may have filled out the Hopewellian clan inventory. Significantly, the first nine clans listed were the most common clans among historic Woodlands tribes, equally for the Northeastern and Southeastern Woodlands, and the typical number of clans per tribe in the Woodlands ranged between 8 and 10, using the collapsed animal categories that we could track archaeologically.

Most Ohio Hopewellian clans appear to have been of similar size, although the Feline and, possibly, the Canine and Bear clans may have been larger. Clan composition seems to have varied somewhat among the Scioto valley, northeastern Ohio, and southwestern Ohio. Natural variations in clan population levels and frequencies of marriage exchange among communities are adequate to explain the partial localization of clans in the Scioto valley, as was the case historically in the Woodlands. It is unlikely that institutionalized geographic segregation of clans existed. Clans are examined for the key shamanic and nonshamanic roles of leadership or of other importance into which they were recruited, including war or hunt diviners, other kinds of diviners, healers, body processors/psychopomps, public ceremonial leaders, possible community-wide peace and war "chiefs" of a kind, and sodality members and high achievers. All of these key roles are found to have been distributed widely across clans rather than dominated by one or a few clans. However, different clans were favored for different key roles. This pattern resembles the only partially restrictive recruitment to critical social positions that was typical among the historic Woodland tribes, and broader, cross-cultural patterns (Winkelman 1992) in leadership recruitment in societies with multiple, specialized, powerful, shaman-like leaders. The Ohio Hopewellian clans that are identified to have frequently filled particular social roles often referenced animals with natural characteristics relevant to those roles and/or are the clans known ethnohistorically to sometimes have filled

those roles. Most Ohio Hopewellian clans differed only mildly in their wealth and degree of social networking through sodalities and their achievement within sodalities. However, these clan traits are strong predictors of clan success in attaining key social positions, in line with Sahlins's (1972) economic theory of the basis of social power and leadership in middle-range societies. Clan size is not found to correlate with clan social success, in contrast to Chagnon's (1979) demographic theory of the basis of power and leadership. No evidence is uncovered for phratry relationships among clans. Bear canines, which are common in Ohio Hopewellian graves and are a defining characteristic of Hopewell across the Eastern Woodlands, probably marked the work of Bear clanpersons in mortuary rites and suggest the possibly essential place of a bear-related mortuary role in the religious ideas and practices that comprised pan-regional Hopewell.

The headway made in this chapter on identifying Ohio Hopewellian clans and their characteristics depends fundamentally on our having taken a role perspective to interpreting the archaeological record (Carr, Chapter 1). A deliberate effort is made here to identify the specific social identities and roles indicated by various symbolic artifact classes rather than lumping such classes under the general rubric of "status markers" (e.g., Struever 1964:88; Struever and Houart 1972:49), "sociotechnic artifacts" (Binford 1962:219), or "symbols of authority" or "rank" or "office" (Braun 1979:67; Brown 1981:28; Hohmann 2001; Loendorf 2001; Peebles and Kus 1977:431), as has typically been done in mortuary studies. (For similar critiques see Bayman 2002:70, 74 and Pearson 1999:84.) Clan membership symbolized by animal power parts, particular clans marked by animal power parts of particular species, and the specific social roles taken by the members of individual clans and symbolized by other specific, socially significant, physically associated artifact classes, are each identified in this chapter. These insights into the identity and role-specific meanings that Ohio Hopewell peoples attributed to individual artifact classes form the foundation for our social analysis of clan identities, sizes, localization, roles, reciprocal relationships, wealth,

and relative social power and access to leadership positions.

In writing this chapter, Thomas made the ethnohistoric survey, and Thomas and Carr were responsible for identifying animal power parts as clan markers. The sections of the chapter that address the identity and nature of Ohio Hopewellian clans, based on archaeological patterns, were the work of primarily Carr and Keller.

HORIZONTAL DIFFERENTIATION IN THE HISTORIC EASTERN WOODLANDS

Any study of relatively recent prehistoric societies should begin with an examination of historically known descendant groups. Such ethnohistorically informed methods have the potential to illuminate much more of a prehistoric society's organization than archaeological analysis in isolation. The goal of this section is to ground the archaeological analysis that follows in the ethnohistoric record of the Eastern Woodlands, and to use ethnohistory to illuminate which aspects of the archaeological record are relevant to horizontal differentiation.

To accomplish this, a broad survey of historic Native American groups in the Eastern Woodlands was undertaken. The groups dated to the 19th Century and earlier. The survey identified large-scale patterning in horizontal differentiation at both the interregional and the regional scales. It was not exhaustive, nor did it focus intensively on any single tribe or group of tribes. The purpose, instead, was to gain an idea of the range of social variation, and patterning within that variation, present in the Historic period.

Wherever possible, six kinds of information were gathered for each of four types of horizontally differentiated groups: clans, phratries, sodalities, and dual divisions. The six kinds of information are (1) the number and names of each such type of group per tribe and, related, (2) how individuals were assigned to a particular group; (3) the relative sizes of each group, i.e., were some clans/phratries/etc. larger than others? (4) whether each group was localized to a particular settlement or dispersed across several; (5) the social functions of each group and the tasks

performed by its members; and (6) hierarchical relationships among groups of the same type. Although it was not always possible to collect this information for every tribe or type of group, enough information was available to accomplish the survey's goal.

Selection of the Ethnohistoric Sample

As the first step in the survey, it was necessary to determine which Eastern Woodland tribes were relevant. Ideally, only those tribes directly descendant from Ohio Hopewellian peoples would have been included. This was impossible, of course, because the identity of those tribes—if, indeed, they ever existed as singular entities—is unknown. The European colonization of the Ohio valley greatly disrupted indigenous societies, as had earlier Iroquois pushes westward (Hunter 1978). Geographical displacement, social mixing, and fissioning have irretrievably obscured the relationships between Historic tribes and prehistoric archaeological cultures.

Since the ideal case was not possible, a more extensive approach was adopted. In 1967, James B. Griffin published a map of the Eastern Woodlands indicating the geographical extent of the archaeological traditions in the United States that participated in the Hopewellian Interaction Sphere. These traditions can reasonably be expected to have shared certain aspects of social organization with the Ohio Hopewellian heartland, given certain close relationships in material culture and apparently in religion. Griffin's map was then superimposed over a map from *The National Atlas of the United States of America* (U.S. Geological Survey 1970:130–131), which shows the geographic extent of Historic tribes at the time of European settlement. Any Historic tribe located relatively close to one of Griffin's Hopewellian traditions was considered potentially informative for this study, yielding a list of 47 tribes. This broad selection of a sample of tribes is reasonable because it is known that significant geographic displacement of tribes occurred between the time of initial contact and the time of significant European settlement, and the atlas map only represents the end of that process. In addition, the selection of both Northeastern and Southeastern Woodland tribes seemed right

because work by Carr (1998, 2000a, 200b), on the art and religion of Ohio Hopewellian peoples, indicates their mixture of Northeastern and Southeastern Woodland forms and themes.

The relatively large list of tribes was then partitioned regionally. The map suggested a reasonably intuitive division: between the northernmost extent of the Copena area and the southernmost extent of the Crab Orchard area, one can draw an east–west line across the whole Eastern Woodlands without intersecting any Hopewellian traditions. A division between Northeastern and Southeastern tribes was made based on this dividing line. Also, those tribes sharing space with the Kansas City and Cooper Hopewellian traditions were eliminated; these cultures were peripheral enough to the Hopewell phenomenon, and many of the Siouan-speaking tribes peripheral enough to the Eastern Woodlands, that it seemed unlikely that they would provide much insight into the issue at hand. The result of these decisions is a list of 9 Southeastern tribes expected to be somewhat relevant to Ohio Hopewellian societies and 15 Northeastern tribes expected to be especially so.

Next, the Northeastern tribes were again partitioned on either side of a roughly north–south line, dividing the Historic Great Lakes–Riverine (largely Central Algonquian) tribes to the west from the Iroquoian tribes to the east. The Great Lakes–Riverine tribes shared space with both the Ohio and Illinois Hopewellian heartlands and the Crab Orchard and Trempeleau traditions. The Iroquoian tribes are more relevant to the New York Hopewellian tradition.

Ethnohistoric information was obtained for the Southeastern tribes, the Northeastern tribes, and the Great Lakes–Riverine tribes (as a particularly important subset of the Northeastern tribes), from several secondary sources on these tribes. The most important source was the *Handbook of North American Indians, Volume 15, Northeast* (Trigger 1978). The works of Swanton (1911, 1928, 1931, 1942, 1946) were the major sources for data on the Southeastern tribes. Other sources used were works by Callender (1962), Knight (1990a), and Hudson (1976), and as cited. Clear information on social organization could not be located for all 47 tribes, and where lacking, the

tribe was simply dropped from further analysis. Useful data were located for 24 of 47 tribes.

Survey of Horizontal Differentiation in the Eastern Woodlands

Clans

All the tribes investigated were of "middle-range" social complexity, with the Southeastern tribes being relatively more complex than those in the Northeast. Due to the nature of the ethnohistoric data, the most easily identifiable social segment among all these tribes was the clan. The clan was the most important social division among most tribes, with notable exceptions being the Natchez, Timucua, and Chitimacha, which had institutionalized noble classes (Knight 1990a; Swanton 1911). Clans in the Eastern Woodlands were almost always based on genealogical ties, but there were seldom mythical ancestors from which all members of a clan were descended (Knight 1990a:5).

Though founding ancestors were missing from most Woodlands tribes' concept of clan, virtually all clans were known by some eponym drawn from the natural world, primarily animals.[1] Table 8.1 lists which tribes named clans for which animals and/or other phenomena. This is important for the upcoming analysis of archaeological data, because animal symbols—both artistic representations and actual faunal material made into artifacts—are common in the Ohio Hopewellian archaeological record and species are usually identifiable. This allows a close comparison of important species between the historic and prehistoric groups (see below).

Names and Number of Clans in a Tribe. Determining the names and number of clans in a tribe is somewhat difficult. Clan structure seems to have been fairly fluid during the early Historic period, with the number and relationships of clans in almost constant flux. Each source describes a relevant tribe at a particular instant in its history. Where multiple ethnohistoric sources exist for the same tribe, they frequently disagree on the names and number of clans. Only infrequently have scholars speculated on how different "clan lists" can be articulated with one another.[2]

The various lists of clan eponyms were combined and collapsed into archaeologically recognizable groups (see below), and produced Table 8.1. Excluding outliers like the Creek, the average number of collapsed clan categories reported per tribe for the whole sample is about 10. Northeastern tribes average about 9 clan categories per tribe. The Great Lakes–Riverine tribes are closer to an average of 11 clan categories per tribe, and the Southeastern tribes (excluding the Creeks) also average about 11 clan categories per tribe. Because these numbers come from combining multiple, somewhat varying clan lists for single tribes, the numbers may be slightly elevated. At the same time, having used clan categories that were collapsed implies that the numbers may be somewhat low for estimating the actual number of clans per tribe. A good estimate of the typical number of clans per tribe in the Eastern Woodlands is probably 9 to 11, and the usual number of collapsed clan categories per tribe is probably 8 to 10.

Assignment Principles. Most tribes had fairly straightforward rules for determining one's clan by referring to the clans of parents. Great Lakes–Riverine clans were typically patrilineal (Callender 1987a:612); Iroquoian clans were matrilineal (Fenton 1978:309–310). Southeastern clans were typically matrilineal (Knight 1990a). The Caddo practiced a system where clan affiliation could be either patrilineal or matrilineal, depending on the relative ranks of the clans of the child's parents (Swanton 1942:164–165).

Size Differentials among Clans. There are few mentions of clan size in the ethnohistoric record. If one can argue from the absence of evidence, it would appear that clans were usually of roughly equivalent sizes. There are some hints, however, that the size of a clan cannot always be simply found by dividing the tribal population by the number of clans.

For example, Trowbridge (1939:16–17) lists 34 individual "ancient" clans among the Shawnee, only 12 of which were still "operating" when he gathered his information. It is possible that smaller clans merged with larger clans as their numbers dropped historically. Mooney

Table 8.1. Clans of Historic Tribes in the Eastern Woodlands

Clan	Shawnee	Miami	Illinois	Potawatomi	Fox	Sauk	Kickapoo	Menomini	Winnebago	Cherokee	Mohawk	Oneida	Onandaga	Cayuga	Seneca	Creek	Hitchiti	Alabama	Natchez (late)	Yuchi	Timucua	Caddo	Chitimacha	Chickasaw	Total	Northern total	Southern total	Great Lakes–Riverine
Birds																												
Raptor[a]	X	X		X	X	X	X	X	X		X		X	X	X	X	X	X	X	X		X		X	16	12	4	7
Nonraptorial Bird[a]	X	X		X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X		X	16	9	7	3
Waterfowl[a]	X	X	X	X	X	X	X	X							X	X	X	X		X					9	9	0	7
Turkey	X	X	X				X			X							X	X		X	X				7	3	4	3
Owl	X																		X			X		X	1	1	0	1
Small terrestrial animals																												
Raccoon	X	X		X			X									X	X		X	X		X		X	10	4	6	4
Snake[a]	X	X							X							X	X		X	X			X		7	2	5	1
Rabbit	X			X												X	X				X				5	2	3	2
Skunk[a]																X	X			X				X	4	0	4	0
Squirrel																X				X					2	0	2	0
Daddy Longlegs																X		X							2	0	2	0
Mole																X	X								2	0	2	0
Opossum																				X					1	0	1	0
Porcupine								X																	1	1	0	1
Mink																X									1	0	1	0
Aquatic animals																												
Beaver	X	X		X							X		X	X	X	X	X	X	X	X		X			13	7	6	3
Turtle	X	X	X	X							X	X	X	X	X		X			X				X	11	9	2	4
Fish[a]	X		X		X	X	X									X	X				X			X	8	4	4	3
Otter				X												X	X			X		X		X	5	1	4	1
Alligator																X	X	X				X		X	5	0	5	0

(Continued)

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Table 8.1. (*continued*)

Clan	Shawnee	Miami	Illinois	Potawatomi	Fox	Sauk	Kickapoo	Menomini	Winnebago	Cherokee	Mohawk	Oneida	Onondaga	Cayuga	Seneca	Creek	Hitchiti	Alabama	Natchez (late)	Yuchi	Timucua	Caddo	Chitimacha	Chickasaw	Total	Northern total	Southern total	Great Lakes–Riverine
Eel											X		X	X											3	3	0	0
Toad																X	X								2	0	2	0
Muskrat				X				X																	2	2	0	2
Large animals																												
Canine[a]	X	X		X	X	X	X	X	X		X	X	X	X	X	X	X	X		X	X	X	X		22	14	8	7
Bear[a]	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	21	13	8	7
Deer/Elk/Moose[a]	X		X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	20	13	7	7
Feline[a]	X	X			X											X	X	X	X	X	X	X	X	X	12	3	9	3
Buffalo	X			X			X		X							X									6	4	2	3
War/Man							X																		1	1	0	1
Plants/nature																												
Natural Forces[a]		X		X		X	X	X	X							X	X	X	X	X	X	X			13	6	7	5
Potato[a]		X				X		X								X	X								3	1	2	1
Tree	X						X																		2	2	0	2
Cane																X	X								2	0	2	0
Salt																X		X							2	0	2	0
Corn																X									1	0	1	0
Blackberry							X																		1	1	0	1
Hickory Nut																X									1	0	1	0
Spanish Moss																X									1	0	1	0
Other																												
Ball										X		X	X												3	3	0	0
Lye Drip																X	X								2	0	2	0
Spanish																X	X							X	2	0	2	0
Horse	X																								1	1	0	1
Angel				X																					1	1	0	1
Spirit									X																1	1	0	0

(*Continued*)

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Table 8.1. (*continued*)

Clan	Shawnee	Miami	Illinois	Potawatomi	Fox	Sauk	Kickapoo	Menomini	Winnebago	Cherokee	Mohawk	Oneida	Onandaga	Cayuga	Seneca	Creek	Hitchiti	Alabama	Natchez (late)	Yuchi	Timucua	Caddo	Chitimacha	Chickasaw	Total	Northern total	Southern total	Great Lakes–Riverine
																												Tribe
Fork			X																						1	1	0	0
Calumet											X														1	1	0	0
Medicine																X									1	0	1	0
Weevil/English																X									1	0	1	0
Arrow																X									1	0	1	0
Pubic Hair																X									1	0	1	0
Blue Paint										X															1	1	0	0
Red Paint										X															1	1	0	0
Long-Hair										X															1	1	0	0
Blind Savanna(?)										X															1	1	0	0
Chief																								X	1	0	1	0
Sucker				X																					1	1	0	1
Total	15	8	5	16	7	9	12	11	10	7	10	3	9	10	8	34	18	11	8	17	9	11	4	11	263	140	123	83

aMultiple ethnohistoric clan eponyms collapsed into one general category.

(1975:221) makes this process explicit for the Cherokee; he says that each of the seven Cherokee clans was formed by the fusion of two smaller clans.

Among the Natchez, Timucua, and Chitimacha, where the most important social distinction was between noble and common rather than among clans, the commoners appear to have been much more numerous than nobles (Knight 1990a; Swanton 1911). Insofar as nobility belonged to a particular clan (as among the Timucua), this would make noble clans much smaller. Unfortunately, we have no evidence of the clan structure of the Natchez while their nobility system was operating (Swanton 1911:108), and it is impossible to say whether the Great Sun's clan was small, or just the noble division of it.

It is unclear whether there were any significant differences among the three tribal regions in variation in clan sizes. It seems unlikely that the range of clan sizes varied greatly between the Northeast and the Southeast.

Localization of Clans. Nowhere in the Eastern Woodlands do clans appear to have been localized to specific villages (Knight 1990a:5–6). Among the Shawnee, each village was theoretically associated with one of the five large divisions of the tribe, but not necessarily one of the division's constituent clans (Callender 1978c:623). Residence among the rest of the Great Lakes–Riverine tribes—where data exist—seems to have been too fluid to have allowed the localization of clans in particular villages (Callender 1978a:616–617). In the Southeast, the Creeks had nonlocalized clans scattered among various towns (Swanton 1928:114–120). The historically recorded Natchez clan system seems to have been adopted from the Creek and Cherokee (Swanton 1911:107–108) and, so, was probably also nonlocalized. The pattern of nonlocalized clans found in the Eastern Woodlands accords with the same situation cross-culturally among tribal societies generally, in which clans serve as one kind of pan-tribal, non-residential-based sodality (Service 1971:102, 105–107).

Functions and Tasks of Clans. There is no shortage of statements assigning tasks or offices to particular clans among the Eastern Woodlands tribes. However, there is seldom independent confirmation of any particular statement, and it is difficult to guess whether such assignments were mandatory, traditional, or merely expedient.

Most tribes in the Eastern Woodlands had dual leadership, with peace chiefs and war chiefs. Among the Shawnee, War Chiefs were drawn from the Great Lynx clan, and the vanguard of a war party was drawn from the Wolf clan (Callender 1978c:627). Peace chiefs may have come from the Rabbit clan (Howard 1981:96). The Fox drew their peace chiefs from the Bear clan and their war chiefs from the Fox clan (Callender 1978b:640). The Sauk, Menominee, and Kickapoo paramount (peace?) chiefs were drawn from the Sturgeon, Bear, and Eagle clans, respectively (Callender 1978d:649; Callender et al. 1978:661; Spindler 1978:713). However, the Winnebago war chief was drawn from the Bear clan (Lurie 1978:693), so the bear was not always associated with peace in the Great Lakes region.

Beyond peace/war chiefships, other clan functions are less well known for the Great Lakes–Riverine tribes. The Winnebago Bear clan was responsible for organizing tribal hunts and policing the hunting camps, and the Hawk clan was particularly associated with warfare (Lurie 1978:693). Public speakers among the Kickapoo were drawn from the Raccoon clan (Callender et al. 1978:661).

In the Southeast, the situation is much less clear. Peace/war functions were distributed according to the White/Red dual divisions among the Creek (Swanton 1928:165, 249). Insofar as clans belonged to one of these divisions, they were also assigned peace or war duties. However, the assignment of particular clans to particular divisions varied widely from town to town (Swanton, pp.156–166).

Ranking of Clans. Occasionally, clans were ranked vertically with respect to their relative prestige. This is especially true in the more hierarchical tribes of the Southeast, where certain clans were recognized as "noble." Among the Caddo, however, clans seem to have been

ranked vertically without having an explicit noble/common split (Swanton 1942:164–165). Other evidence of ranking can be found in certain Northeastern tribes. For example, the Shawnee, Fox, and Kickapoo traditionally assigned chiefly roles to particular clans (Callender 1978b:640, 1978c:627; Callender et al. 1978:661; see above). Such assignments were apparently not obligatory, however, since there is ample evidence of chiefship falling to other clans.

There is no evidence that belonging to a clan that traditionally held a chiefship changed one's access to critical resources. The exceptions to this, of course, are those tribes that had institutionalized noble classes, but in these cases, differential access can be attributed to nobility, rather than clan affiliation per se.

Phratries and Sodalities

Phratries are relationships, often formalized, between two or more clans. Phratries were found in most Eastern Woodlands tribes. Sodalities are voluntary organizations not based on common descent or residence. They are evidenced in the ethnohistoric record also, but for neither of these groups is the historical record detailed enough to provide all five of the types of information gathered for clans. Nevertheless, some general observations about the nature of phratries and sodalities in the Eastern Woodlands can be made.

For phratries, the nature of the relationships between constituent clans varied greatly, from simple joking rivalries, as among recent Shawnee "name groups" (Callender 1978c:627), to highly elaborated ritual relationships, as among Creek phratries (Swanton 1928:122–123). Data on phratries are listed in Table 8.2.

If we can assume that the sample of historic phratries identified in the research is remotely representative, then phratries were much rarer than clans in the Eastern Woodlands. For a given number of clans in a tribe, there are many more possible phratry relationships (i.e., the number of pairwise combinations of clans), but Table 8.2 shows phratries for only eight tribes and an average of only five phratries per tribe. The average is roughly the same for tribes in the Northeast, Great Lakes–Riverine, and Southeastern geographic regions.

There are several reasons for the paucity of phratries. First, while phratries may have been important in certain contexts, they were seldom as salient in most contexts as one's clan membership. Given that the great majority of the primary documentation of Woodland tribes was not by trained anthropologists, it is not surprising that phratries were less often identified. Second, and related, the phratries listed in Table 8.2 are only those that were specifically labeled phratries by the secondary sources.[3] Finally, the relative sparsity of phratries may indicate that clan-to-clan relationships in the Eastern Woodlands were seldom formalized. This may be reflected in that the specific clans that constituted a phratry were remarkably variable across tribes. Additionally, among the Creek, phratry relationships varied even from town to town.

Phratry structure, from what information is available (Table 8.2), takes two forms. One projects the three-tiered structure of the Woodland cosmos and is found in the Northeastern Woodland tribes. The second does not correspond to the Woodland cosmos and is found primarily in the Southeastern tribes. Among the Shawnee, Potawatomi, and Winnebago tribes of the Northeast, each phratry includes only clans having eponyms that pertain to the same level of the universe—Upper, Middle, or Lower World—emphasizing the cohesiveness of clans within a phratry. There may be one or more phratries in a tribe that pertain to a give level of the cosmos.[4] In contrast, among the Timucua, Creek, and Chickasaw tribes of the Southeast, as well as the Menominee of the Northeast, phratries commonly include clans with eponyms pertinent to different levels of the universe, emphasizing clan complementarity within phratries.

Sodalities are especially relevant in the discussion of the Great Lakes–Riverine tribes, where ritual organizations were prominent in the historic period (Radin 1945). Central Algonquian ritual was centered on small "sacred pack" organizations (Callender 1962:26, 31, 65, 77)—sodalities formed for a variety of specialized reasons such as healing, sorcery, and warfare. Each sodality possessed a bundle of sacred objects, frequently thought to be connected to a patron spirit through whose power the group

Table 8.2. Phratries of Historic Tribes in the Eastern Woodlands

Tribe	Phratry name	Constituent clans	Comments
Shawnee	Turkey	Bird clans	All Shawnee phratries are late "name groups"
	Turtle	Aquatic animal clans	″
	Rounded Feet	Carnivorous animal clans	″
	Horse	Herbivorous animal clans	″
	Raccoon	Clans of animals who can scratch	″
	Rabbit	Rabbit	″ (single clan)
Potawatomi	Water	Fish, Sea, Sturgeon, Sucker, Beaver, Loon, Crane, Heron	
	Bird	Thunder, Bald Eagle, Golden Eagle, Crow	
	Buffalo	Buffalo, Elk, Moose, Deer	
	Wolf	Wolf, Fox, Coyote, Raccoon	
	Bear	Bear, Grizzly Bear, Rabbit, Jackrabbit	
Fox	Fish	Bass, Kenwamewok, Swan	
Winnebago	Thunderbird People	Thunder	Some of these identifications may be wrong
	Air Family	Eagle, Hawk, Pigeon	″
	Land People	Bear, Wolf, Buffalo, Deer, Elk	″
	Water Family	Water, Spirit, Fish, Snake	″
Menominee	1	"Unworthy Chief," Snapping Turtle, Porcupine	
	2	Big Sand, Bald Eagle, Black Bear	
	3	Wolf, Wave, Fox, Dog, Deer	
	4	Beaver, Muskrat	
	5	Crane, Spagpoke	
	6	Elk	
	7	Thunder, Golden Eagle, Crow	
Timucua	X	White Deer	(Single clan)
	X	Dirt	(Single clan)
	X	Fish, Rabbit, 2 untranslated	
	X	Buzzard, Fox, 7 untranslated	
	X	Bear, Bird, 1 untranslated, "others"	
	X	Panther, Partridge, Dog, 4 untranslated	
Creek[a]	X	Wind, Skunk, Fish, Rabbit, Otter, Turtle	All phratry associations varied from town to town
	X	Bear, Wolf, Salt, Fresh-Land, Spanish Moss, 1 untranslated	
	X	Bird, Medicine, Pubic Hair	
	X	Beaver	(Single clan)
	X	Alligator, Turkey, Daddy Longlegs, 1 untranslated	
	X	Raccoon, Eagle, Hickory Nut, Fox, Cane, Mink, Potato, 2 untranslated	
	X	Water Moccasin, Snake, Lye Drip, 1 untranslated	
	X	Deer, Mole, Toad, 2 untranslated	
	X	Panther, Wildcat, Arrow	
Chickasaw	Panther	Wildcat, Bird, Fish, Deer	More probably a dual division than a phratry
	Spanish	Raccoon, Spanish, Royal, Skunk, Squirrel, Alligator, Wolf, Blackbird	

[a]The phratries listed are the most common that Swanton (1928:122–123) could find but still represent a relative minority of actual reported phratries.

Table 8.3. Dual Organizations of Historic Tribes in the Eastern Woodlands

Dual organization	Shawnee	Miami	Illinois	Fox	Sauk	Kickapoo	Winnebago	Menominee
Group 1 names	X	Sky	Sky	White	White	White	Upper	Thunderers
Group 1 clans	Calaka, Mekoce	Raccoon, Turkey, Moon	?	X	X	Turkey, Tree, Water, Eagle, Berry	Hawk, Eagle, Thunder, Pigeon	?
Group 2 names	X	Earth	Earth	Black	Black	Black	Lower	Bears
Group 2 clans	Kispoko, Pekowi, Thawakila	Little Turtle, Snow Thaws	?	X	X	Raccoon, Bear, Wolf, Elk, Fox, Beaver	Snake, Deer, Bear, Wolf, Elk, Buffalo, Water, Fish, Spirit	?
True moieties?	No	?	?	No	No	Possibly	Yes	Probably
If no, why not?	Based on five tribal divisions, rather than clans			Not descent-based	Not descent-based	Modern not descent-based, but possibly ancient was		
Comment								

could achieve its goals (Callender 1962:31). Other sodalities in the Great Lakes region, such as the Midewiwin (Hoffman 1888, 1891; Radin 1945) and the more recent Dream Drum cult (Gill 1982:167–171; Ritzenthaler 1978:755–756; Skinner 1915, 1920; Spindler 1978:716; Venum 1982), drew membership more widely.

War parties were a kind of temporary sodality universal among the Eastern Woodlands tribes. Occasionally these groups were made formal, such as the warriors that served as police among the Potawatomi (Clifton 1978:732) or the warrior sodalities among the Yuchi (Swanton 1928:156). For the most part, however, sodalities are not especially visible in the ethnohistoric sources, probably for lack of their having been formalized, as with phratries.

Dual Organization

The last type of social organization one can identify in the ethnohistoric record, and relatively easily, is dual organization. This is the division of a tribe into two mutually exclusive parts, with a well-defined relationship between them. Moieties are a classic example, where the division serves primarily to organize marriage partners, and each half of the society forms an exogamous unit. Most of the tribes investigated here had some form of dual organization, but very few Eastern Woodlands tribes had true moieties.

Names and Commonality of Dual Divisions. Data on dual divisions in the Eastern Woodlands are listed in Table 8.3. Of 24 tribes for which adequate ethnohistoric information was gathered, 19 had some form of dual organizational principle. It seems likely that the other five—the Potawatomi, Hitchiti, Alabama, Yuchi, and Caddo—also had dual divisions, but the evidence of such is not as obvious in the ethnohistoric sources consulted. Swanton (1946:664) denied that the Cherokee had any form of dual organization, but Gilbert (1943:356–358) believed that the Red and White organizations of Cherokee towns constituted dual divisions that alternated in political ascendancy.

Assignment Principles. Dual divisions among the Northeastern tribes were determined by a variety of principles. Many tribes' dual divisions were not based strictly on descent. For example, the Fox and Sauk assigned children to one division or another based on the order

Onandaga	Other Iroquois	Creek	Choctaw	Cherokee	Chitimacha	Timucua	Natchez
Longhouse	Yes	White	Their Own People	White	Nobles	Nobles	Sons
Wolf, Turtle, Snipe, Beaver, Ball	?	Wind, Bear, Bird, Beaver	?	X	?	White Deer	Suns, Nobles, Honoreds
Mudhouse	Yes	People of a Different Speech	Chiefs	Red	Commoners	Commoners	Stinkards
Hawk, Deer, Eel, Bear	?	Raccoon, Water Moccasin, Potato, Alligator, Deer, Panther	?	X	?	Dirt, Fish, Vulture, 2 untranslated	Stinkards
?	No	No	Yes	No	No	No	No
	Not Exogamous	Not Exogamous		No evidence that these were groups of clans	Vertically ranked, not descent-based	Vertically ranked, not descent-based	Vertically ranked, not descent-based
Possibly recent development out of Longhouse religion		Clan divisions varied from town to town, these are most common divisions		Gilbert (1943:356) suggests that everyone was a member of one group or the other			

of their birth (Callender 1978b:640, 1978d:650). The Winnebago and Choctaw are the only tribes in Table 8.3 that clearly had exogamous moieties determined by descent (Lurie 1978:694; Swanton 1946:663). In the case of the Winnebago, this likely reflects their close historic and linguistic relationship to Plains tribes, where true moieties are more common.

In the Southeast, dual organizational principles are similarly broad. Creeks were affiliated with either the White division or the "People of a Different Speech" division based on a combination of their clan and their town. Particular clan eponyms were assigned to different divisions in different towns. The Timucua, Natchez, and Chitimacha assigned people to noble or common divisions based on complex formulae dependent on the relative ranks of their parents (Knight 1990a:11–13; Swanton 1911:107, 348–349). The Timucua's and Natchez's dual organizational principles were close to being true moieties, since the noble class in each was exogamous. The Chitimacha noble class was endogamous. However, Swanton (1911:107) notes that the Natchez commoner division must not have been exclusively exogamous, or the sizes of the noble and commoner groups would have been more equal. The same applies to the Timucua commoner division.[5]

Size Differentials among Dual Divisions. Dual divisions in Eastern Woodlands tribes seem generally to have been of roughly equal size. In the Northeastern tribes, especially among the Great Lakes–Riverine tribes, this was made certain by the method of assigning individuals to a particular division. For example, the Fox and Sauk assigned individuals based on their birth order, with children alternating between divisions (Callender 1978b:640, 1978d:650). The moieties of the Winnebago (Lurie 1978) would also have remained roughly the same size.

In the Southeast, however, the situation differs. Some tribes kept their divisions of roughly equal size. Among the Creek, clans might change divisional affiliation based on their local circumstance (Swanton 1928:162–164), and the Choctaw moieties would naturally have remained equal. Other tribes, however, did not maintain equal-sized dual divisions. As mentioned above, the Natchez commoner division was much larger than the noble division.

Localization of Dual Divisions. Dual divisions do not seem to have been strongly localized anywhere in the Eastern Woodlands. Among the Great Lakes–Riverine tribes, each division would have made up roughly half of each settlement. There was no clear statement about localization among Iroquoian divisions.

The situation is, again, more complicated in the Southeast. Although Creek towns were assigned to Red or White divisions, it is not entirely clear how these related to the People of a Different Speech and White divisions among clans. Certainly every town had representatives of both clan divisions. Both Hudson's (1976) and Swanton's (1928) discussions suggest that, although whole towns were assigned to a Red or White division, these assignments had little real relationship to the dual division of clans. Hudson (1976:235–236) states that towns could change affiliation based on the results of several sequential ball games. Swanton (1928:249) says that chiefs of the towns were chosen from the corresponding clans, but Hudson (1976:236) makes no mention of this practice.

Functions and Tasks of Dual Divisions. The primary function of the Winnebago and Choctaw moieties, and the Natchez and Timucua noble/common division, was to determine potential marriage partners (Knight 1990a; Lurie 1978; Swanton 1911, 1946). For the Winnebago and Choctaw, one could only marry outside one's own moiety. In the other two tribes, nobles could only marry commoners, but commoners seem to have been able to marry anyone outside of their own clan (Knight 1990a:9)

Organizing marriage partners is not the most common function of dual divisions in the Eastern Woodlands, however. Warfare and competition seem to be the primary purpose of dual divisions in most tribes. The two divisions of the Central Algonquian tribes served primarily to determine the team on which one was a member for ritual games (Callender 1978b:640; Callender et al. 1978:660). The exception to this is the Shawnee. One Shawnee dual division, consisting of three of the Shawnee's five supraclan divisions, possessed the paramount war chiefship and was probably responsible for warfare. The other dual division, comprised of the remaining two

supraclan divisions, possessed the paramount peace chiefship and was probably peaceful (Callender 1978c:627).

Creek dual divisions also organized ball games (Hudson 1976:237); however, the games were a surrogate for warfare between two towns, rather than within a single community. The opposition of White clans versus People of a Different Speech also took a role in overt warfare, though, with the White clans having been associated with peace, and People of a Different Speech with warfare (Swanton 1928:167). A similar distinction is true of the Cherokee White/Red divisions (Gilbert 1943:356–358).

The final major function of dual divisions in the Southeast was the distinction between ruler and ruled. Among those tribes with institutionalized noble classes, the noble/common split served to designate who was eligible to hold chiefly or other high-ranking offices (Knight 1990a; Swanton 1911:107–108). Commoners, of course, were not eligible for these positions, but their children might be.

Ranking of Dual Divisions. The hierarchical ranking of noble/common divisions is obvious, but whether other forms of dual division involved ranking is not nearly so clear. Theoretically, dual divisions, as a form of horizontal differentiation, should not be ranked. However, Knight (1990a:6) has suggested that all dual organization systems include an inherent aspect of vertical ranking.

Ranking of a weak sort between dual divisions can, indeed, be found in some Woodland tribes. For example, among the Sauk, each division had its own war chief, but the one from the Kishkoha division had higher prestige (Callender 1978d:650). Such distinctions, however, were not strong or consistent across multiple contexts, so they should not be taken as evidence of an institutionalized hierarchy.

IDENTIFYING CLAN MARKERS IN THE OHIO HOPEWELLIAN ARCHAEOLOGICAL RECORD

Of the four kinds of social divisions just described—clan, phratry, sodality, and dual organization—the one that has the most

ethnohistoric data available on it, and that seemed to us most likely to be visible in the Ohio Hopewellian archaeological record, is the clan. As mentioned above, Historic clans were typically named for animals. Animal representations and faunal artifacts are common in the Ohio Hopewellian record and, thus, seemed to be good candidates for symbols of clan affiliation.

To investigate and refine this hunch, a statistical comparison was undertaken between Historic clan eponyms and two different, frequent artifact classes that refer to animals. The two classes are platform pipes, which were sculpted into various animal species, and real or effigy animal power parts, which included claw, talon, teeth, and jaw forms. The platform pipes ($n \simeq$ 345) came from primarily two, nongrave ceremonial deposits, in the Tremper Mound and Mound City's Mound 8 (Mills 1922; Otto 1984, 1992). The animal power parts came from a broad range of graves ($n = 85$), ceremonial deposits ($n = 15$), and Hopewellian sites ($n = 16$) across Ohio (Figure 8.1, Table 8.4), as documented by Case and Carr (n.d.). Appendix 8.1 lists the provenices from which the data on animal power parts are taken.

Power parts were expected to be relatively good indicators of clan affiliation, given the historic relationships of animal power parts, sacred packs, and clan affiliation among the geographically close central Algonquian tribes (Callender 1962:26). Moreover, power parts were widely distributed among graves and sites, as clan members would have been. Finally, the number of species represented by animal power parts in the Ohio Hopewellian record—15—roughly corresponds to the numbers of clans per tribe found ethnohistorically in the Eastern Woodlands. Animal-effigy platform pipes, on the other hand, were suspected not to represent clans because their distribution was limited almost completely to the two ceremonial deposits, and the variety of species into which they were carved was very great. The large number of species that were depicted, and their expression in particular on pipes that could have been smoked to induce a trance and to communicate with the depicted species, suggested instead the representation of personal power animals within a shaman-like belief system. This interpretation accords with the historic Woodland and broader cross-cultural practice of inducing a trance through smoking or other means so that one's "dream soul" or "free soul" could travel to the spirit world, talk with and be guided by one's personal tutelary animal spirit, and sometimes merge with it to share in its power (von Gernet and Timmins 1987:39–40; Harner 1980:73–88; Hultkrantz 1953:375–376; cf. Grim 1983:144; Mails 1979:50–51). The fact that animal effigy platform pipes were sculpted so that the smoker had to look at the animal effigy face to face while smoking suggests the practice of communication and/or merging with an animal spirit guardian (e.g., Mails 1979:57). The interpretation that platform pipes depicted personal power animals also follows the logic of Woodland and broader North American aboriginal belief that personal tutelary spirits can reside in physical objects such as pipes and bundles (Carse 1949:37–38; von Gernet and Timmins 1987:40; see also Mails 1979:58, 1991:54). de Rios (1977:242) came to a similar conclusion, that the effigies on Ohio Hopewellian platform pipes depicted animal guardians within a shamanic belief system. In sum, we expected that the species represented by animal power parts would correspond more closely to Historic clan eponyms than would the species indicated by the pipes.

In order to make these comparisons, the level of detail of species used for clan names in the ethnohistoric record had to be matched to the grain of species identification for the artifacts of concern. Ethnohistoric sources often report very specific clan eponyms, such as White-Tailed Deer, Pigeon Hawk, and Ringed Perch. Clan eponyms of this specificity could be compared to the species carved on the platform pipes directly and easily, because the carvings are very realistic and their species have been identified in detail. In contrast, effigy and real animal power parts are often identified more vaguely in the archaeological literature. A comparision of their animal categories to ethnohistoric clan eponyms required the collapsing of some ethnohistoric clan names into broader animal categories, such as Deer/Elk/Moose, Raptor, Nonraptorial Bird, and Fish. Appendix 8.2 shows how the collapsing was accomplished. The resulting classes of clan eponyms were used in the quantitative comparison of clan names to animal power
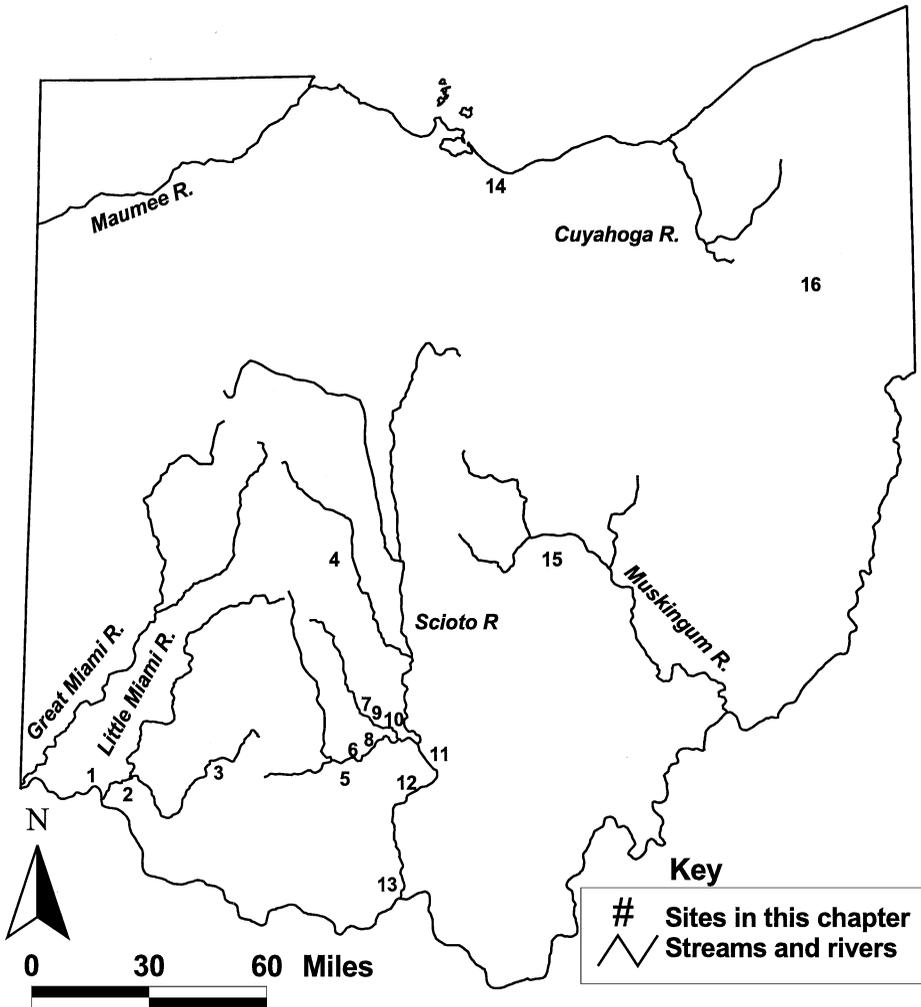
Figure 8.1. Locations of sites used in this study: (1) West Mound, (2) Turner, (3) Boyles' Farm, (4) Rutledge, (5) Rockhold, (6) Seip, (7) Ater, (8) Bourneville, (9) Hopewell, (10) Mound City, (11) Liberty, (12) McKenzie, (13) Tremper, (14) Esch, (15) Hazlett, and (16) North Benton.

parts, as well as in all subsequent archaeological studies of the nature of Ohio Hopewellian clans. Table 8.1 identifies which tribes had examples of which collapsed clan eponyms, with some tribes having had more than one clan subsumed under a broader class.[6]

Correspondences between clan eponyms documented ethnohistorically throughout the Eastern Woodlands and the species represented by animal power parts and on platform pipes were measured using a Jaccard coefficient of similarity and Kendall's tau-*b* statistic of rank correlation. The Jaccard analysis involved tabulating

the number of species shared between the clan eponyms and the platform pipes, compared to the number not shared, and likewise, the number of species shared between the clan eponyms and the animal power parts, compared to the number not shared, excluding negative matches. The analysis of platform pipes used the detailed list of clan eponyms, while the analysis of the animal power parts used the collapsed list. The results are shown in Table 8.5. Expectations were met. The Jaccard similarity of the animal species represented by Ohio Hopewellian power parts to the eponyms is .433, that is, 43%

Table 8.4. Burials and Ceremonial Deposits with Clan Items in Regions with the Ohio Hopewellian Area

Region	Site	Burials	Caches	Total	Burials and caches with clan Items	Region total (burials + caches for all sites)	Region clan total (clan burials + clan caches for all sites)
1. Northeast Ohio	Esch	49	1	50	1		
	North Benton	14	2	16	1	66	2
2. Central Muskingum	Hazlett	2	0	2	1		
	Rutledge	4	1	5	0	7	1
3. South–central Scioto	Liberty	7	3	10	1		
	McKenzie	10	1	11	1		
	Mound City	106	8	114	15		
	Ater	60	1	61	4		
	Hopewell	214	18	232	44		
	Bourneville	11	0	11	1		
	Rockhold	5	1	6	1		
	Seip	125	4	129	19		
	West	10	0	10	0	584	80
4. Southern Scioto	Tremper	8	2	10	2	10	2
5. Southwest Ohio	Boyle's Farm	1	0	1	0		
	Turner	91	12	103	9	104	9
Total		717	54	771	100		

correspondence. The similarity of animal species on the Ohio Hopewellian platform pipes to all Woodlands clan eponyms is only .328, that is, 32% correspondence.

Although animal power parts show greater similarity in their species representation to historic clan eponyms than do animal-effigy platform pipes, the 43% level of similarity of power part species to clan eponyms is not impressive, itself. This situation reflects the fact that the nine species of power parts in the test are compared to a much larger number of clan eponyms, but unfairly, only nine at most of the eponyms can logically match. When analysis is restricted to the eight most common clan eponyms and all eponyms tied for ninth place, the Jaccard similarity between power part species and clan eponyms rises to .8, that is, 80% correspondence—a healthy match. The similarity between platform pipe species and clan eponyms, for the same adjustment, remains low, at .47, that is, only 47% correspondence.

The results of the Jaccard test indicate the shared presence of particular animal species in the lists of clan eponyms, pipe sculptures, and power parts, but not the relative commonality of the species in the lists. The latter was also desirable to assess. If, for example, the most common clan eponyms were among the least common animal species represented on platform pipes or by power parts, this would be a strong indicator that the animal species depicted on pipes or by power parts were not clan markers, even though a strong Jaccard coefficient might be calculated. Kendall's tau-*b* was used to reveal such situations, by measuring correspondences in the rank ordering of species in the three lists.

In order to calculate the tau-*b* statistic, clan eponyms were ranked according to the number of Woodland tribes in which they were found historically. Both the full and the collapsed lists of clan eponyms were ranked, to be used in the analyses of the pipes and power parts, respectively. Species depicted on platform pipes were ranked by their frequency in the collections of pipes from Tremper and Mound City ceremonial deposits. Species represented by power parts were ranked by the number of individual deposits (e.g., individual burials, multiple burials, or altars) that contained them. A deposit containing multiple

Table 8.5. Measures Comparing Species of Clan Eponyms of Historic Eastern Woodlands Tribes to Species Represented by Certain Ohio Hopewellian Artifacts

| | Jaccard similarity coefficient considering . . . | | | | Kendall's tau-b value considering the most common Historic clans | | Number of species referenced in Kendall's tau-b calculations[b] | |
| | All Historic clans | | Most common Historic clans[a] | | | | | |
Tribes	Real and effigy power parts	Tremper and Mound City platform pipes	Real and effigy power parts	Tremper and Mound City platform pipes	Real and effigy power parts	Tremper and Mound City platform pipes	Real and effigy power parts	Tremper and Mound City platform pipes
All	.43	.33	.80	.47	.43	.35	13	19
Northeastern	.52	(not calculated)	.54	.50	.22	.16	12	15
Southeastern	.48	(not calculated)	.64	.38	.48	.33	12	15
Great Lakes–Riverine	.55	(not calculated)	.57	.52	.22	.15	12	15

[a]The eight most common Historic clans and all clans tied for ninth place.
[b]Each pairwise comparison eliminates only those species missing in at least one of the two samples compared.

examples of a species contributed only a count of one.[7]

Table 8.5 compares the species rankings for clan eponyms, platform pipes, and power parts, over the whole of the Woodlands and in the Northeastern, Great Lakes–Riverine, and Southeastern cultural regions. In each case, the animal species represented by power parts are more similar in their rankings to those of the clan eponyms than are the species carved on the platform pipes. The tau-*b* statistics corroborate the results of the Jaccard calculations.

From the results of both tests, we conclude that real and effigy animal power parts in Ohio Hopewellian sites were markers of clan affiliation and symbolized clan eponyms. The animals depicted on the platform pipes may sometimes have symbolized clan affiliation, but often had other meanings. Thus, in our study of Hopewellian clans, we used the species or broader taxonomic category of animal power parts to infer clan eponym and affiliation.

This phase of study has allowed an informed choice of which kinds of archaeological items are most likely to have marked Ohio Hopewellian clans. The remainder of this chapter is devoted to exploring, within Ohio Hopewellian sites, the depositional relationships that occur among animal power parts or other artistic representations that indicated clan membership, in an attempt to understand the intricacies of Ohio Hopewellian clan organization.

CLAN ORGANIZATION OF OHIO HOPEWELLIAN SOCIETIES

Archaeological Data Used

The nature and relationships of animal-totemic clans in the Ohio Hopewellian area are explored here with artifacts taken to be markers of clan affiliation and found within burials and ceremonial deposits throughout the area. The items include animal power parts—claws, talons, teeth, and jaws—real and effigy, as well as much less frequent artistic representations of animals, especially carvings, all of which were identified to species or a broader category. Animals depicted on platform pipes, however, are not included in the study. Copper headplates with representations of animal power parts, which are rare, were also excluded from study, for several solid reasons.[8]

The Ohio Hopewellian area was initially divided into 10 regions based on drainage and cultural differences and having a total of 35 sites, 854 buried individuals, and 64 ceremonial deposits, as inventoried by Case and Carr (n.d.). Excluding sites that lacked clan markers and combining regions that had few burials or ceremonial deposits with clan markers resulted in five regions containing 16 sites, 717 individuals, and 54 ceremonial deposits (Table 8.4).[9]

Animal-totemic clan markers were found in both burials and ceremonial deposits. Both suggest the presence, and/or the participation in ceremonies, of particular clans in the regions of study and both were used to make this determination. However, to explore clan affiliation as a social role and other social correlates of clan affiliation (e.g., prestige, leadership recruitment) required the tracking of individuals and the manner in which their various social characteristics were combined or segregated in varying or patterned ways. Ceremonial deposits that contained a conglomerate of animal tokens from multiple individuals and sources do not allow this fine-grained work and, thus, were excluded from such analyses. In addition, some large deposits probably represent the offerings or disposal of materials from persons beyond the local community (Carr et al., Chapter 13) and were deemed inappropriate for addressing issues such as the regional geographic distribution and community localization of clans. Thus, detailed analyses concerned with more than the specific clans present in a region were focused on only burials with clan markers, leaving 85 buried individuals from 16 sites for study.[10]

The sample of buried individuals for whom probable clan affiliation is known is only about 12% of all documented interred individuals (Table 8.6). If the composition, organization, and social functions of Ohio Hopewellian clans are to be reliably reconstructed, it is essential to understand which 12% of the total population these individuals comprise and the ways in which the sample is and is not representative. Four kinds

of data are helpful in this regard and suggest that burial with clan markers possibly was reserved generally for individuals of moderate to high importance. First is the percentage, itself—12%—which is about the proportion of local kin heads and community-wide leaders and specialists of various kinds one might expect to find in a society where leadership was decentralized (Carr and Case, Chapter 5). Many of those buried with clan markers could easily have been the heads of the extended households that comprised a community and that probably have an analog in the small habitations mapped by Pacheco (1993, 1997) within a small drainage in the Newark earthwork community. Second, a high proportion of the burials having clan markers (ca. 70%) did, in fact, also hold markers of other, wider-scale positions of leadership or importance (see Table 8.12, below). Third, almost all of the buried individuals marked with animal power parts and for whom their age and/or sex are known were adult males (27 adult, 3 less than 20 years; 13 males, 2 females). Finally, across most of the five regions of Ohio examined here, the proportion of burials with clan markers remains fairly stable (Table 8.6), around the 12% range, as one would expect for a series of similarly organized, dispersed communities comprised of extended households, household heads, and wider-scale leaders marked specially at burial.

A sample of clanpersons of this nature, if we are right about its characteristics, places us in a good position to assess the eponyms of the animal-totemic clans that comprised Ohio Hopewellian societies, the differential distribution of socially important roles among clans, their

varying prestige and wealth, variation in clan eponyms present across geographic regions, and whether or not different clans were localized in different communities. The topic of the relative sizes of clans is more difficult to address with the extant sample because it is a selection of elite from each clan and persons of specific important roles, rather than a proportionate sampling of each clan. Finally, clans with other than animal eponyms would not be exposed by the archaeological indicators of clanship used, although such clans are infrequent among the historic Woodland tribes (see Table 8.1 and Appendix 8.2).

Clan Names in Ohio Hopewellian Societies

Fifteen possible animal-totemic clans are marked materially in the burials and ceremonial deposits of the Ohio Hopewellian area, by real or effigy power parts or by other artistic representations (Table 8.7). Of these fifteen, nine are most certain, having been marked frequently in burials and sites, and with animal power parts shown above to have probably indicated clan affiliation. The nine clans are Bear, Canine, Feline, Raptor, Raccoon, Elk, Beaver, (nonraptorial) Bird, and Fox.

Opossum may have represented an additional, small clan. Opossum teeth occurred in two regions, in ceremonial caches at the Seip and Turner sites. However, because opossum parts were not found in burials, this possible clan could not be included in subsequent, more detailed sociological analyses. Snake, Turtle, Fish, and Insect were represented only by carvings, not with power parts, were lone occurrences, and were found only in caches. It is thus questionable whether these carvings indicate clans. Only three duck representations were found: one a ceramic pot engraved with a broad-billed duck, paired with a pot engraved with a raptor, and two copper cutouts of a duck's webbed foot with a bird's head appended and associated spatially with a raptor copper plate.[11] These associations are more easily interpreted as symbolism contrasting Upper and Lower World animals (Carr 1998; Penney 1983, 1985) than as duck and raptor clan representations and their relationship, given the

Table 8.6. Ratio of Burials with Clan Markers to All Burials in Five Ohio Hopewellian Regions[a]

Region	No. of burials	No. of burials with clan markers	Ratio
1. Northeast	63	1	0.02
2. Central Muskingum	6	1	0.17
3. South–central Scioto	548	75	0.14
4. Southern Scioto	8	1	0.12
5. Southwest Ohio	92	8	0.09

[a]Regions with no clan-marked burials are eliminated.

Table 8.7. Animal-Totemic Clans in the Ohio Hopewellian Area and Their Artifactual Markers

Clan	Markers
Bear	Claw, effigy claw (bone), drilled tooth, tooth with pearl, effigy tooth (bone, silver, mica, copper), teeth, effigy paw (copper), jaw, carving
Canine	Jaw, drilled tooth, claw, teeth
Feline	Jaw, teeth, effigy tooth, drilled tooth
Raptor	Claw, effigy claw (mica, copper, bone), carving
Raccoon	Drilled tooth, teeth, penis bone
Elk	Teeth, drilled tooth, effigy tooth
Beaver	Teeth, jaw
Nonraptorial Bird	Carving
Fox	Jaw, drilled tooth
Opossum	Drilled tooth
Snake	Carving
Turtle	Carving
Fish	Carving
Insect	Carving
Duck/Eagle	Carving
Bird/Bear	Carving

lack of any other duck markers by themselves in Ohio Hopewellian graves and ceremonial deposits.

Deer was a very common clan eponym in the historic Woodland tribes (Table 8.1) and might be guessed to have been a clan in Ohio Hopewellian societies. However, firm material evidence is missing. Deer antler tines and teeth, as potentially recognized power part of the species, are not found in Ohio Hopewellian graves or other ceremonial deposits. Astragali, which could have symbolized the swiftness of deer and their kicking when fighting, are found only in one ceremonial deposit and in bulk in Ohio, rather than spread across graves and sites like other animal power parts. In their infrequent occurrence, deer power parts are much out of accord with the popularity of the Deer clan in the historic Woodlands. Six copper deer antler headdresses and one deer antler effigy cutout are known from four graves and one ceremonial deposit in Ohio,[12] but their rarity as well as contextual evidence suggests fairly strongly that animal-effigy

headplates were not clan markers (see Note 8). We thus omit Deer from the list of firmly known Ohio Hopewellian clans at this time.

In sum, there is good evidence for at least nine clans in Ohio Hopewellian societies, with a possible tenth. These numbers agree well with the Historic Woodland pattern discussed above, which was 8 to 10 collapsed clan categories, or 9 to 11 actual clans, per tribe.

Hopewellian and Historic Woodland Clan Names Compared

The eponyms proposed for the Ohio Hopewell clans also agree well in their presence–absence and commonality with those known from the Historic period in the Eastern Woodlands (Table 8.8, Note 7). Of the nine clearly identified Ohio Hopewellian clans, only the Fox clan is not represented among the common clans of the Historic Northeastern, Great Lakes–Riverine, and Southeastern tribes; and Fox was the least common clan among Ohio Hopewellian societies. Six of the eight most common Great Lakes–Riverine clans, six of the top eight Northeastern clans, and six of the most frequent eight Southeastern clans are found among the most common eight Ohio Hopewellian clans (i.e., excluding Fox). The one significant difference between Ohio Hopewellian societies and the Historic tribes of the Woodlands is the commonality of the Feline clan (ranked second) among Hopewellian peoples and its infrequency among Historic tribes.

Ohio Hopewellian clans do not clearly resemble the clans of Historic Northeastern tribes more than the clans of Historic Southeastern tribes, or vice versa. In part, this is because the clans of the two areas are not strongly distinct; Historic Northeastern and Southeastern tribes shared three of their four most common clans (Table 8.8). Ohio Hopewellian societies, in excluding snake, alligator, turkey, skunk, and otter from their clan eponyms, are similar to the tribes of the Northeast and distinct from those of the Southeast. Ohio Hopewellian societies are also similar to the Northeastern tribes in having raptor as a common clan eponym, which is less frequent among Southeastern tribes. Also, Ohio Hopewellian societies share three of their four most common clan eponyms with the

Table 8.8. Comparison of Proposed Ohio Hopewellian Clan Eponyms to Clan Eponyms of the Historic Eastern Woodlands[a]

No. of tribes	Clan
Northeast	
14	Canine
13	Bear
13	Deer/Elk/Moose
12	Raptor
9	Nonraptorial Bird
9	Waterfowl
9	Turtle
7	Beaver
4	Raccoon
4	Fish
Southeast	
8	Canine
8	Bear
7	Deer/Elk/Moose
7	Nonraptorial Bird
6	Raccoon
6	Beaver
5	Snake
5	Alligator
4	Turkey
4	Skunk
4	Fish
4	Otter
4	Raptor
Great Lakes–Riverine	
7	Canine
7	Bear
7	Deer/Elk/Moose
7	Raptor
7	Waterfowl
4	Raccoon
4	Turtle
3	Nonraptorial Bird
3	Turkey
3	Beaver
3	Fish
Ohio Hopewell	
68	Bear
20	Canine
15	Feline
11	Raptor
8	Raccoon
6	Elk
5	Beaver
4	Nonraptorial Bird
2	Fox

[a] Historic eponyms are listed in descending order of prevalence. The top nine eponyms, along with all those tying for tenth, are listed. See Note 7 for qualifications regarding the comparability of the historic and prehistoric data.

four most common eponyms of the Northeastern tribes, but only two with the four most common eponyms of the Southeastern tribes. At the same time, comparing the presence–absence and rank-order commonality of Hopewellian clan representations to Historic clan eponyms for each of the Historic Northeastern Woodlands, Historic Great Lakes–Riverine, and Historic Southeastern Woodlands cases, using the Jaccard similarity coefficient and Kendall's *tau-b* (Table 8.5), indicates Ohio Hopewellian clans to have corresponded little more to historic Northeastern clans than to Southeastern clans, or even the reverse—more so to Southeastern clans. A Jaccard similarity between species of Ohio Hopewellian power parts and all Historic clan eponyms is marginally higher for the Great Lakes–Riverine tribes and all Northeastern tribes (54% and 52% correspondence, respectively) than the Southeastern tribes (48% correspondence). Considering only the eight most common Historic clans and all clans tied for ninth place in each of the regions, which eliminates the effect of most impossible matches (see above), the species of Ohio Hopewellian power parts more closely resembles the eponyms of Southeastern clans (64% correspondence) than those of the Great Lakes–Riverine or all Northeastern tribes (57% and 54% correspondence, respectively). This pattern holds more strongly using Kendall's *tau-b*, again considering only the most common historic clans: the correlation is about twice as high between Ohio Hopewellian-represented clans and Southeastern clan eponyms (.484) as between Ohio Hopewellian-represented clans and Great Lakes–Riverine or all Northeastern clan eponyms (.223 and .217, respectively).

The similarity of clan eponyms among Ohio Hopewellian societies to those of both the Historic Northeastern and the Historic Southeastern tribes in the various manners just described is somewhat surprising. Previous researchers have suggested that of the Historic Woodland tribes, the central Algonquian tribes were probably most closely related culturally to Ohio Hopewellian peoples (Callender 1979). A concomitant of this finding is that the form and complexity of Ohio Hopewellian societies may have resulted in part

Table 8.9. Percentage of Burials with Animal-Totemic Clan Representations in the Ohio Hopewellian Area and Its Specific Regions

Clan	All burials ($n = 85$)	%	Region 1: Northeast Ohio ($n = 1$)	Region 2: Muskingum ($n = 1$)	Regions 3 & 4: South–central and southern Scioto ($n = 75$)	Region 5: Southwest Ohio ($n = 8$)
Bear	58	68	1	0	50	7
Canine	17	20	0	1	15	1
Feline	13	15	0	0	13	0
Raptor	9	11	0	0	9	0
Raccoon	7	8	0	0	7	0
Elk	5	6	0	0	5	0
Beaver	4	5	1	0	3	0
Nonraptorial Bird	3	4	0	0	3	0
Fox	2	2	0	0	2	0
Total	118	—	2	1	107	8

from Ohio–Southeastern contact and emulation during the Middle Woodland period more than has previously been supposed.

The Relative Sizes of Clans in Ohio Hopewellian Societies

Here, we attempt to gain some insight into the relative sizes of Ohio Hopewellian clans from the counts of individuals buried with clan markers. Factors other than clan size in life affect clan marker counts and obscure the size of some clans, but a general picture of the relative sizes of most clans can be constructed.

Burials with bear clan markers are far more common than burials with any other kind of clan marker. Bear power parts occur in 68% of all burials with defined clan symbols ($n = 58$ of 85; Table 8.9). In addition, bear clan markers are found in burials in every region examined except one, and that region is sparsely represented by only one burial with a clan marker.

The overwhelming commonality of burials with bear clan markers could indicate the large membership of a bear clan and a great imbalance in the proportions of various clans in Ohio Hopewellian life. However, two situations would suggest otherwise. First, although such imbalances probably occurred among the colonially disturbed societies of the Woodlands (e.g., Callender 1978a:613–615, 1978c:627; Fenton

1978:312; Landy 1978:523; Swanton 1928:122–123), they are more than one would expect in a demographically healthy society with a functioning clan system. Second, bear power parts co-occur frequently in burials with other animal power parts, which one would not expect for symbols that marked only clanship.

An alternative interpretation that is backed empirically in several ways, and that we find more reasonable, is that the presence of a bear power part in a burial not only indicates the buried person's clan membership, but also may reflect the essential participation of a Bear clan in funeral ceremonies. Directly supporting this idea is the Wray figurine (Dragoo and Wray 1964) from the Newark site. It depicts a man in a bearskin costume, or with a bear spirit behind him, with a decapitated head on his lap (see also Carr, Chapter 5). Thus, a bear-associated individual and the realm of death are linked. Also, a natural symbolic tie between the bear and death is found in the bear's habit of hibernating (i.e., apparently dying) in winter (A. Goldberg, personal communication). Further, among the historic Algonquian Menominee, Chippewa, and Cree, at least, the bear was identified with the Lower World because the bear hibernates in dens within the earth (Turff and Carr, Chapter 20; Gill and Sullivan 1992:23). In turn, the Lower World was connected with death, in two ways. The Chippewa believed that a journey through

the Lower World was necessary to reach the Land of the Dead (Barnouw 1977:18–19, 136), and the Iroquois believed it to be the Land of the Dead, itself (Barbeau 1914:290–294). (One or more of these natural associations is implied by the native Western Siberian notion of the bear as a mediator between the living and the dead [Holliman 2001:127]). Finally, the idea that the high frequency of Bear clan markers in Ohio Hopewellian burials reflects the role of Bear clan members in mortuary ceremonialism is indicated in burials with multiple clan animal symbols. In such graves, Bear clan markers co-occur with other clan markers much more often than do any other clan markers.

A third possibility, that bear power parts symbolized a sodality involved in death rites rather than a bear clan involved in such rites, is considered and rejected below (see Leadership Roles Recruited from Specific Clans and Note 21).

The most common clans after the Bear clan are, in order, Canine, Feline, Raptor, Raccoon, Elk, Beaver, Nonraptorial Bird, and Fox (Table 8.9). The five least common clans (Raccoon through Fox) are all represented fairly evenly in the sample, from 4% to 13% of burials with clan markers, excluding Bear. In contrast, the Canine and Feline clans are indicated for 32.1% and 24.5%, respectively, of the burials with clan markers, excluding Bear—from five to eight times more frequent than burials with Nonraptorial Bird and Fox clan markers, and three to four times more frequent than burials with Elk and Beaver clan markers. It is possible that these differentials represent real differences in the sizes of the clans in life. Another possibility, which is not mutually exclusive of the first, is that the different frequencies of burials with clan markers reflect the varying access of persons from different clans to mound burial. The age–sex distributions of the individuals buried in some of the mounds examined here indicate that not all members of some Ohio Hopewellian communities had access to burial within those mounds (see Carr, Chapter 7); perhaps discrimination by clan was an aspect of this selective practice. Finally, the disproportionate commonality of the Canine and Feline clans may also reflect some preference for

Canine and Feline clan members to have played certain roles in mortuary ritual and to have left their clan markers in the graves of others, as we have proposed in the case of Bear clan markers. A couple of forms of evidence that the Canine clan had a hand in psychopomp work, like the Bear clan, are presented below, but no analogous support can be found for the Feline clan.

In short, the relative sizes of all the indicated Ohio Hopewellian clans cannot yet be firmly estimated because too many factors are known or suspected to have contributed to the mortuary record of clan markers. However, as a best guess, it would appear that the Raptor, Raccoon, Elk, Beaver, Nonraptorial Bird, and Fox clans were roughly similar in size and were less common than at least the Feline clan, and perhaps the Canine and Bear clans as well. We could not find analogous patterning for the Historic Woodland tribes or, for that matter, evidence that any Historic Woodland clans with particular eponyms were often larger or smaller; the ethnohistoric record is vague about size differentials among clans of a tribe.

The Geographic Distribution of Clans in Ohio Hopewellian Societies

Large differences across the regions of Ohio in the numbers of known burials and ceremonial deposits with clan markers prohibit a fine-grained study of the distribution of clan eponyms over the state. However, within the limits of the sample, there is no evidence for substantial interregional differences in clan eponyms. All of the clan eponyms indicated in sparsely known northeastern Ohio, the central Muskingum drainage, and southwestern Ohio are found in the well documented south–central and southern Scioto valley, using data from both burials and ceremonial deposits (Table 8.10). Nearly all of the clans evidenced in the first three, sparsely sampled regions are among the most common clans found in the well-sampled Scioto valley—as one would expect on a probabilistic basis if clan popularity were similar across regions (Tables 8.9 and 8.10).

Two distinctions may be culturally significant. First is the absence of markers of the Raptor clan in Hopewellian Southwestern Ohio.

Table 8.10. Animal-Totemic Clans Represented in Burials and Ceremonial Deposits in Regions within the Ohio Hopewellian Area

Totemic clan	Region 1: Northeast Ohio	Region 2: Central Muskingum	Regions 3 & 4: South–central and southern Scioto	Region 5: Southwest Ohio
Bear	X		X	X
Canine		X	X	X
Feline			X	X
Raptor			X	
Raccoon			X	X
Elk			X	
Beaver	X		X	
Nonraptorial Bird	X		X	X
Fox			X	X
Number of Burials with clan markers	1	1	75	8
Number of ceremonial deposits with clan markers	1	0	13	1

This situation may indicate the cultural ties of this Hopewellian tradition to those in the Southeast, where the Raptor clan was very uncommon among the Historic tribes. Such a connection is reasonable, in light of the Southeastern cast of Hopewellian assemblages in southwestern Ohio and southwestern Indiana in their ceramics, mound architecture, and settlement within ceremonial centers (Ruby et al., Chapter 4; Keller and Carr, Chapter 11).

The second possibly significant distinction is between northeastern Ohio and the south–central and southern Scioto valley. On a probabilistic basis, one would expect that the clan eponyms indicated for sparsely sampled northeastern Ohio would be the most populous ones. If the relative commonality of clans in northeastern Ohio was similar to that in the Scioto valley, then the clans evidenced for northeastern Ohio should be among the most common of clans in the Scioto valley. Instead, two of the rarer Scioto valley clans—Beaver and Nonraptorial Bird— are documented for northeastern Ohio. This situation may reflect the distinctive commonality of the Beaver and Nonraptorial Bird clans in northeastern Ohio.

Northeastern Ohio also differs from the Scioto valley area and the state-wide pattern generally in having only 2% of its burials marked with clan symbols. In the south–central and

southern Scioto valley, the central Muskingum valley, and southwestern Ohio, 9% to 17% of the burials there have clan symbols (Table 8.6). This difference may reflect the peripheral location of northeastern Ohio societies relative to those in the Scioto valley core region of Hopewellian development and the known, sparse participation of northeastern Ohio societies in Hopewellian ceremonialism. (Drainage and routes of communication in northeastern Ohio are north to Lake Erie and to the east rather than to southern Ohio and the Ohio river, where Hopewellian life flourished.) This explanation would hold true if Hopewellian ceremonies were orchestrated through clan lines and if clan affiliation were therefore particularly important to symbolize in the Scioto area but not northeastern Ohio.

Localization of Clans in Scioto Hopewellian Societies

Ohio Hopewellian clans were not expected to be localized to particular communities because no evidence of localization was found among Historic tribes of the Eastern Woodlands, or is found more broadly among tribes cross-culturally (see Localization of Clans, above). To explore the Ohio Hopewellian situation empirically required us to be able to define individual communities within the mortuary record for Ohio and then to

Table 8.11. Clan Markers Present in Burial Clusters under the Seip–Pricer Mound and Hopewell Mound 25[a]

Mound/cluster	Corresponding community (Carr, Chap. 7)	Canine	Feline	Raptor	Raccoon	Beaver	Bird
Seip West	North Fork of Paint Creek	1	3	1	0	1	0
Seip Middle	Main valley of Paint Creek	0	3	0	0	0	0
Seip East	Scioto valley	0	1	0	1	0	0
Hopewell C1	Main valley of Paint Creek? Scioto valley?	2	3	2	1	0	0
Hopewell D1	Scioto valley? Main valley of Paint Creek?	1	1	0	0	1	0
Hopewell E	North Fork of Paint Creek	0	0	1	0	0	3

[a]Cell values indicate number of burials associated with that clan marker. Bear clan markers are excluded from this study, as most.

compare their clan compositions. Fortunately, a study by Carr (Chapter 7) allowed this kind of detailed investigation.

Carr argued that three Hopewellian communities occupied the Central Scioto drainage during the Middle Woodland period. One was centered in the North Fork of Paint Creek, one in the main valley of Paint Creek, and one in the adjacent section the main Scioto valley. The three communities buried some of their dead together under each of three large mounds, one in each community, as a part of efforts to build and express an alliance between them—a society in formation. The three mounds are the Pricer mound in the Seip Earthwork, Mound 25 of the Hopewellian earthwork, and the Edwin Harness mound of the Liberty earthwork. At each of these sites, the different communities buried their dead in different spatial clusters of burials, which corresponded to different rooms of a single charnel house (Pricer, Harness) or to different charnel structures (Hopewell).

The issue of clan localization can be addressed using this archaeological layout of community cemeteries. If Ohio Hopewellian clans were not localized within a society, then the clan markers located in each of the three clusters at each of Hopewell, Seip–Pricer, and Edwin Harness should be largely the same. If clans were localized, then clan markers should vary among burial clusters within a mound, and each burial cluster in one mound should correspond closely in its restricted clan composition to that of another burial cluster in the other two mounds.

Data to compare against these test implications are sparse. Intrasite locational data for burials and clan marker do not exist for Edwin Harness, leaving only the burial clusters under

Hopewell 25 and Seip–Pricer to analyze. In these two mounds, a total of 55 burials with clan markers was excavated, but only 26 had a clan marker other than Bear. The clans other than Bear represented are Raptor, Feline, Canine, Raccoon, Beaver, and Bird (Table 8.11). A chi-square test of the data, comparing all six clusters to all six present clans, suggests that the clans are differentially distributed among the clusters ($p = .074$, df = 25); i.e., there is some tendency toward clan localization. Because the table cell frequencies in this test are low and do not ensure reliability, the information statistic, $2\hat{I}$ (Kullback et al. 1962), was also calculated. It produced a corroborating but somewhat weaker result ($2\hat{I} = 32.44$, $p = .146$, df = 25).

Spatial patterning of the markers of specific clans within mounds tends to support the idea that clans were neither fully localized nor fully dispersed across communities. At Hopewell, where more clan markers were buried, symbols of the Canine, Feline, and Raptor clans each occur in two clusters (i.e., communities) rather than all three, suggesting their incomplete dispersion among communities, i.e., some clan localization. These clans are the more populous, or more frequently marked regionally, and ones for which archaeological patterning can be expected to be most stable. Symbols of Raccoon, Beaver, and Other Bird clans occur in only one cluster each at Hopewell. This pattern could reflect their localization. However, because these clans are less populous or were marked less frequently regionally, the pattern may simply result from sampling error.

The Seip–Pricer mound exhibits a similar pattern but in a degenerate form, owing to the fewer clan markers buried there. Symbols

of the Feline clan—a populous or well-marked one regionally—occur in all three clusters, suggesting their full dispersion among communities. However, symbols of the Canine and Raptor clans, which were also populous or well marked regionally, occur in only one burial cluster each, suggesting clan localization. The single-cluster distributions of symbols of the less populous or less well-marked Raccoon and Beaver clans could suggest either their localization or sampling error. In all, within-mound patterning at Hopewell and Seip suggest some dispersion and some localization of clans.

Patterning between mounds does not evidence clan localization. Based on the overall material richness of each of the burial clusters at Hopewell 25 and Seip–Pricer, and the overall richness of each of Hopewell 25, Seip–Pricer, and Edwin Harness, Carr (Chapter 7) concluded that members of the community centered on the North Fork of Paint Creek were buried in both the West Cluster at Seip–Pricer and Cluster E at Hopewell 25. However, the clan compositions of these two burial clusters are not limited to the same few clans, as one would expect with clan localization and with the two clusters representing the same community (Table 8.11).[13]

From the above mixed results, it can be concluded that clans in the central Scioto region were localized to some degree. However, patterning is not strong enough to have resulted from institutionalized practices. Rather, the distributions of clan markers among burial clusters could simply reflect natural variation in clan populations in the three communities and, possibly, variation in the frequency of marriage exchanges among the three communities. This reconstruction for Hopewellian societies in the central Scioto fits well with the lack of clan localization found among the historic tribes of the Eastern Woodlands and more broadly.

Division of Social Tasks and Roles among Clans in Ohio Hopewellian Societies

The topic of which social roles were filled by which clans was addressed by finding associations between artifact indicators of specific roles and symbols of clan membership buried in graves. Two kinds of analyses were performed. The first examined a wide array of roles—both leadership roles and others—using 52 artifact classes. The roles and their indicative artifact classes are listed in Appendix 8.3. The artifact classes linked to the roles are a subset of those defined by Carr et al. (Chapter 13; Appendix 13.2) and include only those classes found with clan markers. Associations were sought here at a general level between roles, as indicated by one or more artifact classes, and clan markers. Associations between specific artifact classes and clan markers were not explored. The second analysis focused more narrowly on leadership roles using a finer-grained and somewhat different array of artifact classes. Here, associations were sought between particular artifact classes and clan markers, as well as between sets of artifacts indicating one role and clan markers. The roles, artifact classes, and sets of artifact classes are defined and listed by Carr and Case in Chapter 5 (Tables 5.4 and 5.5). The first analysis has the beauty of working fairly directly and simply with the mortuary data, but does not explore multivariate patterns of association among artifact classes. The second analysis does provide a multivariate perspective, but also is technically more opaque.

In both kinds of analyses, associations between bear power parts and artifact classes reflecting other roles were not interpreted as members of a bear clan fulfilling those other roles, for reasons given above (see Relative Sizes of Hopewellian Clans). In addition, because the number of burials with clan markers is small for most clans, it is possible to document only the roles filled by clans, not the roles absent from a clan's repertoire.

Finally, in considering the issue of recruitment to roles of leadership or other social importance, it should be remembered that whether or not clan affiliation influenced recruitment, importance in one's clan was an essential foundation for rising to other key social positions. Those buried with clan markers were probably the heads of local residential and kin units of the kind identified by Pacheco (1993, 1997). Most were adult (90%; $n = 30$), were male (86%; $n = 15$), and held positions of importance (70%; $n = 53$; Table 8.12, below)—excluding burials

with Bear clan markers, which may not indicate the clan affiliation of the deceased (see Relative Sizes of Hopewellian Clans, above).

Social Roles Recruited from Specific Clans

The distribution of social roles of 6 general categories and 16 specific categories among deceased persons having various clan markers, other than Bear, is summarized in Table 8.12. The social role(s) of a deceased person is defined by the presence in a grave of one or more of the artifact classes that indicate those roles, shown in Appendix 8.3. The frequency with which one clan versus another filled a given social role can be compared in Table 8.12 using the absolute counts of burials of each clan that had markers of the role or the percentages of burials of each clan that had markers of the role. Using counts assumes that all clans had equal access to burial in the cemeteries examined. This seems unlikely, given the fairly large differences in the grave counts of certain clans and evidence for the differential access of at least some age and sex categories to burial in some mounds (see Relative Sizes of Hopewellian Clans, above; Carr, Chapter 7). Using the percentage of burials of each clan that had markers of a role in order to estimate the relative commonality with which clans filled that role corrects for the possible bias of differential access to mound burial and seems preferable to us.

In order to look for the strongest patterns of differential distribution of roles among clans, two tabulations were made. First, in Table 8.12, all clans having a social role indicated in 50% or more of the burials with their clan markers were highlighted in boldface. This information reveals the social roles that a given clan filled most frequently and which clans filled which roles most frequently, under the assumptions cited immediately above. Second, all cells of clan–role associations in Table 8.12, measured as the percentages of burials with a given kind of clan marker having artifact indicators of a given social role, were compared to "expectable" percentages assuming a random distribution of roles among clans. Expectable percentages were calculated from the marginal totals in Table 8.12.

Then clan–role associations that were 50% more or less frequent than their expected percentages *and* that involved at least two burial counts above or below the expected (Appendix 8.4) were recorded. These are shown in Table 8.13 as boldface cell values. Weaker associations are shown without bolding.[14] The requirement of a difference from expectation by at least two burial counts ensured that unstable, high percentage deviations resulting from extremely small sample sizes would not make their way into the recorded patterns. Cells in Table 8.13 with positive deviations from expectation reveal clans whose members filled given social roles much more often than average. Cells with negative deviations show clans whose members filled particular social roles much less often than average. The patterns summarized in Table 8.13 are the strongest ones found in Table 8.12 but are not exhaustive.

Examining the distribution of the six general categories of social roles among clan-marked burials (Table 8.12) shows that almost all clans filled one form or another of each general category of roles at least occasionally: shamanic roles, unknown important roles that were not shamanic, community-wide leadership positions, sodality positions, and prestigious and mundane personal roles. At this coarse level of division of social duties, there is no evidence for full clan specialization. However, two clans appear not to have been included in the filling of certain important roles, showing limited restriction on role distribution among clans. The Fox clan shows no evidence of having held central shamanic roles and community-wide leadership roles, though the few number of Fox burials may explain this lack. The Elk clan apparently did not fill key nonshamanic roles, community-wide leadership positions, and positions of sodality achievement or membership.

Considering the frequency with which given clans fulfilled general categories of social tasks (Table 8.12) provides a picture similar to the presence–absence associations just described. Most clans, except Fox and Elk, frequently filled most general categories of social roles. However, community-wide leadership roles were filled less frequently by members of the Canine, Feline, and Raptor clans, as well as the Elk and Fox

Table 8.12. Frequencies and Distributions of Social Roles among Clans

Social role	All clans (excludes Bear) (n = 53)	%	Canine (n = 17)	%	Feline (n = 13)	%	Raptor (n = 9)	%	Raccoon (n = 7)	%	Elk (n = 5)	%	Beaver (n = 4)	%	Nonraptorial Bird (n = 3)	%	Fox (n = 2)	%
Shamanic roles	31	**59**	10	**59**	9	**69**	7	**78**	5	**71**	2	**40**	3	**75**	3	**100**	0	**0**
War or hunt divination	13	25	7	41	1	8	4	44	4	57	1	20	2	50	1	33	0	0
Other divination	9	17	4	24	0	0	3	33	4	57	1	20	0	0	1	33	0	0
Public ceremonial leader	12	23	3	18	3	23	3	33	0	0	0	0	2	50	3	100	0	0
Psychopomp	9	17	5	29	1	8	0	0	5	71	2	40	0	0	0	0	0	0
Philosopher	5	9	0	0	1	8	2	22	0	0	0	0	0	0	2	67	0	0
Trancing/ceremony	7	13	3	18	2	15	3	33	0	0	0	0	1	25	0	0	0	0
Shamanic equipment	11	21	4	24	3	23	1	11	4	57	1	20	0	0	2	67	1	50
Important nonshamanic roles	29	**54**	9	**53**	10	**77**	7	**78**	5	**71**	0	0	2	**50**	3	**100**	0	0
Crescents	1	2	1	6	0	0	1	11	0	0	0	0	1	25	0	0	0	0
Reel-shaped gorgets	1	2	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trophy skulls, jaws, fingers, hands	4	8	0	0	2	15	1	11	1	14	0	0	0	0	0	0	0	0
Community-wide leadership	16	30	6	35	4	31	4	44	4	**57**	0	0	2	**50**	3	**100**	0	0
Headplates	9	17	5	29	2	15	1	11	4	**57**	0	0	1	25	1	33	0	0
Celts	7	13	1	6	2	15	3	33	0	0	0	0	1	25	2	67	0	0
Sodalities	25	47	9	**53**	9	**69**	6	**67**	4	**57**	0	0	2	**50**	2	67	1	**50**
Breastplates	18	34	7	41	7	**54**	3	33	4	**57**	0	0	2	**50**	2	67	0	0
Earspools	18	34	5	29	8	**62**	5	**56**	0	0	0	0	2	**50**	1	33	1	**50**
Prestige personal roles	32	**60**	12	**71**	8	**62**	7	**78**	5	**71**	3	**60**	4	**100**	3	**100**	0	0
Metal	17	32	9	**53**	1	8	2	22	4	**57**	3	**60**	2	**50**	3	**100**	0	0
Nonmetal	26	49	9	**53**	8	**62**	6	**67**	5	**71**	2	40	3	**75**	1	33	0	0
Ordinary personal roles	16	30	6	35	3	23	3	33	2	29	1	20	2	**50**	0	0	1	50

Table 8.13. Significant Clan–Role Associations

Social roles	Type of association[a]							
	Canine	Feline	Raptor	Raccoon	Elk	Beaver	Nonraptorial Bird	Fox
Shamanic roles	P	P	P	P		P	P	
War or hunt divination	**P**	N	P	P		P		
Other divination		N		P				
Public ceremonial leader				N		P	**P**	
Psychopomp	**P**		N	P				
Philosopher	N						**P**	
Trancing/ceremony			**P**					
Shamanic equipment				P			P	
Important nonshamanic roles	N	P	P	P	N	N	P	
Crescents						P		
Reel-shaped gorgets	P							
Trophy skulls, jaws, fingers, hands		P	P	P				
Community-wide leadership				P	N	P	**P**	
Headplates	P			P			P	
Celts			**P**				**P**	
Sodalities	P	P	P	P	N	P	P	P
Breastplates		**P**		**P**	N	P	P	
Earspools		**P**	**P**	N	N	P		P
Prestige personal roles	P	P	P	P	N	P	P	
Metal	**P**	N		**P**	P	**P**	P	
Nonmetal	P	P	P	P		P		
Ordinary personal roles						P		P
Total number of roles frequently filled:								
General categories 1–3	3	0	3	5	0	2	4	0
General categories 1–4	3	2	4	6	0	4	5	0

Note: Bold entries changed by more than 50% *and* by at least two burials.
[a]P—positive association based on expected and actual cell frequencies in Table 8.12. N—negative association based on expected and actual cell frequencies in Table 8.12.

clans (<50% of the burials of a clan). Raccoon, Nonraptorial Bird, and Beaver clanpersons filled community-wide leadership roles more often (≥50% of the burials of a clan).

At the level of specific roles within the broader categories, several patterns emerge that are understandable in light of ethnohistoric and/or symbolic considerations. Here we use the conservative Table 8.13. War or hunt diviners were frequently recruited from the Canine, Raptor, Raccoon, and Beaver clans. These clan eponyms are sensible for war or hunt-related divination. Both canines (typically, the wolf) and raptors are predatory. The Wolf clan led the war party among the Shawnee (Callender 1978c:627), a reasonable position for those

charged with gathering information. The Winnebago Hawk clan was also specially charged with warfare (Lurie 1978:693). The association of the Raccoon clan with the arena of death is expectable, given the nocturnal nature of the raccoon, its apparent symbolic association in part with warfare in the Mississippian society of Spiro, Oklahoma (Phillips and Brown 1978:154), and its association in the Historic Northeast with trickery (Gill and Sullivan 1992:19, 253). In addition, the raccoon is a night animal capable of seeing through darkness, making it a natural symbol of the diviner, who sees through the darkness of the present into the future (Harner 1980:28)

On the other hand, the Feline clan has significantly *fewer* war or hunt diviners than

expected. This is contrary to ethnohistoric patterns among the Shawnee, where a member of the Great Lynx clan held the office of war chief (Callender 1978c:627). Also, the Panther clan among the Creeks was usually part of the People of a Different Speech division responsible for warfare (Swanton 1928:167). Perhaps the Feline clan in Ohio Hopewellian societies was associated with warfare or the hunt, but not with war or hunt divination specifically. The three clans that have members who were buried with human skeletal parts that possibly were war trophies (Seeman 1988; but see Johnston [2002] regarding specifically trophy skulls and jaws) are the Feline, Raptor, and Raccoon clans.

The role of body processor/psychopomp, like the role of war or hunt diviner, was frequently recruited from the Canine and Raccoon clans. This is understandable, since both roles deal closely with death. In addition, the association of the Canine clan with psychopomp work may be represented in one of the large Copena-style effigy pipes from the pipe cache above the Great Multiple Burial in the Seip–Pricer mound. The pipe depicts a dog eating a decapitated human head held between his front paws (Shetrone and Greenman 1931:416, 418). One to three of the other five effigy pipes in this ceremonial deposit also potentially have connotations of psychopomp work and death, supporting our interpretation of the canine effigy pipe and the role of the Canine clan in psychopomp work.[15] The lack of any evidence that Raptor clan members were psychopomps is puzzling, given the potential role of raptors in defleshing corpses placed on scaffolds.

Other divination activities using mica mirrors, cones, hemispheres, and/or boatstones are indicated in an unexpectedly high frequency of graves having Raccoon clan markers. The raccoon's ability to see through the night, logically associating it with divination, has been mentioned above.

Trancing and other ceremonial equipment is found more frequently than expected in only graves bearing Raptor clan markers. This association makes sense, given the connection in shamanic practice between trancing, the experience of soul flight, and the experiencing of

that flight as becoming a bird (Eliade 1964:4–5; Harner 1980:26). It is reasonable that a clan associated with birds is specially connected to this practice. Why the Nonraptorial Bird clan is not similarly associated with trancing is unclear; however, in many Woodland tribes, the eagle raptor is the paramount bird, flying higher and "closer to the divine" than any other bird (Grant 1994:119; Hudson 1976:129, 164; Mails 1978:149) and serving as a conduit between the divine and humans in prayer (Mails 1978: 99–100).[16]

The roles of both shamanic public ceremonial leader and shamanic philosopher are associated strongly with only the Nonraptorial Bird clan. Mica and copper geometrics in cosmological shapes, which indicate the shamanic philosopher materially, are also forms that may have decorated public ceremonial clothing (Greber and Ruhl 1989). Thus, it is not surprising that both roles are associated with the same clan. In addition, the tie of a bird clan to the role of cosmologist–philosopher has a natural logic— birds in flight have a grand view of the cosmos and its layout and come closest of all animals to the divine as a source of knowledge (see references above).

Community-wide leadership markers in the form of headplates were found at unexpectedly high frequencies with members of the Canine and Raccoon clans. In contrast, members of the Raptor and Nonraptorial Bird clans filled the community-wide leadership role marked by metallic celts at greater frequencies than expected. Thus, the strong mortuary pattern found across Ohio Hopewellian societies, where headplates and celts almost never were buried together in the same grave (Carr, Chapter 7),[17] extends to a dichotomized clan association with these artifacts.

It is unclear whether this crisp division of roles and the analogous division of the clans that filled them reflects a distinction between war chiefs represented by celts and peace chiefs represented by headplates. Supporting this inference is the ethnohistoric association of raptors with warfare and the archaeological association of the Hopewellian Raptor clan with war or hunt divination, as discussed above. In addition,

trophy heads and axes (celts) were paired in Mississippian iconography in the Douglass gorget and the Wilbanks monolithic ax, suggesting a strong connection between axes and warfare (Phillips and Brown 1978:177, 193). Trophy heads and axes were also coupled in Historic Woodland practice (Feest 1978:259, Goddard 1978:227). Further, among the Kickapoo, the peace chief's speaker was drawn from the Raccoon clan (Callender et al. 1978:661). This may suggest an earlier period when the Raccoon clan had frequent access to peace chief positions. At the same time, running against the grain of the archaeological patterning found here is the practice of the Historic Kickapoo and Winnebago of drawing their paramount peace chiefs from clans with bird eponyms (Callender et al. 1978:661; Lurie 1978:693). Moreover, archaeologically, metallic celts do not co-occur with trophy skulls, fingers, or hands, as possible symbols of war achievement, in more than a few graves in Hopewellian sites across Ohio (see Carr and Case, Chapter 5, Table 5.5). This situation would cast doubt on the identification of metallic celts as representations of warfare and leadership in warfare.

Trophy skulls, jaws, fingers, and hands, which by their nature suggest achievement as a warrior as one possible interpretation, are not found in percentages of burials significantly above or below expectation for any clan, but on a presence–absence basis, are limited to the Feline, Raccoon, and Raptor clans. Accordingly, the Raccoon and Raptor clans were also found significantly associated with war or hunt divination (see above), and all three clans were associated with warfare in the Historic or Mississippian periods of the Eastern Woodlands.

Sodality positions of achievement or membership, indicated by breastplates and earspools (Carr, Chapter 7), were occupied by persons of many different clans. This finding is reasonable because, by definition, the members of a sodality may be recruited from multiple kinship and residence groups across a society (Service 1971:105–106).[18] Apparently only the Elk clan did not have members who participated in one or both of the sodalities. This situation follows the archaeological pattern for Elk clanpersons

to seldom have taken on important shamanic roles and, apparently, never to have occupied important nonshamanic roles and community-wide leadership positions marked by headplates and celts. The generally scarce recruitment of Elk clanpersons into positions of social importance is surprising compared to the moderately common occurrence of Elk clans historically among Northeastern and Great Lakes–Riverine tribes.

In all, the 14 roles of leadership or importance tracked in this analysis, including shamanic, nonshamanic, and community-wide roles and sodality achievement or membership (Table 8.12), were well distributed across many clans rather than concentrated in the hands of a few. However, not all clans had equal access to these roles of importance, and some clans seldom or never attained them. Members of the Raccoon clan held the greatest diversity of important positions (six) with frequency, followed by members of the Nonraptorial Bird, Raptor, Beaver, and Canine clans (five, four, four, and three positions, respectively). Members of the Feline, Elk, and Fox clans never held any of the positions frequently, and the Fox clan apparently never held most of them at all (Tables 8.12, 8.13).

The importance of the social roles that a clan frequently held correlates with the number of important roles that the clan frequently held and, perhaps, was determined by the scope of the clan's secured power base. Community-wide leadership positions were held frequently only by those clans that frequently filled three or more of the leadership or other important positions documented in this study. The clans are the Raccoon, Nonraptorial Bird, Raptor, and Canine clans. Similarly, public ceremonial leaders and shamanic philosophers who wore clothes decorated with large copper and mica geometrics intended for a large audience were drawn from only the Bird clan, which frequently filled five leadership or other important roles. Finally, diviners of warfare and/or the hunt were recruited frequently from only those clans that frequently held three or more important positions: the Raccoon, Raptor, Beaver, and Canine clans.

In contrast, clan size, to the extent that it is understood (see above), does not appear to have been essential to whether a clan regularly attained

the most important of social roles documented here. The apparently large Feline clan did not frequently fill the positions of community-wide leadership, public ceremonial leader, shamanic philosopher, or war or hunt diviner, while the apparently smaller Raccoon, Nonraptorial Bird, and Raptor clans did (Table 8.13).

Leadership Roles Recruited from Specific Clans

In order to shed further light on the particular clans from which leaders and other important personae in Ohio Hopewellian societies were recruited, a second, finer-grained analysis was undertaken. The study is an extension of the multivariate role analysis performed by Carr and Case (Chapter 5), and uses their more detailed classification of leadership and other important social roles.[19]

Carr and Case documented quantitatively the patterns of association and dissociation among artifact classes that marked leadership or other important social roles. The study included 767 burials within 57 mounds at 15 ceremonial centers, both large and small, in northeastern Ohio, the south–central Scioto valley, and southwestern Ohio. The artifact patterns revealed 13 sets of artifact classes and 8 independent artifact classes that could be interpreted as social roles or bundles of roles pertinent to leadership and other important positions in Ohio Hopewellian societies (Table 8.14). The mathematical grouping procedures used to define the sets of artifact classes/roles involved calculating Jaccard similarity coefficients among all pairs of socially relevant artifact classes, then grouping the artifact classes based on their Jaccard relationships using ordinal-scale multidimensional scaling procedures and hand examination of the Jaccard matrix, itself. The details of the procedures are given in Chapter 5, Note 25.

To extend the analysis to the recruitment of clan members into important social roles, Jaccard coefficients of similarity were again calculated, this time between each kind of clan marker defined above and each of the artifact classes in the 13 roles or role sets and the 8 independent artifact classes. The same 767 burials as those analyzed by Carr and Case were examined for patterns of association and dissociation among clan markers and artifact classes. A clan marker that strongly associated in burials with the artifact classes in a role or role set was interpreted as the recruitment of members of that clan into a social position having that role or set of roles. Clan markers that occurred repeatedly with particular symbols of leadership and importance (Jaccard coefficient, >0.1) are shown in boldface in Table 8.14 and provide the most reliable relationships for social reconstruction.[20] Other clan markers that occurred less frequently with markers of leadership and importance are also listed, in normal font. However, it cannot be determined whether these latter co-occurrences indicate relevant instances of recruitment of leaders and other important social personae from particular clans or, instead, instances of occasional gifts (either clan markers or markers of leadership and importance or both) given to the deceased.

Examining the most reliable, bolded relationships in Table 8.14, supplemented by the remainder, reveals four significant social patterns. In defining these patterns, Bear clan markers have largely been excluded from consideration, as in the previous studies.

First, certain roles of leadership and importance were filled repeatedly by a small number of clans. One of the strongest patterns was for healers and those who apparently sent or sucked power intrusions (Role Set 10) to have been recruited from the Raptor and Beaver clans and, secondarily, from the Canine clan. Additionally, the Feline clan sometimes provided healers who used sucking or blowing tubes (Role Set 9). Another strong pattern was the filling of the positions of war or hunt diviner, other diviners, and nonshamanic(?) public ceremonial leaders (Role Set 6) with members of the Canine and Raccoon clans. The roles of body processor and possibly psychopomp (Role Set 8) were also consistently filled by these two clans. The association of the Canine and Raccoon clans with both war or hunt divination and psychopomp work, which relate to death, was found in the above univariate analysis and is discussed there for its ethnohistoric and other prehistoric analogs. The role of shamanic public ceremonial leader (Role Set 1)

Table 8.14. Global Organization of Roles and Associated Clan Markers at 15 Ohio Hopewellian Ceremonial Centers[a]

Role sets and artifact classes	Clan markers[b]
Role Set 1: Shamanic public ceremonial leadership	
Headplate, copper with shamanic-animal referents	**Nonraptor**, canine, bear
Cutout, copper with shamanic-cosmos symbolism (shared)	**Nonraptor**, feline, bear
Cutout, copper and mica with unknown symbolism	**Feline**, raptor, beaver, bear
Baton of bone, antler, or copper (shared)	**Nonraptor**, bear
Iron, raw (shared)	**Nonraptor**, bear
Silver, raw	**Nonraptor**, bear
Copper, raw (shared)	**Canine**, bear
Role Set 2: Nonshamanic (?) public ceremonial leadership	
Headplate, copper, without shamanic-animal referents	**Canine, raccoon**, feline, deer, beaver, bear
Baton of bone, antler, or copper (shared)	**Nonraptor**, bear
Celt, stone	**Feline, nonraptor**, beaver, bear
Cutout, copper with shamanic-cosmos symbolism (shared)	**Nonraptor**, feline, bear
Iron, raw (shared)	**Nonraptor**, bear
Silver, raw	**Nonraptor**, bear
Copper, raw (shared)	**Canine, nonraptor**, bear
Role Set 3: Ceremonial leadership	
Conch shell	Raptor, feline, canine, beaver, bear
Spoon, shell	None
Role Set 4: Sodality achievement and nonshamanic leadership recruitment	
Breastplate, copper	**Bear**, raptor, feline, canine, raccoon, beaver, nonraptor
Earspool, copper, placed elsewhere than in hand	Raptor, canine, beaver, bear
Celt of copper or iron	**Bear**, feline, raccoon
Conch shell	None
Role Set 5: Sodality and war (?) achievement	
Breastplate, copper	**Bear**, raptor, feline, canine, raccoon, beaver, nonraptor
Earspool, copper, placed in the hands	Raptor, canine, beaver, bear
Trophy jaw or skull, human	**Bear**, feline, raccoon
Prismatic blade, gem (shared)	None
Role Set 6: War or hunt divination or sending or pulling power intrusions, other divination, and nonshamanic (?) public ceremonial leadership	
Biface, obsidian	**Canine, raccoon**, elk, bear
Biface, quartz or gem (shared)	**Canine, raccoon**, beaver, bear
Galena, raw	Raptor, canine, raccoon, bear
Mica sheet	Raptor, canine, elk, raccoon, bear
Shark tooth	**Canine, raccoon**, bear
Headplate, copper, without shamanic-animal referents	**Canine, raccoon**, feline, deer, beaver, bear
Copper, raw (shared)	**Canine**, bear
Pyrite, raw (from analysis of caches)	?
Owl effigy (from analysis of caches)	?
Marble (from analysis of caches)	?
Role Set 7: Divination	
Boatstones, any material	**Nonraptor**
Cones and hemispheres, any material	**Nonraptor**, bear
Barracuda jaw	Bear
Crescent, copper (shared)	**Raptor**, canine, beaver, bear
Nose insert, copper	Bear
Ornament, tortoise shell	**Feline, bear**

(Continued)

Table 8.14. (*continued*)

Role sets and artifact classes	Clan markers[b]
Buttons, copper	Canine, elk, bear
Cup, quartz (from analysis of caches)	?
Owl effigy (from analysis of caches)	?
Marble (from analysis of caches)	?
Role Set 8: Body processor and possibly psychopomp	
Awl	**Canine, raccoon**, feline, elk, bear
Pipe, small	**Canine, raccoon**, raptor, feline, elk, bear
Role Set 9: Healing, sucking energies, and possibly sending energies	
Tube, function unknown	Feline, bear
Alligator teeth	**Elk**, feline, bear
Role Set 10: Healing, and sending and/or removing power intrusions	
Fancy points, copper, mica, or schist	**Raptor, beaver**, canine, feline, bear
Panpipe	**Raptor, canine**, beaver, bear
Crescent (shared)	**Raptor**, canine, beaver, bear
Tortoise shell, raw	**Raptor, beaver**
Plummet (from analysis of caches)	?
Role Set 11: Shamanic leadership: philosophy, divination, and war achievement (?)	
Cutout, copper with shamanic-cosmos symbolism (shared)	Feline, bear
Cutout, mica with shamanic-cosmos symbolism (shared)	**Raptor**
Cones and hemispheres, any material (shared)	Bear
Trophy parts, effigy human finger or hand, of mica, copper, or stone	**Raptor, deer**, bear
Role Set 12: Unknown role	
Painting equipment (cup, pestle, ochre, grinder) and/or tablet of stone	Feline, bear
Pottery, fancy surface treatment and decoration	None
Role Set 13: Divination (?)	
Balls, copper	None
Prismatic blade, gem (shared)	None
Independently distributed artifact classes	
Reel-shaped gorgets	None
Flute	None
Pebbles, quartz and colored	None
Fossils and concretions	None
Points, translucent but not quartz or gem	None
Prismatic blade, obsidian	None
Obsidian, raw	None
Fan of feathers, effigy of copper or stone	None

[a]The 15 ceremonial centers and 57 of their mounds upon which the analysis is based are Ater; Bourneville; Circleville; Esch Mounds 1 and 2; Hopewell Mounds 2, 3, 4, 7, 8, 11, 16, 18, 19, 20, 23, 24, 25, 26, 27, 29, and 30; Liberty's Edwin Harness Mound and Russell Brown Mounds 1, 2, and 3; McKenzie Mounds A, B, and C; Mound City Mounds 1, 2, 3, 7, 8, 9, 10, 12, 13, 15, 18, 20, 23, and 24; North Benton; Rockhold Mounds 1, 2, and 3; Seip–Pricer; Shilder; Tremper; Turner Mounds 1, 2, 3, 11, 12, Enclosure, and Turner–Marriot; and West.

[b]Clan markers in boldface are those that occurred in repeated association with particular markers of leadership and importance (Jaccard coefficient ≥0.1). Clan markers in normal font occurred less frequently with markers of leadership and importance. Bear power parts may mark membership in a sodality, or a mortuary duty of the Bear clan and "gifted" bear power parts, rather than clan affiliation of the deceased, given their very widespread distribution among burials compared to the distribution of the power parts of other animal species.

was often filled by the Nonraptorial Bird clan and secondarily by the Feline and Canine clans. Nonshamanic public ceremonial leaders (Role Set 2) were also frequently recruited from the Nonraptorial Bird clan and secondarily from the Feline and Canine clans, but also the Raccoon clan. In the univariate analysis above, headplates, which are a part of the public ceremonial leader role sets defined here, were likewise found to be associated with canine and raccoon power parts. Shamanic leadership in the arenas of philosophy and divination (Role Set 11) was commonly tied to the Raptor clan and, secondarily, to the Elk clan, while other forms of divination (Role Set 7) were associated with both the Raptor and the Nonraptorial Bird clans and, also, the Feline clan.

The two sodalities marked by breastplates and earspools (see Carr, Chapter 7) were found to associate with a wide diversity of clans, as one would expect. Only the Elk clan shows no indication of having participated in the two sodalities, as was the case in the univariate analysis, above. However, if bear power parts are brought into consideration, the two sodalities do have regular associations with bear. This may indicate the critical role played by Bear clan members in the two sodalities and/or the dominance of Bear clanpersons in their membership.[21]

A second social pattern found in Table 8.14 is that while personnel for some roles of leadership and importance were recruited from a limited set of clans, other critical roles were open to a wider number of clans. These roles include nonshamanic(?) public ceremonial leader (Role Set 2), ceremonial leadership (Role Set 3), and war achievement (Role Set 5).

Third, no roles of leadership or importance were recruited from only one clan. No single clan dominated any given critical sector of the sociopolitical theater. This situation would also imply that no roles of leadership or importance were inherited along lineage lines, if clan membership was assigned by birth family.

Finally, whether considering only the most reliable relationships between clans and roles of importance or also the weaker co-occurrences in Table 8.14, members of three clans filled the greatest number of important roles most often in Ohio Hopewellian societies. These clans are

Feline, Canine, and Raptor. Secondary success in filling important roles was had by members of the Raccoon and Beaver clans. In contrast, Elk and Fox clan members appear to have seldom or never filled social roles of importance in Ohio Hopewellian societies. The specific frequencies with which given clans filled given roles cannot be stated firmly, given uncertainty in the cases of weak patterning (Jaccard coefficients ≤ 0.1) whether clan markers and/or symbols of leadership and importance belonged to the deceased or were gifts to the deceased.[22] These results of multivariate analysis differ to some extent from the patterns found univariately, above.

The overall pattern found here univariately and multivariately—of some but not full restriction in the access of clans to leadership or other important positions—is consitent with social patterning in the Historic Eastern Woodlands tribes. Although leadership roles were frequently assigned to members of clans with particular eponyms, members of other clans were seldom completely forbidden from filling those roles. For example, the peace chief of the Fox tribe was traditionally drawn from a particular lineage within the Bear clan, but the tribal council was empowered to change the lineage or clan if there were no candidates in the appropriate group (Callender 1978b:640). Similarly, although Creek chiefs were usually drawn from particular clans, council decisions were capable of changing which clan (Swanton 1928:162–164).

Leadership Recruitment in Crosscultural Comparison

Our finding that Ohio Hopewellian shamanic and shaman-like leadership roles were each filled by members of multiple clans instead of only one clan or most clans is consistent with what is known about the nature of Ohio Hopewellian leadership relative to crosscultural patterns in leadership. Ohio Hopewell societies were characterized by powerful, specialized kinds of shaman-like, magicoreligious practitioners, such as war or hunt diviners, healers, and body processors, that had differentiated earlier from the generalized, classic shaman position. Formal priests or chief-priests in the classic sense (Earle 1997; Peebles and Kus 1977; Service 1962) appear

to have just begun to have emerged at the end of the Ohio Middle Woodland period, shared power with shaman-like leaders, and had not yet overshadowed them politically (Carr and Case, Chapter 5). In a world-wide, crosscultural Human Relations Area Files survey of magicoreligious practitioners, Winkelman (1992:69, 71) found that in such social situations having differentiated, shaman-like leadership roles but lacking powerful priests or priest-chiefs, recruitment into the shaman-like positions is seldom based on inheritance within clans—the pattern found here. In contrast, in societies having strong priests or priest-chiefs and shaman-like practitioners of diminished power, recruitment into shaman-like roles is based on clan. Thus, the clan-leadership role associations documented here make sense in a broad, crosscultural perspective as well as compared to the specific, ethnohistorical record for the Eastern Woodlands.

Clan Wealth, Networking, and Size as Bases for Societal Leadership in Ohio Hopewellian Societies

A critical question to ask about any society is the nature of the power base of its leaders. General anthropology offers at least four models of the basis of leadership in middle-range societies. Economic advantages (Sahlins 1968, 1972), demographic advantages (Chagnon 1979), spiritual talents (Netting 1972), and strategic positioning and promotion of minor, specialized leaders to major, more general ones during times of social stress (Flannery 1972) have each been suggested as the bases from which leaders derive power and consolidate their roles. To these can be added achievement within sodalities, which offer a person an opportunity to network with individuals from multiple kinship and residence groups and gain a wide base of support. In Chapter 5, the first four theories are summarized, and rich archaeological data are shown to indicate spiritual talents as a critical basis of leadership in Ohio Hopewellian societies. Whether the economic wealth and reproductive success of leaders and their kin, and their achievements within sodalities, were also important elements in leadership formation in Ohio Hopewellian societies

is not addressed Chapter 5. However, these factors can be explored with archaeological data on clans, their roles, and their resources.

Table 8.15 lists the percentage of burials of each clan that had metallic and nonmetallic items of personal wealth/prestige (e.g., necklaces, bracelets; Appendix 8.3) as a measure of clan wealth and the percentage that had breastplates and earspools that marked sodality membership or achievement (Carr Chapter 7) as a measure of clan networking through sodalities. Also listed is the approximate relative size of each clan to the extent knowable (see above). These three measures of clan strength and bases for leadership formation are then evaluated, in part through correlation analysis, for their contributions to clan success in attaining social positions of leadership or importance of three kinds: shamanic roles, nonshamanic community-wide roles, and other nonshamanic roles (Table 8.12, Appendix 8.3). A clan's success in gaining these three kinds of positions is measured by the percentage of burials of that clan that had markers of those positions.

The information in Table 8.15 indicates that in Ohio Hopewellian societies, clan size had no relationship to the success of clan members in attaining any of the three kinds of positions of leadership or importance. Chagnon's (1979) demographic theory of the basis of social power and leadership in middle-range societies does not apply at the clan scale examined here, though it was found to be relevant in explaining between-community differentials (Carr, Chapter 7). In contrast, clan wealth and clan networking through sodalities and achievement within them both correlate strongly with clan recruitment into leadership and other important positions. The correlations of wealth and networking with filling any of the three kinds of roles range between .612 and .860, except for the insignificant relationship between clan wealth and attaining nonshamanic community-wide leadership positions. These correlations equate to clan wealth and networking individually having explanatory values (R^2 values) between 78.2% and 92.7%. When clan wealth and networking are combined into one factor, its correlation with success in gaining access to the three kinds of positions rises to

Table 8.15. Comparison of the Wealth, Social Networking, and Size of Clans to Their Prevalence in Leadership Roles

Social role	Aggregate score for . . .			Approximate clan size	% of burials with . . .		
	Wealth and sodality networking[a]	Wealth, alone[b]	Sodality achievement, membership, and networking, alone[c]		Shamanic roles	Community-wide leadership roles	Nonshamanic important roles
Nonraptorial Bird	58.25	66.50	50.00	Smaller	100.00	100.00	100.00
Beaver	56.25	62.50	50.00	Smaller	75.00	50.00	50.00
Feline	46.50	35.00	58.00	Larger	69.00	31.00	77.00
Raccoon	46.25	64.00	28.50	Smaller	71.00	57.00	71.00
Raptor	44.50	44.50	44.50	Smaller	78.00	44.00	78.00
Canine	44.00	53.00	35.00	Larger	59.00	35.00	53.00
Elk	25.00	50.00	.00	Smaller	40.00	.00	.00
Fox	12.50	.00	25.00	Smaller	.00	.00	50.00
Correlation with:							
Wealth and sodality prestige	1.00	.81	.72		.95	.86	.61
Wealth alone	.81	1.00	.17		.83	.70	.18
Sodality prestige alone	.72	.17	1.00		.62	.61	.81

[a] Percentage of clan burials with metallic or nonmetallic personal items of wealth/prestige or breastplates or earspools as markers of sodality achievement or membership (Table 8.12 and Appendix 8.3).
[b] Percentage of clan burials with metallic or nonmetallic personal items of wealth/prestige (Table 8.12 and Appendix 8.3).
[c] Percentage of clan burials with breastplates or earspools as markers of sodality achievement, membership, and social networking (Table 8.12 and Appendix 8.3).

.614 to .954, which equates to explanatory values of 78.4% to 97.7%. These statistics suggest that Sahlins's (1972) economic theory of the basis of social power and leadership in middle-range societies, and the idea of social networking through sodalities, both apply to clan-level dynamics and differentials in Ohio Hopewellian societies.[23]

The importance of social networking through sodalities to success in attaining key positions in Ohio Hopewellian societies is complemented by our finding, above (see Social Roles Recruited from Specific Clans), that the relative importance of the social roles that a clan frequently held correlates with the number of important roles that it frequently held. The number of roles held often by a clan is a measure of the span of its social network complementary to the frequency of its membership and achievement within sodalities.

Although the wealth and networking of Ohio Hopewellian clans did determine their degree of access to positions of social importance, the actual differences among clans in these regards is small. Most clans were similarly privileged. Five of the eight clans have moderate measures of wealth (40%–60% of their burials have items of wealth) and six of the eight clans have moderate measures of sodality networking (40%–60% of their burials have markers of sodality membership or achievement). This picture corresponds with the finding, above, that no one or few clans monopolized social positions of importance in Ohio Hopewellian societies (see Division of Social Tasks and Roles). Only the Elk and Fox clans fall low on the scales of wealth and/or sodality networking, and they in turn also apparently filled few or no positions of leadership or importance. The small sample of Fox clan burials, however, prohibits a firm assessment of its standing. In all, these observations agree with the ethnohistoric northern Woodland pattern discussed above, where clans typically had similar levels of prestige, wealth, and access to critical resources, but those clans that held leadership roles were slightly advantaged (e.g., Callender 1978c:627, 1978d:650).

The correlations found here among clan wealth, sodality networking, and access to positions of social power have been expressed here in the form presented in ethnological theory, whereby economic and social factors are seen as causal, and the political factor of access to positions of power is seen as the result. However, it should be recognized that the reverse flow of causality may instead apply, with clan success in attaining leadership and other important positions having augmented clan wealth and level of achievement within sodalities. Differential access of clans to leadership and other important positions in Ohio Hopewellian societies may have ultimately originated in other factors, such as the religious vehicles posed by Netting (1972) and discussed in Chapter 5. In this case, the flow of causality would be from the religious to the political and then to the economic and social. The data currently in hand do not allow us to distinguish between these two scenarios.

The Question of Phratries in Ohio Hopewellian Societies

Whether informal or institutionalized phratries existed in Ohio Hopewellian societies is investigated here in two ways. First, we sought complementary distributions among Hopewellian clans in the critical social tasks that they undertook. The rationale for this approach follows directly from the definition of a phratry as two or more clans that stand in some special, and often times complementary, relationship. In this light, three of the many important social roles explored above (see Division of Social Tasks and Roles among Clans in Ohio Hopewellian Societies) were found to each have been filled by multiple clans, but in a complementary fashion, with one clan strongly associated with it and another strongly dissociated from it (Table 8.13). Shamanic public ceremonial leaders were recruited much more often than statistically expected from the Nonraptorial Bird clan and much less frequently than expected from the Raccoon clan. Shamanic philosophers were recruited more often than expected from the Nonraptorial Bird clan and less often than expected from the Canine clan. Finally, diviners of things other than war or the hunt were recruited at unexpectedly high frequencies from the Raccoon

clan and at unexpectedly low ones from the Feline clan. These complementary distributions of roles among clans may hint at the organization of the clans into formal or nascent phratries. No analogs of eponym pairs within Historic Woodland phratries are apparent (Table 8.2).

The second approach we took to explore the possible existence of phratries in Ohio Hopewellian societies focused on burials with more than one kind of clan marker. Markers in these burials might represent clans that stood in a phratry relationship to each other. Alternatively, or complementarily, they might represent the deceased's natal clan and gifts from the clan of his or her children if they were of a different clan. Other possible explanations include gifts from unrelated clans; the special mortuary ritual responsibilities of a second clan and the gifting of its markers, much as we posited for the Bear clan (see Relative Sizes of Hopewellian Clans); adoption or honorary membership; and personal power animals of the deceased.

There were 10 persons who had markers of more than one clan buried with them, other than markers of the Bear clan, which was a common extra marker in many burials (Table 8.16). Four of these individuals were buried together in a single grave, making a total of seven funeral events marked by more than one clan. All the burials with multiple markers come from the Scioto region.

The markers in the seven graves do not appear to indicate phratry relationships between clans. If this were the case, then the same clan pairs should be observed repeatedly among graves, or at least the pairs should not overlap in clan membership. Instead, the clans that pair vary from grave to grave, and in a complex, overlapping pattern. Only markers of the Canine and Beaver clans occur together twice.

The one alternative hypothesis that seems to explain the most, but not all, of the distribution of clan markers among the seven graves, and that has additional contextual support, is the special mortuary ritual responsibilities of a second clan and the gifting of its clan markers. If this were the only cause of multiple clan markers per grave, then the extra markers should consistently reference only the one clan or however many clans that had special mortuary duties. In fact, in five of the seven graves, the Canine clan is a second marked clan, and in four of the graves, it is the only additional one. Additional evidence that the Canine clan filled the role of a mortuary specialist is found in the kinds of artifacts associated in graves with Canine clan markers and in the Copena-style effigy pipe from the Seip–Pricer mound, depicting a dog holding and eating a decapitated human head (see Social Roles Recruited from Specific Clans, above).

Other interpretations of the graves with multiple clan markers have distinct test implications and are not as strongly supported empirically as the idea of the Canine clan as a mortuary specialist, but may help to explain the clan markers in the two or three graves where this idea does not apply. In these cases, the multiple clan markers could reflect contributions from unrelated clans, the personal power animals of the deceased, and/or other unappreciated situations.[24]

CONCLUSIONS

A personalized and contextualized view of Ohio Hopewellian societies has been offered here by

Table 8.16. Age, Sex, and Clan Affiliation Data for Burials with Multiple Clan Markers

Site	Mound	Provenience	Sex	Age	Clan markers
Ater	1	B51A	Male	30–39	Raptor, Canine, Beaver
Hopewell	23	S186	Male	Teen	Cat, Fox
Hopewell	23	S207	?	Adult	Canine, Fox
Hopewell	25	B22A	Male	40–50	Canine, Beaver
Mound City	8	B2	?	?	Raptor, Cat, Deer/Elk/Moose
Mound City	8	B3	?	?	Canine, Deer/Elk/Moose
Mound City	13	B1A–D	?	?	Canine, Raccoon

identifying the material representations of Ohio Hopewellian clans and by documenting their sizes, their degree of localization, the socially critical roles that their members filled, and their bases of power. In these regards, the clans of Ohio Hopewellian peoples did not differ substantially from those of Historic Eastern Woodland tribes at Contact. However, the specific details of Ohio Hopewellian clan organization and function that have been revealed take the researcher beyond a generalized historic analogy to Woodland social life and bring to mind rich images of Hopewellian personnel in roles and actions of various and particular kinds, with an empirical basis—what Carr (Chapter 1) calls "thick prehistory". The documented details also lay the foundation for future studies of yet uninvestigated, anthropologically central topics of many kinds: the roles of clans in the origins of institutionalized, supralocal leadership positions and leadership centralization among Hopewellian peoples, clan means of community integration and firming up intercommunity alliances, and the relationship of clan organization to cosmological schema and natural environmental structure and content.

Our ethnographic survey shows that, historically, individual tribes of the Woodlands had 9 to 11 clans on average, the most common being the Canine, Bear, Deer/Elk/Moose, Raptor, Nonraptorial Bird, Waterfowl, Raccoon, Beaver, Turtle, Turkey, and Fish clans. Clans usually were at least the same order of magnitude in size, excluding the effects of Contact and sometimes the ranking of clans in the Southeastern Woodlands. Nowhere were clans localized to specific villages. Specific social tasks, including leadership roles of many kinds, were commonly assigned by clan. However, assignment was often flexible, with certain clans tending only to fill certain positions rather than dominating them, and recruitment sometimes varying quite situationally.

Clans were the most important horizontal social divisions among the Woodland tribes in governing daily life. Phratries were recorded for few of the tribes surveyed here and, apparently, were seldom strongly formalized and thus less visible ethnographically. Their functions ranged from simple joking relationships to comple-

mentary ritual arrangements. Five phratries per tribe was the Woodland average, though data are sparse. Sodalities were uncommon, sometimes ad hoc, and of small membership, save the Midewiwin and Dream Drum pan-tribal cults, which were institutionalized and drew members more widely in recent history. The "sacred pack organizations" of the central Algonquian tribes were not sodalities, their members having been recruited within clans rather than across them. Dual organizations were more common, having occurred in most of the surveyed Woodland tribes. Dual organizations served to structure warfare and ritual games, and seldom functioned as true moieties, governing marriage. Like clans, the two halves of dual organizations were typically similar in size and were not localized.

Ohio Hopewellian clans and their social behaviors were tracked in the archaeological record using the real and effigy power parts and select artistic representations of animals of diverse species found in graves. Animal power parts were almost certainly clan markers, for many reasons. They reference animals, which were the most common clan eponyms historically. They reference about the same number of animal species as the average number of clans per historic tribe. They correspond closely (80% match) in species to those of the most common eponyms of historic tribes across the Woodlands. The rank-order commonality of the represented species, measured by the number of deceased individuals buried with each species, correlates significantly ($.433; R^2 \simeq 66\%$) with the rank order of clan eponym species for the most common eponyms across the Woodlands. Finally, the artifacts are distributed widely among burials and ceremonial deposits within cemeteries and across many cemetery sites. In contrast, the animal species represented on smoking pipes—the only other major Ohio Hopewellian artifact class with animal imagery—have the opposite characteristics and, given their extraordinary species diversity, most likely represent the personal power animals of individuals. Animal power parts and artistic representations are too diverse in kind to represent either phratries or dual divisions and, in their species, do not correspond to the names of phratries. The commonly weak organization and

functions of phratries in the historic Woodlands also cast doubt on Ohio Hopewellian animal power parts and artistic imagery representing phratries, when socially central clans would be the more obvious Historic Woodland correlate.

A sample of 85 individuals buried with clan markers in 16 sites was analyzed for the frequencies of clan markers of different species, their spatial distributions within and across sites, and their associations with each other and with artifacts indicating other key social roles. These studies provided the following insights into Ohio Hopewellian clans.

(1) Clans across Ohio Hopewellian societies minimally numbered nine: Bear, Canine, Feline, Raptor, Raccoon, Elk, Beaver, Nonraptorial Bird, and Fox. Some of these categories, such as Feline, Raptor, Elk, and Nonraptorial Bird, may have been divided more finely by Hopewellian peoples (e.g., Bobcat versus Cougar or Deer versus Elk versus Moose; see Weets et al., Chapter 14). Other possible clan eponyms represented by only one or two artifacts are Opossum, Snake, Turtle, Fish, and Insect. The first nine are among the most common clans found historically in the Woodlands. They are equally similar to those in the Northeastern and Southeastern Woodlands.

(2) The Raptor, Raccoon, Elk, Beaver, Nonraptorial Bird, and Fox clans were probably roughly similar in size, based on the number of burials that contained their markers. The Feline clan was probably larger, and the Canine and Bear clans may have been as well.

(3) Clan composition appears to have varied somewhat regionally. A Raptor clan may have been missing in southwestern Ohio, following the pattern of many other cultural ties of this region to the Southeastern Woodlands (e.g., Ruby and Shriner, Chapter 15). Raptor clans were not common among tribes of the historic Southeast. Beaver and Nonraptorial Bird clans may have been more populous in northeastern Ohio than in the Scioto valley heartland.

(4) Clans in the central Scioto valley were probably localized residentially to some degree. Different earthwork–mound communities appear to have had somewhat different clan compositions or proportions. These variations probably resulted from natural variations in clan populations and frequencies of marriage exchanges among communities, rather than institutionalized geographic divisions. This pattern accords with the Historic Woodland one, where clans were not formally localized.

(5) All roles of leadership and social importance, including shamanic, nonshamanic, and community-wide roles, as well as sodality achievement and membership, were well distributed across many Ohio Hopewellian clans. However, not all clans apparently had equal access to all roles. Members of the Raccoon clan were recruited with frequency into the greatest diversity of social positions, followed by members of the Nonraptorial Bird, Raptor, Beaver, and Canine clans. The Feline and Elk clans did not hold any important social roles frequently, and the Fox clan did not hold most of them at all. No single clan monopolized any one key social role. The overall pattern of only partially restrictive recruitment to positions of leadership and importance is similar to that found in the Historic Woodlands and across the globe, generally, in societies of middle range complexity having multiple, differentiated, powerful, shaman-like leaders but lacking powerful priests or priest-chiefs (Winkelman 1992).

The clans that were found statistically to have filled particular social roles more frequently than expected also referenced animals with natural characteristics relevant to those roles, or were the clans known ethnohistorically to sometimes have filled those roles, or were corroborated with auxiliary archaeological evidence. Combining the results of univariate and multivariate studies of artifact associations revealed the following patterns. War or hunt diviners were frequently recruited from the Canine, Raptor, Raccoon, and Beaver clans; body processors/psychopomps from the Canine and Raccoon clans; other kinds of diviners from the Raccoon clan; healers from the Raptor and Beaver clans and, secondarily, the Canine and Feline clans; public ceremonial leaders from the Nonraptorial Bird clan; and participants of unknown duties in trance rituals from the Raptor clan. Community-wide leadership positions marked by headplates with and without shamanic animal referents, which may have

indicated peace chiefs of a kind, were filled frequently by the Canine, Raccoon, and Nonraptorial Bird clans. In contrast, community-wide leadership positions marked by metallic celts, which may have symbolized war chiefs of a kind, were most commonly recruited from the Raptor and Nonraptorial Bird clans. Expectedly, sodality positions of achievement or membership, indicated by breastplates and earspools, were occupied by persons of many different clans. Finally, contextual evidence of several different forms, distinct from the results of the univariate and multivariate analyses, indicate that the Bear clan served as a mortuary specialist of a kind, as did the Canine and Raccoon clans.

(6) The success of clans in attaining positions of leadership or importance was highly correlated with both their wealth and their social networking through sodalities and achievement within sodalities. The significance of wealth to advancement follows Sahlins's (1972) economic theory of the basis of social power and leadership in middle-range societies. In contrast, the relative sizes of clans do not appear to have significantly influenced their attainment of key social positions. Chagnon's (1979) demographic theory of the foundations of social power and leadership in middle-range societies does not seem critical to the Ohio Hopewellian case. Additionally, although clan wealth and networking influenced clan sociopolitical success, most clans were roughly similar in their wealth and degree of networking. The Fox and Elk clans, however, had noticeably less wealth and were significantly less well networked through sodalities than other clans.

The ultimate causes of differential access of clans to critical social roles in Ohio Hopewellian societies is empirically unclear. It is possible that differential religious advantages of the kinds posited by Netting (1972) were the root causes of differential success in access to important social positions, and that clan wealth and networking differentials flowed from sociopolitical success. Religious and economic factors may have also worked in combination as root causes of social and sociopolitical differentiation of the Ohio Hopewellian clans.

(7) No evidence was found for the existence of phratries, as regular, formal, or informal relationships among clans.

(8) The relatively common occurrence of bear canines among Ohio Hopewellian graves, which is one defining characteristic of Hopewell across the Eastern Woodlands at large (Seeman 1979a:313, 381), probably does not indicate the large size of the Bear clan and its success in filling social roles of importance. Rather, a variety of lines of contextual evidence suggests that bear canines often were gifts to the deceased or markers left with them by Bear clanpersons who were mortuary specialists. This interpretation suggests the possibility that a bear-related mortuary role was an essential element of the religious ideas and practices that constituted panregional Hopewell.

In conclusion, the detail with which a picture of Ohio Hopewellian clan life can be painted was constantly a surprise to us, as we worked through the analyses and data patterns presented here, and may be to the reader as well. Cross-cultural tendency for horizontal social distinctions to be marked much more subtly than vertical ones in the mortuary realm (Carr 1995b; O'Shea 1981) would suggest the unlikelihood of reconstructing clan organization and function to the extent that we have been able. However, taking a point of view contextualized in the culture of Ohio Hopewellian societies makes the material visibility of Ohio Hopewellian clanship more understandable. Two matters are relevant. First, Ohio Hopewellian peoples placed clear importance culturally on the social realm—positions and relationships—and in symbolizing these richly in material ways. This preoccupation was noted early on in the development of modern archaeology's interest in prehistoric sociology (e.g., Struever 1964:88, 1965:216–218; Struever and Houart 1972:49). Second, in the "economy of symbols" (J. A. Brown 1981:28) of Ohio Hopewellian societies, the order of importance given to materially expressing various social and religious matters in mortuary settings was not topped by vertical social distinctions. Instead, within each of the large, excavated Hopewellian charnel houses of the Scioto valley,[25]

community affiliation and intercommunity alliances—horizontal distinctions—were given priority for symbolization over social ranking (if it existed) and social prestige generally (Carr, Chapter 7). Likewise, in the Great Enclosure cemetery within the Turner site, horizontal distinctions among social units whose graves were oriented in two different directions were emphasized (Coon 2002; Greber 1979a). Within the context of this cultural value system, it is reasonable to find that clans, as yet another horizontal dimension of social differentiation, were given recognition materially in the mortuary realm of Ohio Hopewellian societies.

NOTES

1. Several clans, especially among the Creek, were named after cultural artifacts such as the arrow. These are exceptions to the general rule, probably due to the Creek's unique way of creating clans (see Swanton 1928).
2. For one spectacular attempt, see Swanton's (1928) study of Creek organization.
3. The phratries listed in Table 8.2 are the most common that Swanton (1928:122–123) could find, but still represent a minority of the phratries that actually existed.

4. For example, among the Potawatomi, one or two phratries (Water, Bear) have Lower World associations, two (Buffalo, Wolf) have Middle World associations, and one (Bird) has an Upper World association.
5. Knight (1990a:9) believed that the individual clans constituting the Timucua commoner division were probably exogamous, though.
6. In addition, eponyms that were not translated in the literature are not included in Table 8.1 Such clans probably were unique.
7. The ranking of clans for this comparison, including the tau-*b* test, uses somewhat different measures of commonality for the animal eponyms of historic clans, animals represented by power parts, and animals depicted on platform pipes. The Historic data describe the number of tribes (analogous to regions) that had a clan of a given animal name present. The power part data measure both the number of regions in Ohio (analogous to tribes) that had a clan of a given animal name present and the number of people within each of those regions who were members of that clan. The platform pipe data estimate the number of individuals who were associated with given animal species and who assembled at (or whose remains were brought to) Tremper and Mound City from unknown distances and regions (analogous to tribes) and deposited (or had deposited) their pipes there.
8. Copper headplates with representations of animal power parts were not defined here as clan markers. If persons buried with real and copper effigy power parts were clanpersons of moderate to high importance (see below), it might be argued that persons buried with copper headplates having power part representations were top clan leaders. In line with this interpretation, such headplates are much more elaborate and bigger than real and copper effigy power parts and are much less frequent than power parts, occurring in only 11 of 855 burials across Ohio. However, the bulk of the archaeological evidence weighs to the contrary. First, only four of the nine species that are represented by power parts and that clearly signify clans (see Clan Names in Ohio Hopewellian Societies) are found in headplate form: elk, feline, nonraptorial bird, and bear are, while canine, raccoon, raptor, beaver, and fox are not. Second, the great majority of headplates do not have power part representations—they are plain—and one takes the form of a headless human body, which does not obviously refer to a clan. Third, of the 11 burials with headplates having animal power part representations, none also have real or copper effigy power parts of the same species. Six burials with headplates have no additional real or effigy power parts, four burials with headplates that do not represent bear have bear power parts, and one headplate with a copper elk rack has, instead, canine and bear power parts. In Chapter 7, additional considerations led to the conclusion that headplates were indicators of leadership of a community or some other very large-scale social unit.

9. Regions that lacked clan markers were the Tuscarawas tributary to the Muskingum valley (Kohl, Martin, and Yant sites), the southern Muskingum valley (Marietta site), the northern Scioto valley around Columbus (Wright–Holder and Melvin Phillips sites), the central Scioto valley around Circleville (the Circleville, Ginther, Westenhaven, and Snake Den sites), and the Great and Little Miami valleys around Dayton (Finney, Lee, and Pence sites).

10. The 85 individuals include 10 within 4 graves, each of which contained multiple individuals for whom it is unclear who was associated with the clan marker(s) present in the grave. In these cases, all individuals in the grave were assumed to have membership in the clan(s) indicated. The 10 individuals are Mound City, Mound 13, Burials 1A–D; Ater Mound, Burials 20A–B; Hopewell Mound 25, Skeletons 248–249; and Hopewell, Mound 25, Skeletons 260–261.

11. The pair of pots was found in Mound City, Mound 2 (Mills 1922b:510–511; Squire and Davis 1848:190). The duck feet with bird head appendages were found in Mound City, Mound 7, Burial 12 (Mills 1922:332, fig. 39, 361, fig. 66). In addition, an antler carving that mixes elements of bird and bear, again animals associated with the Upper versus the Lower World, was found at Hopewell, Mound 25, Skeletons 260–261.

12. A total of 284 deer and elk astragali was found at Turner, Mound 4, Central Altar. The four graves with effigy deer antler headplates are Mound City, Mound 13, Burial 4; Mound City, Mound 7, Burial 9; Hopewell, Mound 25, Skeletons 260–261; and Hopewell, Mound 25, Burial 12. The one ceremonial deposit with a deer effigy copper cutout is Hopewell, Mound 25, Copper Deposit. In addition, a unique, complete doe skeleton was found in grave 5 of Mound C, the McKenzie mound group.

13. Instead, the compositions of the two clusters are almost fully complementary, with Canine, Feline, Beaver, and Raptor clans represented in the West Cluster under Seip–Pricer and Nonraptoral Bird and Raptor clans represented in Cluster E under Hopewell 25. Interpreted at face value, this situation appears to reflect the practice of the North Fork community burying certain clans (Nonraptorial Bird, Raptor) within the mound (Hopewell 25) in their own community territory and burying other clans (Canine, Feline, Beaver, and Raptor) in the mound (Seip–Pricer) outside of their territory. This burial pattern would not be unusual if the different clans filled different important social roles, and persons of different specific roles were buried in the two different cemeteries. The situation does not appear to indicate a misinterpretation of which clusters under Hopewell Mound 25 and Seip–Pricer represent which communities. No other coupling of burial clusters from the two mounds provides any better correspondence in clan markers.

14. Expectable cell values can be calculated from either the percentages or the counts of burials with a given kind of clan marker having artifact indicators of a given social role. Both calculations produce the same results, despite the different assumptions they imply—count data implying that all clans had equal access to burial in the cemeteries studied, and percentage data overcoming any deviations from this ideal burial pattern.

15. An owl and a possible nighthawk are both birds of the night, which is commonly associated with death in Woodlands cosmology. A possible bear effigy pipe recalls the Wray figurine (Dragoo and Wray 1964), which depicts a bear shaman with a decapitated head on his lap.

16. In the Sundance of the Sioux, the sundancer blows a hollow eagle-bone whistle with attached feathers as he dances and prays to *Wankan-Tanka*, the Divine one above, for healing and well-being. Power from *Wankan-Tanka* flows through the sun to the sacred tree (*axis mundi*) and thence to the sundancer. The role of the hollow-bone eagle whistle in channeling this energy to the sundancer is unclear (Mails 1978:99–100).

17. The only exception to this pattern found in dozens of burials is a large ceremonial deposit of metallic celts placed on top of skeletons 260–261 within Mound 25 at the Hopewell site. Skeleton 260 wore a copper effigy elk antler headdress, and one other headplate was found in the grave (Case and Carr n.d.). It is not clear that any of the celts were specifically the social paraphernalia of either of the two deceased persons.

18. Breastplates and earspools were identified as sodality markers by traits of theirs *other* than the diversity of clans with which they associate. The traits include primarily their commonality, occurrence almost always with adults, association with both males and females but more so with males, and occurrence together at times and, secondarily, their association with prestigious artifacts and a difference in their prestige implied by the artifacts with which they associate (Carr, Chapter 7).

19. Specifically, whereas the roles examined in the first analysis, above, were defined "univariately" with individual artifact classes, noting their form and nature, the roles in the second analysis were defined "multivariately" by grouping artifacts that occurred together repeatedly in burials as sets and that shared a common function. Also, the roles defined in the first analysis are based on the artifact classes found in only the 53 burials that contained clan markers, whereas the roles defined in the second study are based on artifact class associations found in a much larger sample of 767 burials, regardless of whether or not clan markers were present in the burials.

20. A Jaccard level of similarity of 0.1 or greater between a kind of clan marker and an artifact class was judged to indicate a stable, repeated pattern of association based on the experience gained in working with the Jaccard matrix and multidimensional scaling plots calculated in Chapter 5. In particular, the 0.1 cutoff level accommodated the fact that clan markers are infrequent compared to many other artifact classes, leading to asymmetrical associations between them, which would naturally yield fairly low Jaccard coefficients.

21. Alternatively, the archaeological association may indicate that bear power parts marked not a clan but a third

sodality—a bear sodality—the members of which over-lapped moderately with the members of the sodalities marked by breastplates and earspools, as identified in Chapter 7 by Carr. This is a reasonable alternative interpretation at first glance, given that the two sodalities marked by breastplates and earspools themselves are known to have had moderately overlapping memberships, and given that a social function for the potential third sodality—in funerary ritual—can be specified (see Relative Sizes of Hopewellian Clans, above). A bear sodality also might have served in the arena of medicine. Bear medicine societies were and are common among Algonquian, Iroquoian, and Siouan peoples (Abler and Tooker 1978:515; Dewdney 1975:116–121; Gill 1992:23–25; Tooker 1978:460; Weaver 1978:534). Among the Ojibwa, the bear was a key power for practitioners of the fourth level of the Grand Medicine Society, or Midewiwin (Dewdney 1975:109, 111, 115, 138, 147, 149–150). In Algonkian belief , at least, bears and bear paws are associated with herbs and thus healing, given that bears dig for roots with their paws (Dewdney 1975:115, fig. 114).

The specific degrees of overlap in membership of the three posited sodalities are as follows. In our sample of 767 burials, 39.3% (24 of 61) of the burials with bear power parts have breastplates and 41.0% (25 of 61) have earspools. Also, 27.6% (24 of 87) of the burials with breastplates have bear parts and 42.5% (37 of 87) have earspools. Finally, 20.7% (25 of 121) of the burials with earspools have bear parts and 30.6% (37 of 121) have breastplates. Ethnographically, for tribal societies, such overlapping membership among sodalities is a socially reasonable reconstruction—see Chapter 7, Note 17.

The possibility that bear power parts might have marked a sodality is also in line with some evidence for yet additional sodalities beyond those symbolized by earspools and breast plates (Carr et al. Chapter 13). However, these identifications are tentative.

Taking bear power parts to represent a sodality rather than a Bear clan, however, would leave Ohio Hopewellian societies without material evidence of a bear clan. This situation would run counter to the ethnohistoric record, where Bear clans were the second most common clans in the Northeastern, Great Lakes–Riverine, and Southeastern tribes of the Woodlands (Table 8.8). Accordingly, the idea of a Bear sodality seems less likely.

22. The various Ohio Hopewellian clans repeatedly filled the following numbers and percentages of the 13 role sets defined in Table 8.14: canine (5 sets; 38.5%), feline (3 sets; 23.1%), raptor (3 sets; 23.1%), raccoon (3 sets; 23.1%), beaver (1 set; 7.7%), elk (1 set; 7.7%), deer (1 set; 7.7%), and fox (1 set; 7.7%). These statistics pertain to only the stable, boldface entries in Table 8.14, where Jaccard similarity coefficients of 0.1 or greater were observed and the association between a clan marker and an artifact class is relatively strong. If one assumes that clan markers in burials only indicated the clan of the de-

ceased and were not occasionally gifts to the deceased, then weaker associations can also be considered—both the boldface and the regular entries in Table 8.14. Using these observations, the various Ohio Hopewellian clans repeatedly or occasionally filled the following numbers and percentages of the 13 role sets defined in Table 8.14: feline (12 sets; 92.3%), canine (9 sets; 69.2%), raptor (9 sets; 69.2%), beaver (8 sets; 61.5%), raccoon (5 sets; 38.5%), elk (4 sets; 30.7%), deer (3 sets; 23.1%), and fox (1 set;, 7.7%).

23. The applicability of Sahlins's theory of the economic foundations of social power is evident in the correlation between clan wealth and success in gaining access to leadership positions, generally. However, the correlation is highest (.830) for shamanic leadership positions, which one would instead expect to be founded more on spiritual than economic advantages, and is lowest (.179) for nonshamanic community-wide leadership positions, which one would instead expect to be bolstered economically. The reason for these unexpected patterns is unclear. However, the correlation between shamanic leadership positions and clan wealth does suggest that such positions had probably evolved beyond classical shamanic ones and become more secularized, in line with findings in Chapter 5.

The applicability of the idea of social networking through sodalities as a basis for leadership is supported by the correlation between levels of clan participation or achievement in sodalities and access to leadership positions. The idea is not clearly supported or refuted by this correlation being higher for nonshamanic, community-wide leadership positions and lower for shamanic leadership positions. Sodalities could be religious or otherwise in nature, and participation in them could have favored attainment of religious, shamanic positions or nonshamanic ones.

24. If the extra clan markers in a grave represent gifts from unrelated clans or personal power animals of the deceased, then there could be more than two markers per grave, and there should be no strong pattern for markers of given clans to pair or to predominate in the sample. In fact, the graves that do not support the hypothesis of mortuary specialists of one clan leaving their clan markers in burials (i.e., those without a Canine clan marker) do have a diversity of clans and one of the graves has more than two markers (Table 8.16).

If the multiple-clan marked burials indicated natal and marriage clans, there should never be more than two clan markers (other than Bear or Canine; see above) buried with an individual, and the deceased should be old enough to have been married. Also, individuals buried with multiple clan markers should all be of the same sex. In a matrilineal society, they should be male, because children in this case would belong to a different clan than their father's. In a patrilineal society, the persons buried with multiple clan markers should be female, because children in this arrangement would be members of a different clan than their mother's.

The hypothesis of natal and marriage clan markers has good support considering the data in Table 8.16 but less support than other ideas considering sampling issues and the results of other kinds of analyses. Of the seven multiple-clan marked graves, five have exactly two clans marked. Of the four burials for which there is age and/or sex data, the buried individual is always a male of marriageable age. (Here we assume that the burial from Hopewell Mound 23, aged as a "teen," was of marriageable age.) It is possible, then, that one clan marker in these burials likely represents the man's own natal clan, and the other represents that of his children. If men's children were members of other clans, this would imply that Scioto Hopewellian societies reckoned descent matrilineally. The two cases with three clan markers could logically reflect men that had been married twice or polygynously to women of different clans and that had children of two different clans, additional contributions of clan

markers gifted from unrelated clans, personal power animals of the deceased, and/or unknown factors.

The implication that Scioto Hopewellian societies were matrilineal would align them more closely with matrilineally dominant tribes of the Southeastern Woodlands than the patrilineally dominant tribes of the Northeast. This interpretation is within the range of possibilities found in our comparison of Hopewellian clan eponyms to those of the Historic Northeastern and Southeastern Woodland tribes (see Hopewellian and Historic Woodland Clans Compared, above). However, the interpretation does not accord with the conclusions reached by Field et al. (Chapter 10), whose study of gender is designed to handle the issue of descent more directly and is based on a much larger sample of burials.

25. The large charnel houses are those under Seip–Pricer mound, Seip-Conjoined mound, Edwin Harness mound, Hopewell Mound 25, and Ater mound.

Gender, Status, and Ethnicity in the Scioto, Miami, and Northeastern Ohio Hopewellian Regions, as Evidenced by Mortuary Practices

STEPHANIE FIELD, ANNE J. GOLDBERG, AND TINA LEE

Prehistoric Hopewellian peoples of Ohio have attracted the interests of anthropologists and others for hundreds of years, since the first discovery of their burial mounds and earthworks. However, the concept of gender in Hopewellian societies in Ohio and elsewhere has never been systematically researched. This study begins to correct this lacuna, taking a current anthropological view that gender relations are critical for understanding the wider social dynamics of a people.

The goal of this chapter is to gain insight into the social life of Ohio Hopewellian peoples, as indicated by certain aspects of gender. The topics we broach include females as possible leaders, kinship structure, and the possibility of multiple, alternative genders, especially among shaman-like practitioners. These subjects are accessible, archaeologically, through the exploration of so-ciologically sensitive patterns preserved in the burials of Ohio Hopewellian individuals, many hundreds of which have now been excavated, reported, and descriptively coded for cultural analysis (Case and Carr n.d.) and are analyzed here. In addition, our study of these subjects has been

facilitated by our working at a regional, Ohio-wide scale and comparatively among varying local Hopewellian cultural traditions.

Our study focuses on three areas of Ohio with culturally distinct Hopewellian traditions: northeastern Ohio, the central Scioto valley, and southwestern Ohio (see Figure 9.1). From these three regions, a total of 129 adults buried in ten mortuary sites have secure enough information on their ages and/or sexes, and definitive enough artifactual evidence of their social roles, to analyze for our purposes. An additional 70 unsexed subadults that came from these sites and that had role-definitive artifacts in their graves complemented the adult sample and were also essential to interpretation.

This chapter begins by exploring the social positions of leadership and prestige to which females had access, compared to males, and what this and other lines of evidence indicate about kinship structure. The study is made by examining the frequency of male versus female burials that had markers of such positions. The particular social positions considered include shamanic
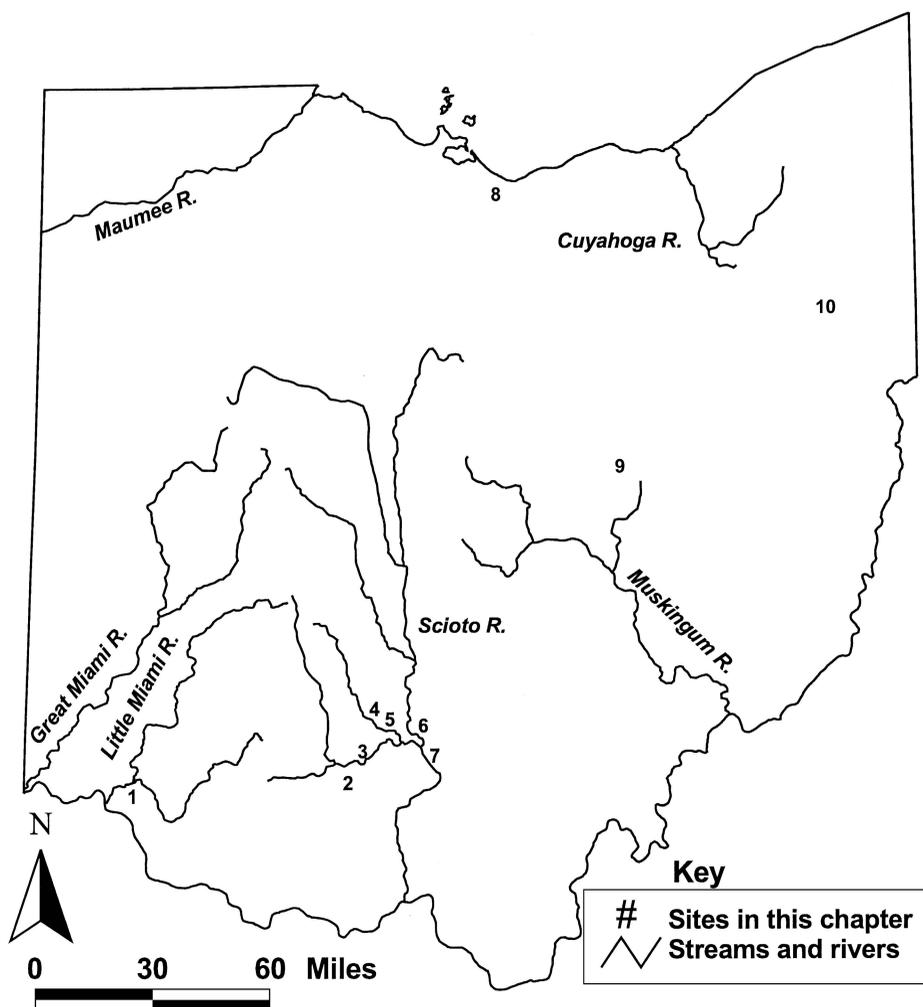
Figure 9.1. Archaeological sites used in this study, divided by region. Southwestern Ohio: (1) Turner. Central and south–central Scioto drainage: (2) Rockhold, (3) Seip, (4) Ater, (5) Hopewell, (6) Hopeton, and (7) Liberty. Northeastern Ohio: (8) Esch, (9) Martin, and (10) North Benton.

and nonshamanic ones of several kinds, as well as clan membership and personal prestige. We find that women's positions in Hopewellian societies varied greatly among societies, with female leadership and prestige primary to southwestern Ohio, male leadership and prestige exclusive in northeastern Ohio, and both male and female access to leadership positions and prestige in the central Scioto, with a bias toward male recruitment for most positions there. The patterns hold for both shamanic and nonshamanic roles. These patterns and others suggest the reckoning of descent matrilineally in southwestern Ohio

and patrilineally in northeastern Ohio and the central Scioto area. The findings correspond with one current anthropological hypothesis that matrifocality affords women access to prestigious religious positions. Also, the social and political differences found between the northern and the more southern Ohio Hopewellian traditions parallel the same distinctions found historically between Algonkian and Southeastern Woodland tribes.

Next, burials of possible shamanic practitioners are examined to assess the possibility of multiple genders. Possibly three gender-variant

individuals are found, with gender variance revealed in shamanic roles. The finding accords with the ethnological observation that gender variance associates with roles of spiritual power in Native American societies and in societies where women and men have roughly similar prestige.

Finally, we discuss what local variations in gender relations can tell us about Hopewellian social organization more generally. We conclude that gender relations were not critical to the definition of any interregional Hopewellian identity that might have once existed. Also, because, cross-culturally, differences in gender ideology may correspond to differences in social stratification or ethnic identity, the contrasts in gender relations found here among local Hopewellian traditions suggest differences among them more broadly in social structure and ethnicity, even though they shared in widespread Hopewellian rituals and beliefs.

Throughout this chapter, for simplicity, we use the term *shamanic* to refer to magicoreligious practioners who may have been either classic shaman who played many social and religious roles (Carr and Case, Chapter 5, Table 5.1) or specialists who filled only one or a few of these roles. We do not distinguish between generalists and specialists terminologically, as have Carr and Case (Chapter 5). However, we do note that most if not all of the individuals with a shaman-like cast studied here appear to have been specialists of various kinds.

Field's initial interest in applying a gendered analysis to Hopewellian mortuary data prompted the root work on this chapter. The statistical mortuary analyses presented here result from her efforts. Lee's particular expertise in gender theory and Goldberg's established interests in ethnicity and regional analysis added interpretive depth to the analyses. The coauthors worked as a team in applying the theoretical frameworks to the Hopewell data and in drawing the gender and social interpretations presented here.

BACKGROUND ON GENDER

Archaeological studies have historically often been androcentric through the projection of con-

temporary social roles and gender assumptions onto past societies. The historical predominance of ethnographies from the male point of view has also led to gender bias in anthropology (Conkey and Spector 1984). With the realization and recognition of this problem have come myriad articles that explore complicated gender issues as well as reconsider previous studies and conclusions on gender (Conkey and Gero 1991; Conkey and Spector 1984; Rosaldo and Lamphere 1974). These investigations often challenge basic assumptions about gender, such as the importance of biological differentiation and its effect on social roles and positions (Conkey and Spector 1984).

For example, in this book, Rodrigues (Chapter 10) examines musculoskeletal markers (MSM) on skeletons from the Turner burial site in Ohio. She suggests that females rather than males more often performed activities such as flint-knapping, hide preparation, and running. These activities are probably related to hunting, and have been historically assigned to males. In contrast, Rodrigues found that males more often performed nut- and seed-processing activities, which have historically been thought to be female-oriented. These results conflict with many traditional assumptions about gender roles, including ideas about the division of labor among the sexes, which posit that males work with harder materials more commonly, whereas females work with softer ones (Murdock 1949a; Murdock and Provost 1973).

Before addressing archaeological data about the status of women in Hopewellian societies, it is important to consider the concept of the status of women generally in a cross-cultural perspective. First, "status" does not have a single meaning cross-culturally, so status can be addressed only in culturally specific terms. Second, "the status of women" is a complicated concept. Current feminist theory asks us to consider multiple lines of evidence about women, such as their power, prestige, and autonomy in various areas of life. Current theory also asks us to think about differences among women rather than seeing "woman" as a single analytic category (Collins 1990; Ortner 1990, 1996; Lorde 1984; Moore 1988). Since we only have access to mortuary data, our conclusions will probably act

as only a first step toward understanding women in Hopewellian societies.

However, our evidence does contain clues about several factors that are known cross-culturally to influence the status of women. For the purposes of this discussion, two factors are important: access to prestigious roles in society and family structure. First, Ortner and Whitehead (1981:16) convincingly argued that gender *is* a prestige structure and that prestige structures within a society (like class, rank, age, and gender) tend to be consistent with one another. In other words, it is useful to ask, to what prestigious roles do women have access, in order to get a sense of their status in society. Furthermore, the degree to which a society is stratified tends to correlate with the status of women. In other words, the broad pattern cross-culturally is for inequality between men and women to increase when inequality between people in general increases (Brettell and Sargent 2001)—keeping in mind that the processes are complex and there is not a direct cause-and-effect relationship between general social stratification and stratification in other domains. Second, family structure also has implications for women's status cross-culturally. In general, matrilineal and matrilocal societies afford women a greater degree of power and autonomy than patrilineal and patrilocal arrangements. In matrilineal systems, women remain with their kin groups after marriage and can rely on sisters, mothers, and other female and male relatives for support (Brettell and Sargent 2001; J. K. Brown 1970; Friedl 1975; Lamphere 1974). In contrast, in patrilineal systems, women often leave their kin groups upon marriage and have less support from blood relatives (Brettell and Sargent 2001; Wolf 1972). Again, it is important to keep in mind that these are not absolute correlations but, rather, general patterns. In many matrilineal societies, brothers and uncles can have control over the activities in the household (Menon 1996), and in patrilineal societies with a preference for cousin marriage, women can still remain near kin (Friedl 1989).

Gender studies do not only consider the status of women, however; they also consider how systems of gender are constructed in general. Multiple genders or gender variance appear in societies around the world, often associated with shaman, and are especially prevalent in North American cultures (Basilov 1978; Fulton and Anderson 1992:609; Holliman 2001:128; Nanda 2000; Roscoe 1998,1999:8,26; Whitehead 1981). Among Siberian peoples, shaman with an alternative gender role are exceedingly common and are thought to be more powerful because they represent a synthesis or equilibrium of the two sexes (Halifax 1979; Ivanov 1978). Early French explorers in North America provided considerable evidence illustrating the presence of multiple genders there, specifically among tribes surrounding the Ohio Hopewellian area (Lahontan 1905; Roscoe 1998). These tribes include the Illinois, Miami, Potawatomi, Winnebago, Fox, and Sauk (Hauser 2000; Roscoe 1998). Although these tribes formalized later than Ohio Hopewellian societies, Hopewellian peoples may have had customs similar to those of the historic tribes.

THE STATUS OF WOMEN AMONG OHIO HOPEWELLIAN PEOPLES

Geographic Areas of Study, Sample, and Data

Local expressions of Hopewellian symbolism and mortuary ritual are found in many regions of the Eastern Woodlands, and have been grouped into various traditions (Griffin 1967). In the past, Ohio Hopewell has commonly been envisioned as one such tradition (Griffin 1967; Fagan 1995a; Ford 1974; Smith 1992), with its primary characteristics derived from the better-known and materially most flamboyant sites in the Scioto valley. Other researchers, however, have recognized the great variability in mortuary practices and/or settlement patterns that distinguish the Great and Little Miami, Scioto, Muskingum, and Lake Erie drainages (Ruby et al., Chapter 4; Carr et al., Chapter 13; Carskadden and Morton 1996; Seeman 1996) and the artificiality of an "Ohio Hopewell" construct.

We follow the divisionist perspective and focus separately on the distinct sociological situations in three areas of Hopewellian cultural statement within Ohio: (1) the central and south–central Scioto drainage around Circleville and Chillicothe; (2) northeastern Ohio, including sites in the Lake Erie, Mahoning, and Tuscarawas

drainages; and (3) southwestern Ohio, including the lower and upper reaches of the Great and Little Miami rivers, from Cincinnati to near Dayton. Ten Hopewellian mound and/or earthwork ceremonial centers from these three areas are studied here (Figure 9.1).

A total of 129 individuals that came from the ten sites and that are identifiable to their sex and some of their social roles are examined here. Information on the social roles indicated for an additional 70 unsexed subadults from these sites is also considered. Data on these burials come from a computerized database compiled by Case and Carr (n.d.). The database documents the age and sex of the deceased where known, whether the deceased was cremated or inhumed, the number of individuals associated together in a grave, aspects of construction of tombs, grave size and orientation, grave good inclusions, and the bodily positions of the grave goods. An analysis of the accuracy of the age/sex data for each skeleton, considering all previous age and sex assessments by sometimes differing anthropologists, is also given in the database. The information in the database is a cross-checked compilation of information from published site reports, unpublished field notes and maps, museum catalog and accession records, and museum correspondence.

The burials considered for analysis were restricted to those with reasonably reliable information on their age and/or sex. Individuals coded as male (M), female (F), probable male (M?), probable female (F?), and questionable male and questionable female (Q), as well as subadults with indeterminant sex (I), were included for study. Individuals with two different sex assignments by two or more researchers who were in disagreement (D), or with no sex indentification, were excluded. The reliability estimates of the assignments take into consideration the nature of the aging and sexing techniques known to have been used or available at that time, and the qualifications of the researcher who made the identifications.

The functions and social significance of the artifact classes found with each burial examined here were defined by Carr, based on their morphology, raw material, contextual information other than age–sex associations, and ethnohistor-

ically known counterparts, if any. The functions and social roles of the artifact classes relevant to this chapter are given in Table 9.1, and the complete list is in Chapter 13, Appendix 13.2. The social roles or general categories of social roles assigned to the artifacts include shamanic leaders of several kinds whose roles were specialized and segregated from each other, leaders or other high prestigious roles without clear shamanic associations, prestigious clan roles marked by copper and mica effigies of animal power parts, prestigious personal roles indicated by personal items made of rare metals, ordinary clan roles marked by natural animal power parts, and ordinary personal roles reflected in utilitarian artifacts of nonprecious materials. The roles of the shamanic leaders minimally include war or hunt diviners, diviners for other matters, keepers of cosmological and philosophical knowledge, body processors and/or psychopomps, public ceremonial leaders, and practitioners of unknown kinds. These are the classic roles of shaman, cross-culturally, but the duties were distributed among diverse individuals in Ohio Hopewellian societies, as they are in tribal and more complex societies generally (Carr and Case, Chapter 5; Winkelman 1989,1990, 1992). The nonshamanic leadership roles include community-wide leaders indicated by headplates and celts; leaders or high achievers in sodalities marked by earspools and breastplates; possible warriors marked by trophy skull parts or effigy fingers, ears, or hands (but see Carr, Chapter 7, Competition and Cooperation); and certain unknown roles indicated by reel-shaped gorgets, crescents of mica or copper, and copper and mica cutouts without clear cosmological significance.

In the following sections, we address several questions regarding the status of women among Ohio Hopewellian peoples. Since each topic is slightly different, the particular regions, sites, and burials used to answer the questions vary. The specifics are listed at the beginning of each section. Our first topic concerns gender and leadership and what that implies about kinship structure. Next we consider women's participation in a variety of shamanic roles and the possibility of gender variance. Finally, we consider the regional variation present in each of the above

Table 9.1. Artifacts in the Categories of Shamanic and Nonshamanic Leadership, Clan, and Personal Prestige[a]

Subdivision	Artifact
Shamanic leadership	
War or hunt divination	Quartz point
	Other gem point
	Obsidian knives/point
	Mica effigy point
Other divination	Quartz boatstone
	Quartz pebble
	Cone/hemisphere
	Mica sheet
Psychopomp/body processor	Bone awl
Public ceremonial leader	Ocean shell container (with or without spoon)
	Barracuda jaw
	Animal headplate
	Copper rod
Other definitely shamanic	Copper nostrils
	Flute
	Panpipe
	Stone tablet
	Tortoise shell ornament
	Copper, mica, or shell cutout (certain shapes)
	Paint
Nonshamanic leadership/high prestige	
Achieved sodality position	Copper/iron breastplate
	Copper/silver/iron earspool
Leadership	Copper/iron celt
	Nonanimal headplate
Other function	Trophy skull or jaw
	Trophy hand
	Copper, mica, or shell cutout (certain shapes)
	Copper crescent
	Gorget
Clan	
None	Any animal effigy or power part
Personal prestige	
None	Small pipe
	Hair skewer
	Copper/iron pin
	Copper/silver bracelet
	Copper/iron/silver button
	Copper necklace

[a] Only artifacts found in the sexed burials examined for this study were included in this list. For a complete list see Chapter 5, Table 5.4, and Chapter 13, Appendix 13.2.

topics and what that suggests about Hopewellian social organization and ethnicity at the regional scale.

Did Ohio Hopewellian Females Occupy Different Types of Leadership Roles Compared to Males? What Do These and Other Role Distributions Indicate about Kinship Structure?

The Scioto region is the main focus of this analysis. Southwestern and northeastern Ohio are discussed less because of the relatively smaller number of burials and the fewer well-sexed burials known from these two regions.

All sexed burials that contained at least one artifact denoting nonshamanic or shamanic leadership, clan membership, or personal prestige (Table 9.1) were considered for this question. Sexed burials that lacked artifacts and unsexed subadults provided important contextual, comparative information. Any kind of artifact that appeared in at least three burials in the Scioto area, and that denoted some type of leadership role, was considered for analysis individually. Additionally, artifacts that were either sparse or more common were grouped into the broad functional categories of shamanic leadership, nonshamanic leadership/high prestige, clan membership,[1] or personal prestige,[2] and these categories were considered regionally. See Table 9.2 for the distribution of artifacts by region and sex. Note that only the presence of the artifact class in a burial was considered, not the number or mass of items of the class.

Subadult burials provided an important source of data regarding differing paths of recruitment to powerful positions. From an anthropological perspective, there are two ways in which power can be obtained: by ascription or by achievement. An ascribed position is characterized by a predetermined relationship between the position and those who fill it, for example, by inheritance or location of birth. Achieved positions, on the other hand, are earned through personal actions or qualities. When analyzing the data, the presence of artifacts in burials of subadults is assumed to indicate an ascribed position, because it is unlikely that a child could have demonstrated a

quality or action to merit such a role.[3] With these conditions in mind, we analyzed each region separately.

Central Scioto Region

There are 95 adult sexed burials—53 males and 42 females—and 45 children/subadults in the central Scioto region (Table 9.2). To determine the distribution of artifacts in each category within each sex, the number of burials of a given sex having the artifact category was divided by the number of that sex in the population (number of males with artifact type/number of males in sexed population, number of females with artifact type/number of females in population, number of subadults with artifact type/number of subadults in population). In other words, the percentages reflect the commonality with which each sex was associated with a particular artifact class or role, on a within-sex basis. Additionally, the statistical significance of the difference between the male and the female distributions was evaluated. Different statistical tests were required under different empirical conditions: chi-square with Yates's continuity correction, Fisher's exact test, or the information statistic ($2\hat{I}$).

Table 9.2 (Central Scioto region) shows that males, more frequently than females, held shamanic leadership positions (47% of M, 29% of F, 18% of I), nonshamanic leadership/high-prestige positions (70% of M, 33% of F, 22% of I), and clan positions (38% of M, 2% of F, 7% of I). Personal roles of prestige did not differ significantly in their distribution (11% of M, 10% of F, 2% of I). Notably, fewer females had clan items compared to shamanic and nonshamanic leadership items.

When these larger categories of roles are broken down further, certain patterns begin to emerge. The nonshamanic leadership/high-prestige category consists of several component artifact types. Of these, copper and iron breastplates were likely associated with achieved positions within a sodality (Carr, Chapter 7). These items were held more often by males than by females and, in turn, more often by females than by children (36% of M, 19% of F, 7% of I). Copper, silver, and iron earspools were also

Table 9.2. Artifact Class Distribution among the Sexes and Associated Statistics

Artifact class	M+[a]	F+	M−	F−	χ^2	p value	Fisher's Exact p value	$2\hat{I}$	p value
Central Scioto region									
Mica sheet	2	2	51	40	0.057	0.812	1.000	0.056	0.813
All other divination	4	4	49	38	0.119	0.730	0.729	0.118	0.731
Awl	7	1	46	41	3.561	0.059	0.073	4.073	0.044
Conch	9	5	44	37	0.481	0.488	0.569	0.488	0.485
All public ceremonial	15	5	38	37	3.790	0.052	0.075	3.969	0.046
War or hunt divination	5	1	48	41	1.970	0.160	0.223	2.186	0.139
All shamanic leadership	26	12	27	30	4.097	0.043	0.058	4.163	0.041
Breastplate	19	8	34	34	3.251	0.071	0.108	3.338	0.068
Earspool (metal only)	24	7	29	35	8.728	0.003	0.004	9.144	0.002
Celt	4	3	49	39	0.006	0.940	1.000	0.006	0.938
Headplate	6	0	47	42	5.075	0.024	0.032	7.322[b]	0.007
Trophy skull	7	2	46	40	1.949	0.163	0.290	2.084	0.149
All Nonshamanic Leadership/High Prestige	37	14	16	28	12.540	<0.001	<0.001	12.794	<0.001
Clan	20	1	33	41	17.010	<0.001	<0.001	20.662	<0.001
Personal prestige	6	4	47	38	0.080	0.777	1.000	0.081	0.776
Southwestern Ohio region									
Mica sheet	0	1	14	5	2.456	0.117	0.300	2.534[b]	0.111
All other divination	0	1	14	5	2.456	0.117	0.300	2.534[b]	0.111
Awl	2	1	12	5	0.019	0.891	1.000	0.018	0.893
Conch	0	3	14	3	8.235	0.004	0.018	8.591[b]	0.003
All Public Ceremonial Leader	0	3	14	3	8.235	0.004	0.018	8.591[b]	0.003
War or hunt divination	0	1	14	5	2.456	0.117	0.300	2.534[b]	0.111
All shamanic leadership	2	3	12	3	2.857	0.091	0.131	2.692	0.101
Earspool	1	2	13	4	14.001	<0.001	<0.001	2.065	0.151
All Nonshamanic Leadership and/or High Prestige	1	2	13	4	2.260	0.133	0.202	2.065	0.151
Clan	1	1	13	5	0.423	0.515	0.521	0.392	0.531
Personal prestige	0	1	14	5	2.456	0.117	0.300	2.534[b]	0.111
Northeastern Ohio region									
Mica Sheet	1	0	8	5	0.598	0.439	1.000	0.926[b]	0.336
All public ceremonial leader	1	0	8	5	0.598	0.439	1.000	0.926[b]	0.336
War or hunt divination	2	0	7	5	1.296	0.255	0.505	1.949[b]	0.163
All shamanic leadership	3	0	6	5	2.121	0.145	0.258	3.091[b]	0.079
Brestplate	1	0	8	5	0.598	0.439	1.000	0.926[b]	0.336
Earspool (metal only)	1	0	8	5	0.598	0.439	1.000	0.926[b]	0.336
Trophy Skull	1	0	8	5	0.598	0.439	1.000	0.926[b]	0.336
All Nonshamanic Leadership and/or High Prestige	1	0	8	5	0.598	0.439	1.000	0.926[b]	0.336
Clan	1	0	8	5	0.598	0.439	1.000	0.926[b]	0.336
Personal prestige	2	0	7	5	1.296	0.255	0.505	1.949[b]	0.163

[a] A plus indicates that the artifact type is present for males, or females and probable females or probable males. A minus indicates, conversely, that the artifact type is absent for the sex classes.
[b] This value is an approximation of $2\hat{I}$, usin ln(0) = 0 for cells with counts of zero.

likely associated with achieved positions in a sodality (Carr, Chapter 7), and are associated more with males than with females, and only once with a subadult (45% of M, 17% of F, 2% of I). Considering these two items together shows that women were capable of earning prestigious positions, but did so at a lower rate than men. In contrast, headplates, which most likely marked

community-wide or very powerful leaders (Carr, Chapter 7), were held exclusively by males (11% M). At the same time, copper celts, which also were probably symbols of community-wide leadership and are largely disassociated from headplates (i.e., a separate leadership role; Carr, Chapter 7), were held nearly equally by females, males, and small children (8% of M, 7% of F, 9% of I), potentially indicating an ascribed position. Finally, burials containing trophy skulls, which may indicate prowess in warfare or war leadership, are predominantly male (13% of M, 5% of F, 2% of I). In sum, these artifact classes demonstrate that women were more likely to be considered for some roles than for others, and were considered nearly equally for some positions, yet were often less likely to occupy the most powerful positions. It is clear that men more often occupied nonshamanic leadership roles than women or children, except in the case of the role indicated by copper celts.

Clan and personal prestige items are less differentiated in their known or probable array of specific roles, so each is examined only as a whole category. A large proportion of males was associated with clan artifacts, compared to females (38% of M, 2% of F, 7% of I). Notably, more subadults than women were buried with clan items. In contrast, females and males possessed personal prestige items roughly equally, while they were nearly absent from children's burials (11% of M, 10% of F, 2% of I). This pattern correlates with the findings of Keller and Carr (Chapter 11), which suggest that Scioto females took active roles in gaining power and prestige within their communities.

We leave the details of shamanic leadership roles and their distributions for discussion in the next section.

All of this evidence helps to reveal the status of women in the central Scioto region. Several patterns emerge. First, headplates were associated only with males, which indicates that women did not have access to the most powerful positions in society. As stated earlier, headplates and other artifacts were determined to indicate powerful positions based on their rarity and material type, and not on age/sex associations.

Second, predominantly males possessed items of achieved leadership/high prestige, including breastplates and earspools. On the other hand, females as often as males had access to at least one position that was marked by copper celts and was likely ascribed, as suggested by the presence of celts in children's burials.

In addition, these distributions of roles among the sexes, as well as the association of clan artifacts predominantly with males, imply that the society probably traced kinship patrilineally. It is also interesting to note, when examining burials containing multiple individuals, that subadults are paired with adult males more often than with adult females (five of eight pairs).[4] This pattern is another indicator of patrilineal organization in the Scioto region.

Southwestern Ohio

Compared to the Scioto area, the southwestern Ohio region paints a different picture of society. Because there are only 14 males, 6 females, and 14 subadults in the sample, and because these individuals come from only one ceremonial center, the data are considerably less reliable. However, they will be examined for strong patterns and for the sake of comparison (Table 9.2, Southwestern Ohio region). Shamanic leadership artifacts were associated primarily with females and subadults (14% of M, 50% of F, 43% of I), and nonshamanic leadership/high-prestige items were also found most often with females (7% of M, 33% of F, 14% of I). Likewise, clan items were associated more often with females (7% of M, 17% of F, 7% of I). Personal prestige artifacts occurred only once, with a female, and so they are omitted from the discussion.

In the nonshamanic leadership/high prestige category, only breastplates and earspools appear in southwestern Ohio. Breastplates (7% of M, 17% of F, 0% of I) and earspools (7% of M, 33% of F, 7% of I) are associated with a majority of females versus males and children. Again, we leave discussion of the details of shamanic leadership roles for the next section.

The above results, even with a small sample size, point strongly toward the idea that

predominantly women held leadership positions in southwestern Ohio, and at Turner specifically. The possibility of a more powerful place for women in the societies of the southwestern Ohio area compared to the Scioto region is also apparent. Finally, we suggest that the society was likely matrilineal, as indicated by the fact that women had the majority of clan items.

Northern Muskingum and Northeastern Ohio

The sample of aged and sexed burials from this region is again small: 9 males, 5 females, and 11 subadults. However, the individuals come from three different ceremonial centers, which show the same strong patterns, giving confidence to our findings. The results for this region (Table 9.2, Northeastern Ohio region) are the opposite of those for southwestern Ohio. Males and subadults were associated with all shamanic leadership, nonshamanic leadership/high prestige, clan, and personal prestige items that appeared in the burial record. Even though there are more males and subadults than females in the sample, this cannot explain the lack of *all* of these categories of artifacts in *all* female burials. Moreover, of the five female burials, three had no grave goods whatsoever. The remaining two had only utilitarian tools: a pottery vessel, and a stone celt and drill, respectively. In contrast, the males and subadults contain a great diversity of prestigious kinds of artifacts used in socially important roles: a mica mirror for shamanic divination; a quartz point possibly for shamanic war or hunt divination; a copper rod possibly indicating shamanic public ceremonial leadership; a panpipe for undefined, possibly shamanic uses; a copper breastplate and earspools that marked sodality memberships or leadership; a trophy skull indicating nonshamanic leadership/high prestige; animal-teeth clan markers; and a pearl necklace as an item of personal wealth. Infants also were buried with socially important artifact classes used in adult roles: mica mirrors for divination; a conch shell container probably used by a shamanic ceremonial leader; bone awls possibly used by shamanic body processors; a panpipe, a tortoise

shell ornament, and a gemstone prismatic blade probably used in shamanic activities; copper celts indicating community-wide leadership; a breastplate and pairs of earspools marking sodality membership or leadership; a trophy skull, silver-covered broach, and gorgets that marked non-shamanic leadership/high prestige; animal teeth and maxilla markers of clan leadership or membership; and platform smoking pipes taken to indicate personal prestige. That infants and children, but not women, were buried with this great diversity of elaborate items highlights that women had little to no power or prestige in the northeastern Ohio area. Additionally, the strong, male-oriented burial program, as well as the adult possession of all clan markers by males, suggests that kinship was probably reckoned patrilineally.

The distinctions in gender roles and prestige found between northeastern Ohio and the central Scioto area are also borne out in the contrasting styles and social role associations of Hopewellian panpipes in the two areas (Turff and Carr, Chapter 18), in mortuary architecture and ceramic styles (Magrath 1945; Seeman 1996:306–308), and in varying natural sources from which silver was procured (Spence and Fryer, Chapter 20).

What Was the Sex Distribution of Shamanic Roles and What Does It Indicate about the Status of Women in Ohio Hopewellian Societies? Within This Context, Is There Evidence for Multiple Genders, Especially Ones Associated with Shamanic Roles?

The burials considered for this question were those with sex information and with at least one artifact denoting a shamanic role by Carr's assessment (see Chapters 5 and 13). Because the three geographic regions of Ohio were shown to have different gender patterns in nonshamanic leadership, it is necessary to consider each region separately when discussing shamanic roles. Also, because only males, not females, in northeastern Ohio had prestigious shamanic (and nonshamanic) items in their graves, this area is omitted from the analysis of gender variance. The

individuals in each region determined to have shamanic roles and their associated shamanic artifacts are listed in Table 9.3, broken down by sex.

The Scioto Region

In this region, which holds the bulk of the data discussed here, the persons buried with shamanic artifacts form a number of distinctive patterns (Table 9.3). Even though the male/female distribution of shaman-like practitioners is unequal (23 M, 12 F; 43% of M, 29% of F), a breakdown of the distribution by specific shamanic roles reveals a more complex social landscape, with female–male parity and female priority in certain domains (Table 9.2, Central Scioto region).[5]

In particular, within the shamanic leadership category, males were more likely to have had possible war or hunt divination items (9% of M, 2% of F; Table 9.2, central Scioto region). This artifact distribution could indicate that war and/or hunt-related activities were generally considered men's work, although not exclusively, as were war tasks among the historic Shawnee of the upper Ohio valley (Howard 1981). Conversely, the distribution of all other divination artifacts, including mica sheets, cones, quartz and colored pebbles, and boatstones, is not significantly different between females and males (8% of M, 10% of F). This pattern could mean that females were considered equal to males with regard to nonwar and nonhunt divination. Thus, whether or not men dominated in the shamanic arena seems to have depended on the specific shamanic task at hand.

Similarly, males held the majority of awls (15% of M, 2% of F, 2% of I), which are thought to indicate corpse processing and/or psychopomp work (Carr and Case, Chapter 5; Carr et al., Chapter 13). In contrast, other shamanic tasks appear to have been distributed differently, indicating areas of female equality or specialty. Tortoise shell ornaments were found in burials of both men and women, as were copper nose inserts. Both of the two kinds of Hopewellian wind instruments, flutes and panpipes, were buried with females in the Scioto region. The fact that males more often had shamanic artifacts masks a more diversified

social realm in which women and men accessed power via different paths.

If burials that had only items of war or hunt divination or only awls—strongly male-associated artifacts—are removed from consideration, the ratio of males to females holding the remaining shamanic positions is much more even (16 M, 11 F; 30% of M, 26% of F). Notably, both of the shamanic domains in which males took a strong lead were related to death and relationships to outside societies or worlds.[6]

Conchs illuminate a parallel aspect of Scioto gender roles. Males have a statistically insignificant majority of conch shells (17% of M, 12% of F, 11% of I), which have been presumed to be an indicator of public ceremonial leadership (see Table 9.1). However, female burials do not contain *any* of the other artifact classes assumed to have been associated with public ceremonial leaders (e.g., barracuda jaws, batons, copper rods), and males have all three known examples of barracuda jaws. These data may signify that the conch shell indicated a distinct role that was accessible to both women and men, even though males were otherwise more powerful than females in public ceremonial leadership, generally.

Conchs also bring up the issue of leadership recruitment through ascription or achievement. Conch shells are present in the burials of children as well as adults. Callender's (1962) ethnographic information on the Central Algonkians suggests that shamanic paraphernalia and bundles would not likely have been gifted to children, which could indicate that conch shells were not shamanic tools at all. However, coupled with earlier data on ascribed versus achieved leadership, an alternate hypothesis emerges. Conch shells may have marked an ascribed position, indicated by the equal proportion of conch shells in the burials of children and adults, and this position would have been available to both women and men. Indeed, this interpretation of the conch shell data supports our earlier conclusion that women had more access to ascribed positions.

In sum, within the Scioto region, different sexes had different shamanic roles. Whereas males more frequently had war or hunt divination and corpse processing items, and exclusively had barracuda jaws, females had more

Table 9.3. Shamanic Practitioners and Associated Shamanic Artifacts

Sex	Provenience	Shamanic artifact(s)
Central Scioto region		
Male	Hopewell Md. 25, S 248	Gem biface (quartz), headplate (rack antlers)[+*]
	Hopewell Md. 4, B09	Gem biface (quartz), fancy prismatic blade (7)
	Hopewell Md. 25, B34	Fancy point (3 mica)[+*]
	Hopewell Md. 25, B22A	Gem biface (quartz)[+*]
	Ater B51A	Fancy point (3 mica), panpipe, conch (3)[+*]
	Hopewell Md. 25, B45A	Barracuda jaw, tortoise shell ornament, Awl (6)
	Hopewell Md. 25, B25	Barracuda jaw, tortoise shell ornament[+]
	Hopewell Md. 25, B41A	Barracuda jaw, cone/hemisphere[+*]
	Hopewell Md. 25, B04	Conch, headplate (copper)[+]
	Hopewell Md. 25, B11	Conch, awl (8), headplate (winged bird)[+*]
	Hopewell Md. 26, B06	Conch, copper nose inserts[+*#]
	Hopewell Md. 25, B24	Conch[+*]
	Ater B15	Conch w/spoon
	Ater B43	Conch
	Hopewell Md. 2, B05	Mica sheet, conch w/spoon[+]
	Seip B77	Mica sheet
	Seip B73	Stone tablet (2), awl (17), conch[+*#]
	Seip B53	Paint[+]
	Ater B09	Quartz pebbles
	Seip B66	Awl (4)[+*]
	Ater B27A	Awl (2)
	Hopewell Md. 23, S187	Awl
	Hopewell Md. 27, B01	Awl
Female	Ater B12	Other translucent biface (quartz)
	Hopeton	Mica sheet, conch, ball of red ocher[#]
	Rockhold Md. 2 B01	Mica sheet[+]
	Seip B45	Cone/hemisphere (3), conch[+]
	Seip B02	Boatstone, copper nose inserts, tortoise shell ornament[+#]
	Hopewell Md. 25, B07	Copper nose inserts [+#]
	Hopewell Md. 25, B12	Flute[+]
	Hopewell Md. 25, S249	Panpipe
	Hopewell Md. 2, B03	Conch+
	Hopewell Md. 2, B04	Conch[+]
	Seip B86B	Conch[+]
	Ater B39B	Awl
Southwestern Ohio region		
Male	Turner encl, Putnam 1886 B15:	Panpipe (2)[+]
	Turner encl, Putnam 1886 B32:	Awl
Female	Turner encl, Saville 1889 B01a–b	Panpipe (2), conch
	Turner encl, Saville 1890 B09b	Fancy prismatic blade, mica sheet, conch w/spoon, awl (6)[+#]
	Turner encl, Saville 1889 B01a–b	Conch[+*]
Northeastern Ohio region		
Male	North Benton Md. 1, B01	Gem prismatic blade+
	North Benton Md. 1, B04	Panpipe, quartz point, sucking tube?
	Martin, Md. 1, Mortine and Randles:1978:13	Mica sheet

Note. [+]Indicates burials that also contain nonshamanic leadership/high prestige artifacts. [*]Indicates burials that also contain Clan artifacts. [#]Indicates burials that also contain Personal Prestige artifacts. Md., mound. S., skeleton. B., burial.

varied artifacts associated with other divination tasks and other shamanic responsibilities. Thus, the moderately higher frequency of shamanic roles among males than females appears to be a result of simply the different types of roles taken on by each sex and the relative commonality of those roles. The Scioto region was a location in which women had access to both shamanic and nonshamanic leadership roles, although not in equal proportion to men. Also, in keeping with the findings from the general population, male shamanic practitioners were more often associated with clan items, and female shamanic practitioners were most often associated with personal prestige artifacts.[7]

Southwestern Ohio

In this geographic area, breaking down the sex distribution of shamanic leadership artifacts reveals another pattern. War or hunt divination artifacts, other divination artifacts, and awls are each found with only a single female (see Table 9.3). This instance may indicate societal patterns, a social anomaly, or, least likely, the mis-sexing of the individual. Public ceremonial leader artifacts (conchs) appear with three different females and no males, so the pattern of women in this role is somewhat more reliable. All of the shamanic artifacts were associated with only five individuals: three females and two males. Both males and one of the females had only one possible indicator of shamanic work along with various other artifacts not related to shamanism. Another female had two shamanic artifacts: a panpipe and a conch. The third female was associated with four indicators of shamanic roles, plus other prestigious items. The individuals with the strongest evidence of shamanic roles, as well as multiple shamanic roles, were all female, indicating that most shamanic practitioners were probably female. However, the sample of all shamanic practitioners is too small to make any final conclusions.

The female orientation suggested by our limited sample is insightful relative to cross-cultural analogies and theory. Anthropologists have debated the implications of the presence of female shaman for the societies in which they occur. In his examination of shamanic practitioners in 47 societies around the world, Winkelman (1989, 1990, 1992) proposed a typology that incorporates gender. For example, he (Winkelman 1989:19) suggested that when more women than men hold such a position, women fall into the category of the medium rather than the healer or other shamanic practitioner roles, have low socioeconomic status, and entail little political power. These conditions occur in sedentary, agricultural societies. Winkelman's position is consistent with deprivation theory, which hypothesizes that women sometimes find religion, especially spirit possession, to be one of the only sources of power or prestige available to them in extremely male-dominated societies (Lewis 1971). Using this approach, we might conclude that women experienced more subordination in the southwestern Ohio region than in the others, based on the presence of shamanic artifacts almost solely with women.

In contrast, Sered (1994) investigated religions in which women play a dominant role—as leaders, as participants, and in ideology—and concluded that "the examples that provide the most meaningful paradigm are those that show matrifocality (and especially matrilineality and matrilocality) as a significant structural correlate" (Sered, p. 66). Indeed, she found that "women's religions", as just defined, confirm societal norms rather than challenge them (Sered, p. 196). Interestingly, she notes that in some cases, religious leadership is so closely associated with women "that a man must 'become' female in order to take on leadership roles" (Sered, p. 235). Her conclusions would lead us to a quite different view of the nature of women's participation in religious activities, with different implications for each region discussed in this chapter.

Obviously, other evidence must be taken into account in order to assess the relevance of either theory to the Ohio Hopewellian cases. However, the fact that one of the southwestern Ohio females had nonshamanic leadership items, personal prestige artifacts, *and* multiple shamanic items in her burial does not seem to indicate overwhelming subordination of women or their low status—rather, the contrary. Even the Scioto

pattern, in which women had some access, although limited, to achieved positions and prestige items, and filled at least one possibly ascribed position (marked by conchs), points to a society in which women maintained control over important aspects of their lives. Only the northeastern region, where women were not interred with shamanic artifacts, or almost any artifacts at all, seems to have evidence of notable female subordination. Thus, the data from the three Ohio Hopewell regions accord with the hypotheses developed by Sered.

Multiple Genders

The conclusion that some women enjoyed high prestige and positions in southwestern Ohio and the central Scioto suggests an intriguing interpretation of burials there that contained shamanic artifacts normally associated with the opposite sex: the possibility of multiple genders. To discuss this possibility, it is first important to recall the distinction between sex and gender. The *sex* of an individual is determined solely by the biological differences between men and women. Conversely, the term *gender* is used for socially constructed roles and identities (Lang 1998; Roscoe 1998). *Gender variance* refers to the fact that, cross-culturally, cultures do not construct only male and female categories, but may construct three or more categories. Although multiple gender categories are not always associated with shamanic roles, Nanda (2000:19) asserted that "the association between spiritual power and gender variance occurred in most, if not all, Native American societies" (see also Holliman 2001:128). Empirically, this seems correct (Fulton and Anderson 1992:609; Roscoe 1999: 8, 26).

In order to examine the relevance of this hypothesis to the Ohio Hopewellian cases, we considered only sexed burials containing at least one shamanic artifact. Artifacts were statistically analyzed for their association with the sex of the deceased persons (Table 9.2) using the chi-square statistic with Yates's continuity correction, Fisher's exact test, and the information statistic ($2\hat{I}$). If Nanda's hypothesis is correct, we should find shamanic types of artifacts that

are usually associated with one sex occasionally in the burials of the opposite sex.

Three burials present an interesting pattern suggesting a possibility of multiple genders among Ohio Hopewellian peoples (Table 9.3). In the Scioto region, a male skeleton found at the Ater mound (B51A) contained a war or hunt divination artifact (typically found with males) and a panpipe (typically found with females), among other items. Interestingly, war or hunt divination artifacts like the mica effigy points found in Burial 51A at Ater are found alone in other burials at the Hopewell site. The combination of a primarily female role marked by panpipes with a male-dominated war or hunt divination role for the Ater individual recalls Sered's observation of men sometimes "becoming" female in order to take on a religious leadership role, and Nanda's hypothesis linking gender variance to spiritual power. Burial 51A at Ater could, therefore, represent a gender variant individual.[8] At the same time, the case may simply indicate that shamanic roles differed in their male–female orientations among sites of different ages within the same region, with no implications for gender variance, beacuse Hopewell is older than Ater.

Another case in the Scioto region involves a female burial (Ater B12). This is the only instance of a war or hunt divination artifact (quartz biface) in a female burial in this region (Table 9.2). Although Native American women have historically changed status and taken on men's roles after menopause (Crown and Fish 1996), this is not the case with this individual because she was in her teens. Instead, this individual could be a member of a separate gender, such as a "woman warrior" or "woman hunt leader", not unlike the roles of females in warfare among the historic Shawnee of the upper Ohio valley (Halifax 1979; Howard 1981; Lang 1998). The possibility that sex was misassigned to this individual must also be considered, because the individual was an adolescent.

The third example comes from southwestern Ohio. One male buried in the Turner enclosure (Putman 1886, Burial 15) could have been a gender variant individual. He occupied a shamanic role marked by panpipes that was generally reserved for women (see above). In

addition, a female has the only instance of a war or hunt divination item in southwestern Ohio; however, we do not consider her reasonable evidence for multiple genders because women were generally more powerful there. With a small sample of only five sexed individuals having shamanic artifacts in the southwestern region, it is difficult to make a convincing argument regarding multiple genders there.

Obviously, there is some evidence for the existence of multiple genders in the Scioto and southwestern Ohio Hopewellian regions. It is significant that these two regions where there is evidence for multiple genders are the same areas in which women had much or some power. Lang (1998) notes that the status of women in society has a profound effect on how members of multiple genders may be treated, and their consequent frequency of occurrence. Gender variance is encouraged where women are given status. Nanda (2000) also argues that gender variance is likely to be found in societies where men and women are relatively equal in status. Our data support these conclusions. In northeastern Ohio, where male dominance and patriliny apparently were expressed in the nearly complete lack of grave goods associated with women, obviously no examples of gender variance were found among burials with one or more shamanic items. The ratio of the number of gender-variant individuals found to the number of examined, sexed burials with shamanic items is 1:35 for the central Scioto area, where women had access to some important social positions, and 2:5 for southwestern Ohio, where women held key positions much more often and matriliny seems to have been the ethic. These ratios further support the idea that gender variance occurs more frequently where women have greater access to power.

What Does the Variation in the Status of Women from Region to Region among Ohio Hopewellian Societies Indicate about the Nature of Hopewell Generally?

Our results show variation from region to region, from largely male prestige and leadership in the northeastern corner of Ohio to a female bias in prestige and leadership in the southwestern corner (Figure 9.1). Historically in the Eastern Woodlands, the northeastern Algonkian tribes generally conformed to a patrilineal kinship pattern, while the southeastern Woodland groups traced kinship matrilineally, with Ohio at the interface (Callender 1962; Hudson 1976). The results presented here provide a look at the Ohio region in closer detail, with evidence from over 1,000 years earlier than any historic records, yet there is surprising agreement about the historic situation. How this correspondence is interpreted in particular, however, bears on how we may understand the nature of Hopewell and Hopewellian traditions.

Researchers have recognized that a number of regional cultural traditions that shared "Hopewellian" traits existed throughout the Eastern Woodlands (Fagan 1995a; Griffin 1967; Prufer 1964b; Struever 1964). These cultural traditions have been thought of as distinct from the material symbols, artistic forms, and behaviors that they shared and that constituted "Hopewell." Our data suggest that gender and the status of women are best considered regionally or locally, rather than as a part of a generalized, pan-eastern "Hopewell" cultural phenomenon (see also Turff and Carr, Chapter 18).

Additionally, because gender stratification closely links to other forms of social stratification, this research has implications for hypothesizing about other elements of interaction in the Hopewell world. Specifically, rather than thinking of variation in the status of women across Ohio as simply a continuum, we propose that the variation represented an important means by which groups differentiated themselves from each other, which was likely recognized by the people under study and corresponded to notions of ethnicity.

Anthropologists concerned with ethnicity, while predictably divided, do agree in several regards. Generally, most scholars agree that ethnicity can be characterized by a belief in a common origin, is defined in social relations, and is diachronically changing. Ethnicity has been referred to as a kind of fictive kinship (Bentley 1987:42; Yelvington 1991:168). Bentley (1991)

writes, "Wherever we find an 'ethnic' category or group of people, we will also find a myth that they all originated in some primordial person, place, or event" (Bentley, p. 169). The sense of shared history inherent in the construction of ethnic categories calls to mind Hobsbawm's "invented tradition" (Hobsbawm and Ranger 1983), particularly the "use [of] history as a legitimator of action and cement of group cohesion" (Hobsbawm 1983:12). Moerman (1965) successfully argued that an examination of the distribution of traits, physical or cultural, would not reveal the boundaries of ethnic groups; their identification can be made in only a more subjective, contextual fashion, especially through contrast with other ethnic groups (see Cohen [1978:384] for a discussion of the epistemological shift from tribe to ethnic group). Thus, ethnic studies are often concerned explicitly with boundary maintenance (e.g., Barth 1969; Tuan 1998).

While many authors imagine ethnicity as a tool for collective action benefiting the entire group (as in nationalist studies [e.g. Gladney 1998]), others view it as an instrument manipulated by elites, often to mask class divisions (Brumfiel 1994; Williams 1989). Brumfiel (1994), writing about ethnic groups in ancient Mexico, claimed, "Ethnicity was a tool, fashioned to the needs of political actors as defined by the existing political structure" (Brumfiel, p. 102). She argued that cultural similarities helped to unite elites and commoners, transcending class and other barriers, as elites sought political and economic gain (Brumfiel, p. 93). This argument provokes us to ask for whom ethnicity is instrumental.

The relationship between ethnicity and gender has been remarked upon as well; ethnicity often has strong links to feminine constructions. Watkins (1996) wrote about the Nyeshangte of Nepal, "Adult women are seen as the foundation and preservers of the homeland and of the group's cultural identity" (Watkins, p. 14–15). Additionally, women are often used as ethnic markers; that is, the cultural construction of femininity is employed by groups to distinguish themselves from others (see, e.g., Espiritu 2001; Gruenbaum 2001:102–103; Rozario 1991).[9] Yen

Le Espiritu (2001) claimed that feminine constructions of ethnicity provide a resource with which subordinated groups can resist domination, by claiming the moral superiority "their" women—based on their devotion to family and restricted sexuality of over dominant (in this case, white) women (see also Watkins 1996). In contrast, masculine ethnic constructions often stress class position (see Limón 1994) more than sexuality.

Many authors writing about gender share the conviction that gender is "co-constructed with other racial and cultural categories" (Espiritu 2001:416). An ethnographic example from Pakistan specifically involves women's "freedom", locally defined as the ability to "determine the course of their own lives—sexually, emotionally, and *ritually*" (Maggi 2001:32, italics added). Maggi wrote that, in this case, "ethnic boundaries are so near and so clear, and gender is so important to their maintenance, that the mutual construction of gender and ethnicity is explicit" (Maggi, p. 32). The entire community, not just its women, references women's status in relation to nearby groups as means of distinguishing themselves from neighbors. Because Pakistani groups are distinct in so many ways—dress, religion, landscape—their choice of gender to define themselves is notable.

The implications of this literature for Hopewellian communities are potentially profound. Instead of being merely a feature of life that varied among Hopewellian societies in different regions, women's differing positions point to larger structural differences among Hopewellian regional expressions, including differences in social stratification. In this light, it is hard to see how "Hopewell" across the Eastern Woodlands can be defined as a single social–symbolic form (Seeman 1995). Further, gendered differences may have been a way of distinguishing regions or localities, playing a meaningful role in the construction of regional or local identity. If pan-regional Hopewellian expression is best thought of as a coat of paint covering a variety of cultural traditions, the evidence presented here forces us to question how far the color penetrated.

CONCLUSIONS

This chapter has made some important steps toward understanding the social structure and, thus, the everyday lives of Ohio Hopewellian peoples. We have explored their gender relations, including the leadership roles of women versus men, kinship patterns, and multiple genders. Further, we discussed what regional variation can tell us about the possibility of a pan–Hopewellian social organization. Our chapter is part of the recent trend in anthropology and archaeology that demonstrates that understanding gender is crucial for understanding wider social organization. Our work not only contributes new data to the small number of existing mortuary analyses that focus on gender, but also presents a strategy for the far-reaching application of these analyses to cultural reconstruction and interpretation. The following are some of our important findings.

(1) Regional analysis of different leadership roles revealed variation in the position of women in society, from considerable female prestige and leadership in southwestern Ohio to primarily male prestige and leadership in northeastern Ohio. In the central Scioto region, women did not have access to the most powerful positions (those marked by headplates). However, they were considered for some positions of leadership and/or importance (e.g., those symbolized by breastplates, earspools, metal celts), often at a lower rate than men, and were considered equally for at least one ascribed position (marked by conch shells). In addition, several lines of mortuary evidence, especially the distribution of clan markers by sex, suggest that Hopewellian peoples in the central Scioto and northeastern areas of Ohio were patrilineal, while Hopewellian peoples in southwestern Ohio reckoned kinship matrilineally. This pattern accords with the idea that women have more power and autonomy in matrilineal societies. Future studies should examine this pattern in Hopewellian societies throughout the Eastern Woodlands.

(2) Regional analysis of shamanic roles in particular revealed a similar pattern. In the Scioto region, both females and males occupied shamanic positions, with some male preference overall, but with widely varying gender preference depending on the particular kind of shamanic activity. Again, in southwestern Ohio, shamanic artifacts were associated strikingly with females. As expected, in northeastern Ohio shamanic practitioners were only male. This regional pattern of variation follows Sered's conclusions that women in matrifocal societies have access to prestigious religious positions.

(3) The differences found between northeastern Ohio and the central Scioto area in gender roles and prestige correspond to contrasts between these areas in the styles and social role associations of Hopewellian panpipes (Turff and Carr, Chapter 18), in mortuary architecture and ceramic styles (Magrath 1945; Seeman 1996), and in the natural sources from which silver was procured (Spence and Fryer, Chapter 20). Communities in the two areas did not exchange silver with each other. There appears to have been significant cultural differences and some social distance between the peoples in the two areas (Spence and Fryer, Chapter 20).

(4) The patterns of social and political differences found between northeastern and southeastern Ohio Hopewellian societies echoes that found between Historic northeastern Algonkian and southeastern Woodland tribes. In northeastern Ohio Hopewellian societies, males exclusively held the most prestigious social roles and kinship was probably reckoned patrilineally, as among historic Algonkians. In southwestern Ohio Hopewellian societies, women most commonly held the central roles and there is evidence for matrilineality, like that reckoned in the southeastern United States.

(5) There is a distinct possibility that multiple genders were defined in Hopewellian societies in the central Scioto and southwestern areas of Ohio. This preliminary study found three individuals that would fit a pattern expected for multiple genders. Significantly, the social roles that reveal multiple genders are shamanic ones, in line with Nanda's (2000) and others observation of the association of gender variance with

spiritual power in Native American societies, and the greater commonality of gender variance in societies where men and women are relatively equal. Our study is the only one known to address the possibility of multiple genders within Hopewellian society, and one of the first in archaeology. The topic will require much more research to corroborate these results.

(6) The above conclusions indicate that the status of women is best considered a regional or local pattern rather than a pan-Hopewellian one. Furthermore, differences in gender ideologies may have corresponded with other important regional distinctions, such as the nature of social stratification and ethnic identity formation, pointing to broad structural differences between regions united by a Hopewellian overlay. Our gendered analysis does not add women into the current definition of an "interregional" Hopewell. Instead, it substantially contributes to theory about variation underneath the umbrella of Hopwellian ritual and belief (Caldwell 1957; contra Seeman 1995).

NOTES

1. Due to the extremely small number of prestigious clan artifacts in the sample, prestigious clan roles were not separated from ordinary clan roles.

2. The category of personal prestige includes only artifacts indicating prestigious personal roles, not ordinary personal roles.

3. It is possible that some or all of the artifacts buried with a subadult were gifts to him or her, and indicate the role(s) of the gifter(s). However, this alternative seems less likely in the case of symbolic markers of prestigious positions, which probably would not have been given away by those still employing them socially to mark their own importance. The assumption is not out of line with the one made by Weets et al. (Chapter 14), who consider primarily extra, redundant role markers in a grave, beyond what would be had by a single person, to have been gifts to the deceased.

4. Burials with two or more individuals associated together in one grave were examined, as indicated by the MNI (minimum number of individuals) column in the database. From these group burials, those with at least two sexed adults, two children, or one sexed adult and one child were selected for study. Although there were many buried groups with one sexed individual, these were discarded. These selection criteria led to 27 burials. Due to the small number, they were not analyzed regionally. The sex and age distribution of the 27 burials is as follows: 10 with one male and one female; 1 with three males and one female; 2 with two males; 1 with two males, two females, and two subadults; 2 with a male, a female, and one unsexed individual; 5 with one male and one subadult; 3 with one female and one subadult; and 3 with two subadults.

5. Although there might seem to be a large number of shamanic practitioners ($n = 35$) for the number of buried individuals examined from the Scioto region ($n = 95$), one must keep in mind that these numbers pertain to only sexed burials. Thus, this sample of burials is biased toward inhumations, which are more easily sexed, over cremations, which are difficult to sex. In turn, inhumation among Scioto Hopewellian peoples was used for leaders, other persons of importance, and possibly certain close kin, while cremation was used for a broader cross section of society, making the sample of sexed burials here biased toward important persons like shamanic practitioners. In addition, about half the Scioto Hopewellian individuals studied here came from the Hopewell site. It was a specialized cemetery reserved generally for persons with a good amount of prestige and, possibly, certain close relations of theirs (Carr, Chapter 7), again biasing the sample toward socially key individuals like shamanic practitioners.

6. *Editors:* In the central Scioto region, three social roles that related to death and the life–death contrast were all heavily filled by males. These roles are war or hunt diviner, body processor or psychopomp, and honored warrior. If this social pattern indicates a masculine polarity to death in the worldview of central Scioto Hopewellian peoples, it was

apparently not one shared widely by Ohio Hopewellian peoples generally. In southwestern Ohio, the only sexed burial containing artifacts indicating war or hunt divination and body processing/psychopomp work was a female.

7. Burials of possible shamanic practitioners frequently also contained nonshamanic leadership/high-prestige artifacts, as well (see Table 9.3).

8. By using the term *gender-variant individual*, we do not wish to imply that this individual is a variation from a "norm." It may well be that this gender construction is a norm. However, the possibility of four or five genders in some situations precludes the use of the term *third gender* for a given individual.

9. It is important to note that these examples involve women's sexuality.

Gender and Social Differentiation within the Turner Population, Ohio, as Evidenced by Activity-Induced Musculoskeletal Stress Markers

Teresa Rodrigues

This chapter investigates sex-based social differentiation at the Hopewellian earthwork–mound complex of Turner (A.D. 250–400), and compares it to social differentiation evidenced at the Fort Ancient site of Madisonville (A.D. 850-1650), Ohio. Comparisons of females and males are made for musculoskeletal markers of stress (MSMs), paleopathology, and burial inclusions, both within and between the sites. Gender distinctions such as these are becoming increasingly of interest as attempts are being made to realign a previously androcentric focus in anthropological studies (Claassen and Joyce 1997; Dahlberg 1981; Gero and Conkey 1991; Wylie 1992). The study combines archaeological and skeletal biological data in a synergistic manner, within the framework of contemporary archaeological thought on how mortuary remains indicate past sociocultural systems (Beck 1995a; Binford 1971; Carr 1995b; Chapman and Randsborg 1981; O'Shea 1984; see also Bendann 1930; Hertz 1960; van Gennep 1960).

The overarching problem domain addressed here is whether female and male patterns of MSM and general health characteristics, as indicators of human activity patterns and nutrition, covary with mortuary variables, as indicators of social role and prestige. In order to explore this arena, skeletal and archaeological data are used to investigate several more specific issues: (1) What tasks were performed by females in contrast to those undertaken by males? Is a sexual division of labor evident? (2) Did females and males differ in their occurrence of chronic muscle strain and injury? (3) Did both females and males take on roles of high prestige, or was prestige sex-based in its distribution? (4) Did persons of differing prestige and social roles differ in their overall workloads, the specific tasks they performed, or their health? How did these relationships in turn relate to sex? (5) Did persons with greater numbers of social roles experience lower overall workloads than persons with fewer social roles? (6) Did the division of labor and kinds of tasks performed by females and males shift over time in southwestern Ohio as maize agriculture became an important means of subsistence?

This chapter is organized into four parts. The first discusses the value of biological studies in reconstructing prehistoric lifeways. Such studies reduce the sex bias in archaeological literature and challenge assumptions about status as construed from archaeological data. The second part describes the methods of data collection, provides background archaeological information, and states the specific goals and questions of this study. The third section reports, in detail, the results and implications of the MSM and mortuary analyses for the Turner population, and briefly summarizes similarities for the Madisonville population. Finally, the results for the Turner and the Madisonville populations are compared, providing a diachronic perspective on activities, social roles, and prestige.

Analyses indicate that at both sites, women and men performed different tasks, some of which run against normative views of male and female tasks. At Turner, of those activities identifiable osteologically, females appear to have commonly ground and pulverized nuts and seeds with a nutting stone and pestle, prepared food and/or other materials with a knife, prepared hides with a side scraper, knapped flint with a hammerstone, and ran. Males appear to have commonly ground nuts and seeds with a mano and metate, and prepared hides with an end scraper. At Madisonville, females may have commonly done tasks that required running, whereas males may have commonly ground, pulverized, and pounded nuts and seeds with a nutting stone and pestle, prepared food and/or other materials with a knife, prepared hides with an end scraper, knapped flint with a hammerstone, and wove. Muscle strain and microtraumas occurred relatively equally between females and males overall at both Turner and Madisonville, implying similar daily workloads. At Turner, both females and males held positions of leadership and high prestige, but leadership roles were filled more commonly by females and possibly were inherited through the female line. Overall, high-status individuals at Turner were less likely to experience muscle strain and injury, but did not necessarily enjoy better health than others at the site. Leadership and high prestige at Turner appear to have sheltered males from extensive work, but not

females. Turner individuals with greater numbers of leadership roles, which were all female, did not appear to have decreased workloads. Over time, most of the activities performed by females compared to males remained the same, but sexual division of labor increased somewhat as maize agriculture developed. The change from a hunting–gathering–horticultural lifeway to an agricultural one is evident in lower-limb compared to upper-limb injury patterns. The study demonstrates the potential for combining MSM, paleopathological, and mortuary data in order to reconstruct social roles, leadership, and social organization in general, and at Turner and Madisonville specifically.

THEORETICAL APPROACH

A good amount of effort has been directed toward understanding prehistoric life at the sites of Turner (e.g., Greber 1979a; Willoughby and Hooton 1922) and Madisonville (Drooker 1997; Hooton and Willoughby 1920). However, this older research has lacked the integrated study of covariation among biological sex, occupation, health, and social prestige—a recently developed focus. Similar work has been found to be productive for other populations (Hawkey 1988; Molleson 1994; Peterson 1994). Thus, a study of sexual differences within the populations at the Turner earthwork–mound and the Madisonville village and cemetery, using both skeletal and archaeological data, was initiated, with the expectation that it would provide new insight into roles and leadership, and social organization, generally.

Social Differentiation

In this study, social differentiation refers to the nuances of discrete variation of the positions of individuals within a social group. This term can refer to social roles, achievement, rank, prestige, or prosperity. Discussions of social differentiation often focus on two categories: horizontal and vertical differentiation (Blau 1970). With horizontal differentiation, social groups and their members are generally considered to be of approximately equal importance. Clans, task groups, age groups, and sodalities are examples

of such groups. Membership within them can influence lifeways, health, and burial treatment. With vertical differentiation, social groups and their members are systematically categorized and/or ordered by rank, religion, wealth, race, or ethnicity. Vertical differences may or may not be institutionalized and transgenerational.

The various social positions or "identities" that any one person may hold in a given social context comprise that person's social persona in that context (*sensu* Goodenough 1969; Saxe 1970). A person has multiple social personae (bundles of identities) in the multiple social contexts that are part of her or his social life. Not all of these identities need be signified materially by the grave goods and tomb form of a burial, which is created itself in but one or a few social contexts that are distinct from those lived in by the person during life. Thus, a burial population will usually express materially at least some, but not *all* social identities of the members of a living community and their relationships. For this reason, it is preferable to reconstruct social differentiation with both material and osteological evidence.

Studies of both the Turner (Greber 1976) and the Madisonville (Drooker 1997; also see Henderson 1992; Rogers and Smith 1995) populations, which utilized both osteological and archaeological data, indicate that horizontal social organization was recognized within these communities and signaled at burial, and that some leadership roles (political and/or ritual) had become associated with particular groups, although not necessarily inherited.

Gender Focus

The implementation of a gender focus in archaeological studies is recent. Whereas other areas of sociocultural study have been rich in gender-based interpretations, the realm of archaeology has remained largely untouched by theoretical interpretations that attach equal importance to both male and female roles in society. Although archaeologists have addressed gender, what has been said generally entails conventional Western expectations of the position and occupations of females and males, which are then projected onto the archaeological record (Conkey and Spector

1984). Consequently, the significance of the female role in economic, social, political, religious, and ideological realms of a community has often been ignored or undervalued (Fedigan 1986); positions of power and status are often assumed to have belonged to males.

An archaeology that does not recognize the merit in both male and female roles in society is at best fragmentary and systematically biased. The engenderment of archaeological inquiry has the ability to transform our understanding of the past, realigning our frequently androcentric focus into a more holistic approach.

Sexual division of labor is often described as one of the most basic organizing principles of human behavior (J. Peterson 1994). In fact, Burton et al. (1977) note that division of labor by sex has gained special recognition in the study of causes of social organization. Sexual division of labor is also important in the configuration of an individual's positions in society (Sanday 1973). Recent research has established the potential for gender studies of these issues and others in archaeological contexts (Brumfiel 1991; Bumstead et al. 1990; Conkey and Spector 1984; Ehrenberg 1989; Hawkey 1988; Hawkey and Merbs 1995; Howell 1995; Molleson 1994; Peterson 1994; Watson and Kennedy 1991; Wylie 1992). The theoretical foundation of these studies encourages an inquiry into the potential links between social differentiation and sex roles.

Previous assessments of the sexual division of labor in archaeological populations have often favored interpretations that focus on the relative physical strength of females compared to males (Murdock 1949b), constraints of child care, and perceived lack of willingness of females to perform "dangerous tasks" (Burton et al. 1977) such as hunting large game. While these are important considerations, it is imperative that archaeological assessments be based on empirically documented evidence, rather than stereotypical assumptions about the roles of women and men in prehistory.

One way in which this may be done is to focus on scientific methods that enable one to recognize sex differences in activity patterns, social roles, and social prestige using both skeletal and archaeological remains. Intra-cemetery

spatial patterning in burials, associations of artifact classes within graves, and the utilitarian and social functions and symbolic meanings of those artifacts can all provide clues to the social role(s) (Rothschild 1979) and/or prestige (Braun 1979) of individuals. Osteological characteristics can impart information on health, nutrition, activity, physical stress or workload, risk, and mortality—aspects of social differentiation that are not evident in formal, overt, material social markers (Powell 1991). Thus, from the perspective of both gender theory and theory on social organization, both artifactual and osteological data are essential to research on prehistoric social differentiation.

Skeletal data may either challenge or help to verify conclusions derived from archaeological modes of mortuary analysis, thereby improving social and biological insights, reducing androcentric bias, and possibly broadening the range of activities and social roles previously attributed to women and men in the archaeological literature.

Aligned with this perspective, this study investigates the possibility of osteological manifestations of sexual divisions of labor and health in the Turner and Madisonville populations. Particular physical attributes of sex group members are then compared with their other mortuary traits, such as grave goods, to further infer activities and social roles.

METHODOLOGICAL FRAMEWORK

Occupational Markers

In circumstances of increased muscle use, the constant growth, destruction, and repair of bone can lead to hypertrophied areas of muscle attachment (Chamay and Tschantz 1971; Kennedy 1989; Lanyon et al. 1982; Trinkaus 1975), which are termed musculoskeletal stress markers (MSMs) (Hawkey and Merbs 1995). Although bone periosteum is generally well vascularized, conditions of bony stress increase the number of capillaries supplying the periosteum. Heightened vascularization propagates osteonal remodeling, not only to repair injured bone, but also to strengthen bone structurally and physically (Lanyon et al. 1982). Thus, increased use of a particular muscle will result in a greater degree of growth and repair at the sites of fleshy and tendinous muscle origin and insertion.

Ligaments and tendons react to strain as do muscles with similar osteological results (Weineck 1990). Although ligaments function primarily to strengthen and stabilize joints in a passive way, and do not actually contract, they are placed under tension by certain positions of the joint (Calais-Germain 1993). Tendons also do not contract, but do transmit the force of muscle contractions to cause movement.

There are three types of MSMs discussed in the literature: robusticity, stress lesion, and ossification entheses (Hawkey 1988). A *robusticity MSM* is considered to be the typical response to muscular strain, which produces irregular and distinct markings at the site of muscle attachment. In its most extreme form, a robusticity MSM is delineated by sharp crests of bone. A robusticity MSM is the most common type observed, indicates normal muscle use, and is not thought to be the result of injury. In this case, repetitive muscle use has caused osteoblastic build up of the bone structure. This strengthens the muscle–bone attachment and is thought to prevent muscle rupture. If muscle use is very specific and involves a great deal of repetition over a long period of time, strain at the muscle–bone junction will cause resorbtion of bone through osteoclastic activity, creating grooves into the cortex of the bone that frequently resemble a lytic lesion (Hawkey 1988). This lesion, called a *stress lesion MSM*, will eventually replace the existing robusticity MSM. Current research suggests a continuum between robusticity and stress MSMs (Hawkey and Merbs 1995). An *ossification MSM* results from sudden injury (e.g., a muscle rupture), probably accidental, and is most commonly exhibited as a bony spur due to ossification of ligaments onto the bone cortex (Hawkey 1988). Such an injury would put a modern-day athlete out of commission, possibly requiring surgery, and would be very painful.

MSMs caused by muscular hyperactivity are generally isolated markings. They are readily distinguished from those caused by metabolic or inflammatory disorders (e.g., rheumatoid arthritis) in which the joint surfaces are involved (Dutour 1986).

Perhaps the most important feature of an activity-induced remodeling such as a MSM is its nonrandomness, which reflects the nonrandom nature of the activity itself. The actions performed and the postures assumed by a person may change from moment to moment, but often within certain parameters, particularly if the actions or postures are culturally defined as "correct," or necessary to survival (Benson 1986; Merbs 1983, Stirland 1988). MSMs are formed by specific repetitive action.

The study of MSMs involves measuring the degree of adaptive remodeling response of a particular muscle, ligament, and/or tendon to repetitive motion, strain, and microtrauma. Using MSMs for behavioral reconstruction requires the operational assumption that the quality and type of bone marking are directly related to the amount and duration of habitual stress, or trauma, put on a specific muscle (Hawkey and Merbs 1995). MSMs are best used to study adaptive or culturally defined activities.

The supposition that markings are correlated with specific activities is supported by a large number of kinematic, ergonomic, and electromyographic studies that focus on muscle recruitment and muscle strain (Basmajian and De Luca 1985; Chaffin and Anderson 1991; Kumar 1995; Kuorinka and Forcier 1995; Logan and McKinney 1982; Marzke et al. 1988, 1997; Praemer et al. 1992; Ranney et al. 1995; Reece et al. 1997). Also relevant is research in sports medicine, which includes the examination of muscle overuse and resulting injurious impacts on the skeleton (Levy and Fuerst 1993; Peterson and Renstrom 1986; Schneider et al. 1974; Weineck 1990).

Data from MSMs have been used by anthropologists to analyze the specific occupations and general workload of prehistoric populations and individuals (Dutour 1986; Fornaciari and Torino 1995; Hawkey 1988; Iscan and Kennedy 1989; Merbs 1983; Peterson 1994), historic populations (Angel et al. 1987; Kelley and Angel 1987; Kennedy et al. 1986; Owsley et al. 1987; Rathbun 1987), and modern forensic cases (Krogman and Iscan 1986; C. Merbs, personal communication, 1997). These studies have shown that this activity-induced pathology is nonrandom and reflects the movements involved in specific activities (Merbs 1983). Thus, analysis of MSMs can independently test hypotheses generated from archaeological data (Hawkey and Merbs 1995), or vice versa.

Previous studies have found patterns of MSMs that indicate sex-specific activities, subsistence strategies, and aspects of behavioral idiosyncrasy, such as favoring a particular hand for primary use (Hawkey 1988; Hawkey and Merbs 1995; J. Peterson 1994). Merbs (1983) used data from another activity-induced pathology, osteoarthritis, and was able to identify systematic task differentiation between living Canadian Sadlermuit females and males. The range of motion necessary to perform these sex-specific tasks was so distinctive that corresponding patterns of muscle activity observed on Sadlermuit skeletons could be used as a reliable indicator of sex.

The Turner population subsistence strategy included hunting and gathering, combined with small-scale agriculture (Wymer 1987b), whereas the Madisonville population relied primarily on corn-based agriculture. Movement patterns associated with these different occupations should be evident in the skeletons from the Turner and Madisonville series.

General Indicators of Health

As a further means of evaluating the living standards of individuals from Turner and Madisonville, data were collected on the frequencies of two closely related pathological conditions: porotic hyperostosis and cribra orbitalia. These were selected because they reliably indicate quality of diet and general environmental stress (Buikstra and Ubelaker 1994).

Porotic hyperostosis is characterized by macroscopic pitting of the skull cortical bone. The frontal, parietal, and occipital lesions range from less than one millimeter in diameter to larger apertures (Angel 1966a; Iscan and Kennedy 1989). *Cribra orbitalia* refers to similar lesions of the orbit (after Welcher 1888, cited in Hengen 1971). Since the bone changes associated with porotic hyperostosis and cribra orbitalia occur during the early stages of skeletal

growth, it is best to regard these lesions as representative of a childhood condition, rather than physiological stress during adulthood (Stuart-Macadam 1989).

The characteristic pitting of the skull and/or vault regions and thickening of the cranium associated with porotic hyperostosis and cribra orbitalia have often been attributed to anemia (El-Najjar et al. 1976; Moseley 1965) resulting from hypertrophy of the blood-forming tissues of the cranium. While rare hereditary anemias occur within the Old World, most native North Americans suffered from anemias that probably developed from nutritional deficiencies, infectious diseases, parasitism, or a combination of the three (Buikstra and Ubelaker 1994). A synthesis of research clearly demonstrates that environmental and cultural factors (such as exposure to parasites and dietary restrictions) significantly affect the potential onset of anemias (El-Najjar et al. 1975; Hengen 1971). Porotic hyperostosis and cribra orbitalia became increasingly common problems for prehistoric populations from the Neolithic onward, and are usually associated with agriculture and/or sedentism and increasing population densities (Iscan and Kennedy 1989; Ubelaker 1992).

This macroscopic study does not allow differentiation of incidences of porotic hyperostosis and cribra orbitalia produced by chronic dietary deficiency from cases produced by prolonged disease (Kent 1992). Thus, no attempt is made to determine the precise etiology of either porotic hyperostosis or cribra orbitalia. Rather, data resulting from these osteological manifestations of stress are used to identify generalized levels of health for specific individuals.

ARCHAEOLOGICAL BACKGROUND

The Turner earthwork and mounds (A.D. 250–400) are located in southwestern Ohio, on the southeast bank of the Little Miami River (Figure 10.1). The Turner site excavations were directed between 1882 and 1911 by F. W. Putnam. The materials used in this study originated from multiple areas of the site during different excavation expeditions. The original number of burials present at Turner is unknown due to poor preservation, previous disturbances (such as farming), and the possible use of tomblike structures for nongrave purposes (Greber 1979a). Most of the burials used in this study were excavated from Mound 1, Enclosure A, and Enclosure B, with the remainder originating from Mounds 3 and 12 and the Marriott mounds. A precise chronology of use of different areas within Turner is not available. However, a few burials were noted by the original excavation team as being intrusive into some of the site's
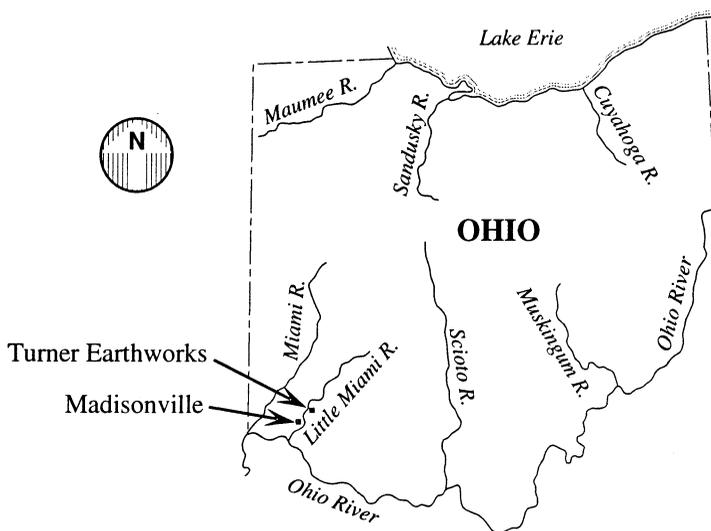
Figure 10.1. Locations of the Turner earthworks and Madisonville cemetery.

older mound features, and these were not included in this study.

The Madisonville village and cemetery (A.D. 850–1650), also in southwestern Ohio, is located on a broad bluff west of the Little Miami River and approximately 3.7 miles from the Ohio River. The Madisonville site excavations began in 1878, were initiated by C. L. Metz, and were continued for over a century by five different institutions and numerous private individuals. The Madisonville site excavation history is described in detail by Drooker (1997). All materials used in this study originated from B. W. Merwin's 1911 excavations of trenches H, I, J, and K. Madisonville was occupied sporadically during the Woodland period and more intensively during the Fort Ancient period (Drooker 1997). European materials were also found within some Madisonville burials. As only two of the burials used in this study were associated with burial items, temporal assignments were not made. However, the arrangement and type of burial features, the depth of the burials, and the descriptions of mortuary treatments of the burials led Drooker (1997) to tentatively suggest that at least some of these burials are likely from an early Fort Ancient occupation.

GOALS, QUESTIONS, AND HYPOTHESES

The primary goal of this research is to elucidate potential sexual variation in occupational activities, general health, social roles, and prestige within and between the Turner and the Madisonville populations. MSMs, paleopathological data, and burial information are used in this endeavor. The following specific questions were asked:

(1) Did female and male tasks in prehistoric southwestern Ohio emphasize different muscle groups, suggesting a division of labor? What tasks might females and males have performed?

(2) Did females and males in prehistoric southwestern Ohio differ in their general levels of chronic muscle strain and injury, implying different overall daily workloads?

As the existence of a sexual division of labor has been demonstrated ethnographically for many preindustrial societies, one would expect to find a difference in patterns of activity for females versus males of the Turner and Madisonville populations. Thus, in this analysis, a comparison is made between the results of MSM analysis and ethnographic expectations of the sexual division of labor, as defined by Murdock's (1949) ethnographic review of 224 societies (Table 10.1).

(3) Did both females and males perform roles associated with high prestige, or was prestige sex-biased in its distribution?

(4) Did persons of differing prestige or social roles differ in their overall workload, the specific tasks that they performed, or their health? How was this related to sex?

(5) Did persons with greater numbers of prestigious social roles experience a lower overall workload than persons with fewer prestigious social roles? How was this related to sex?

Turner individuals received differential mortuary treatment. Some were buried with a large number and/or variety of grave goods, which has been associated with corresponding levels of social status. Greber (1979a) inferred the presence of crosscutting rank differences in her study of Turner mortuary variables, although her results are now considered uncertain (Carr, Chapter 7). If social status was associated with different daily activities and/or behaviors that may have affected overall health, this should be reflected in MSM and/or paleopathological data (e.g., Tainter 1980).

(6) Did the division of labor and the kinds of tasks performed by females and males shift over time in southwestern Ohio, as maize agriculture became an important means of subsistence?

The Turner population practiced both hunting and gathering and small-scale non-maize agriculture, whereas the Madisonville population subsistence strategy consisted primarily of corn-based agriculture.

Table 10.1. Expected Sexual Division of Labor and Corresponding Hypotheses

Activities (Murdock 1949)	Sexual division of labor (Murdock 1949)	Corresponding hypotheses described in Appendix 10.1
Flintknapping	Male	7
Soil preparation for agriculture	Male/female	8, 9
Harvesting of plant foods	Female	9
Hunting (large game) with bow and arrow	Male	12, 13, 14
Throwing an atl atl	Male	12
Food/materials preparation using a knife	Female	4
Nut, seed, & grain preparation	Female	1, 2, 3
Preparation of skins	Male/female	5, 6
Processing plants & vegetables	Female	4
Sewing	Female	10
Weaving	Female	11

Consequently, changes in the kinds and distribution of tasks undertaken by females and males are expected over time, and should be reflected in the MSM data.

To investigate these questions required the development of "bridging" arguments that relate selected activities and activity movement patterns to MSM patterning. These bridging arguments are described in Appendix 10.1. These logical chains are assumed to be true here and are not tested. However, that MSM markings are produced by given activity movement patterns is well grounded in the kinematic, ergonomic, electromyographic, and occupational studies cited above. Only muscles, tendons, and ligaments that originate or insert onto the particular bones (clavicle, scapula, humerus, ulna, radius, pelvis, femur, tibia, fibula) included in this study are considered in the bridging arguments.

The range of activities and activity movement patterns embraced by the bridging arguments is based on current understandings of Mississippian and Middle Woodland subsistence patterns (Ford 1978; Henderson 1992; Rogers and Smith 1995; Wymer 1987b). Each activity considered here represents a hypothesis as to the activities possibly undertaken by the Turner and Madisonville peoples (Table 10.1). These hypotheses are tested with the MSM data, assuming the bridging arguments in Appendix 10.1.

MATERIALS, ANALYTICAL VARIABLES, AND METHODS

The Study Population

The published museum report from Turner (Willoughby and Hooton 1922) indicates that at least 79 individuals were originally excavated; however, not all of the original number are available, and some skeletons were not suitable for this study. Only bones or portions of bones in a relatively good state of preservation (i.e., clean, smooth, not crumbled) were used in this research. Muscle attachment sites on bones that had been affected by fire (e.g., warping and cracking), taphonomic damage (e.g., rodent gnawing or geophysical pressure), or disease (e.g., osteoporosis, generalized infection) were also eliminated from the data set. Children and subadults were not included in this study because the presence of secondary osteons at subadult insertion sites does not strongly correlate with specific bone stressors, and may be related to skeletal growth (Hawkey and Merbs 1995). Forty-six skeletons were ultimately selected, 19 from Turner and 27 from Madisonville.

In certain cases, the boxed skeletons did not directly correspond to the museum catalog. Thus, attempts were made to obtain the most likely skeletal identifications, using the original handwritten museum catalog, original field notes, information remaining on tags placed with the skeletons, and correlations with burial artifacts. The results of this compilation are listed in Appendix 10.2.

It must be cautioned that in many cases, the fragmentary nature of the skeletal series from Turner and Madisonville often precluded the use of "preferred" sexing methods, such as use of the pelvic bones (Buikstra and Ubelaker 1994). Therefore, although many of these same individuals had been sexed and aged twice before (Greber 1976; M. Geesen to C. Carr, unpublished data, 1996; Willoughby and Hooton 1922), the skeletons were reassessed for this analysis using a combination of sexing techniques, including Suchey sexing casts (Buikstra and Ubelaker 1994; Krogman and Iscan 1986; Loth and Henneberg 1996; Sutherland and Suchey 1991; Ubelaker 1989). The three sexing data sets were then compared to one another and were generally found to be in agreement. When they were not, the results of the sexing estimation made by this researcher were used.

The Turner skeletons used in this study consist mainly of females and young adults (21–35) and middle age adults (36–51). The Madisonville skeletons are more evenly distributed by sex, but also consist mainly of young and middle age adults (Table 10.2). The small sample sizes within each group preclude analysis of MSMs by age group. Therefore, individuals within each population were pooled for further analysis.

All skeletal material was examined using a 10× hand lens and a 2× handheld magnifying glass under natural and fluorescent lighting.

Musculoskeletal Stress Markers

Although muscle insertion sites are generally considered to best reflect maximum muscle pull, and are usually preferred for MSM studies, the fragmentary nature of the Turner and Madisonville skeletal materials required a more generous framework for data collection. Thus, many muscle origin sites were also considered. Ultimately, 48 muscle insertion sites, 60 muscle origin sites, and 7 ligaments of the upper and lower extremities (clavicles, scapulae, humeri, radii, ulnae, pelves, femora, tibiae, and fibulae) were visually examined and scored for MSM type and severity (Appendix 10.3). Selection of muscle and ligament attachment sites was influenced by the partial skeletal preservation and by the relative utility of a given muscle in discriminating specific activity types. Because a muscle's origin is expected to reflect muscle use to a lesser degree than a muscle's insertion (D. Hawkey, personal communication, 1997), they were considered separately, as well as together, during the analytical and interpretative portions of this research.

The standardized MSM scoring method developed by Hawkey (1988) was used. It incorporates the use of verbal descriptions (Table 10.3) with photographs as visual references in order to rank the severity of each MSM numerically on a scale of .5 to 6.0. Low numbers are associated with less severe gradients of MSM expression. Intermediate grades are possible.

Table 10.2. Ages and Sexes of Utilized Skeletons

	21–35 yrs.	36–50 yrs.	51+ yrs.	Unknown age	Total
Turner					
Females	4	4	0	0	8
Possible females	3	3	0	0	6
Males	0	1	3	1	5
Possible males	0	0	0	0	0
Subtotal	7	8	3	1	19
Madisonville					
Females	8	1	0	2	11
Possible females	0	1	0	0	1
Males	8	5	0	1	14
Subtotal	16	7	0	3	26
Total	23	15	3	4	45

Table 10.3. Hawkey's (1988) MSM Scoring Method

MSM type	Description
Robusticity	
R1	(faint expression) The cortex is only slightly rounded, and often not visible without strong light, but it is apparent to the touch.
R2	(moderate expression) The surface is uneven, with a smooth, bumpy appearance that is easily observable; no sharp ridges or crests have formed.
R3	(strong expression) Distinct, sharp crests or ridges have formed; sometimes there is a slight depression forming between the crests, but this does not extend into the cortex, and does not have the characteristic lesion appearance of the stress MSM.
Stress[a]	
S4[b]	(faint expression) There is a shallow furrow into the cortex that has a lytic-like appearance. It is less than 1 mm in depth.
S5[b]	(moderate expression) There is a lytic appearance that is more than 1 mm, but less than 3 mm, deep. It may vary in length, but usually it is not longer than 5 mm.
S6[b]	(strong expression) There is a lytic appearance that is more than 3 mm deep or is more than 5 mm in length.
Ossification	
OS1	(faint expression) There is a slight exostosis, usually rounded in appearance, that extends less than 2 mm from the surface of the cortex.
OS2	(moderate expression) There is a distinct exostosis, varied in shape, that extends more than 2 mm, but less than 5 mm, from the surface of the cortex.
OS3	(strong expression) The exostosis extends more than 5 mm from the surface of the bone, or else covers an extensive amount of cortical surface.

[a] Since the time of the original 1988 study, the name of the MSM type "groove" has been changed to "stress" for clarification.
[b] The original scores of 1.0–3.0 were changed to 1.0–6.0 based on current research suggesting that stress lesions develop on a continuum from robusticity MSM (Diane Hawkey, personal communication, 1997).

Porotic Hyperostosis and Cribra Orbitalia

The methodology used to observe porotic hyperostosis and cribra orbitalia is adapted from Buikstra and Ubelaker (1994). It consists of photographs as visual references in conjunction with verbal descriptions (Table 10.4). Cases of porotic hyperostosis and cribra orbitalia were described as either mild or strong based on the severity of the condition (Buikstra and Ubelaker 1994).

Burial Inclusions

Five major groups of artifact classes were considered: those probably used by shamanic

Table 10.4. Scoring Method for Porotic Hyperostosis (Adapted from Buikstra and Ubelaker 1994)

Score	Description
Mild	Barely discernible porosity/porosity only
Strong	Porosity with coalescence of foramina/porosity with coalescence of foramina and some thickening

practitioners, items indicating leaders or other important social roles of unspecified kinds, indicators of nonprestigious clan affiliation, prestigious personal items, and ordinary personal items (Table 10.5). All burial inclusions and their proveniences were classified and compiled by D. Troy Case and Christopher Carr (n.d.). I use the term *shamanic* to refer in a broad way to magicoreligious practioners who may have been either classic shaman who played many social and religious roles (Carr and Case, Chapter 5, Table 5.1) or specialists who filled only one or a few of these roles. The category, leaders or other important social roles includes persons who were community-wide leaders and marked by copper celts, members or high achievers in sodality organizations symbolized by copper breastplates and earspools, and perhaps war or hunt leaders indicated by fancy projectile points. The remaining social categories pertaining to clan or personal roles are distinguished as prestigious or nonprestigious primarily by whether their indicative artifacts are metallic or not. All of these

Table 10.5. Burial Artifact Classes

Shamanic practitioner	Unspecified leader or important social role	Prestigious personal items (primarily metallic)	Nonprestigious clan symbols (not metal)	Nonprestigious personal items (not metal)
Awls	Copper breastplates	Copper tools	Bear jaws	Faunal remains
Conch shells	Copper celts	Ornaments	Bear teeth	Flaked knives
Raw galena	Copper earspools	Small pipes		Needles
Raw mica	Decorative projectile points			Pearl beads
				Perforated disks[a]
				Projectile points
				Shell beads
				Shell dippers
				Utilitarian items

[a]Assignment of use is questionable.

material indicators of social differentiation that were compared to the derived paleopathological information in order to examine relationships among sex, activity type, workload, social role, and prestige.

When the provenience of a skeleton as recorded in the published report (Willoughby and Hooton 1922) conflicted with the provenience documented in the original archaeological field notes, information from the original notes was used. When the provenience of a skeleton was uncertain for a lack of correspondence of its storage label with the published site report or the original field notes, it was eliminated from the burial artifact analysis but not from the physical anthropological analysis.

ANALYSIS

Skeletal Data

Although robusticity, stress lesion, and ossification exostosis MSM data were initially collected in three independent data sets, the recent indication of a continuum between robusticity and stress lesion MSM (D. Hawkey, personal communication, 1998) made it appropriate to combine these two kinds of data. The stress lesion MSM grades were accordingly recoded (Table 10.3). Descriptive statistics for MSM, paleopathological, and burial data, such as the frequency of occurrence, percentage affected, and mean expression score, were calculated in order to determine relative differences between groups. Preliminary statistical analyses using

Chi-square tests within each sex group in both the Turner and the Madisonville populations were performed on the MSM data in order to determine if side-use dominance occurred. As no statistically significant differences were found between right and left-limb data within either the Turner or the Madisonville population, the right and left-side data within each of the two groups were pooled for all subsequent statistical analyses.

Three quantitative means were used to investigate whether MSMs vary in their degree of development by sex, as follows.

(1) *Wilcoxon rank-sum*. For each MSM site, a Wilcoxon rank-sum statistic was calculated for females and males. The statistic tests for differences in the distribution of the rank order of observations between two given groups (here, females versus males).

(2) *Differences in rank*. To minimize the effects of differences in body size and related factors on data patterning and test results, another approach was used to explore differences in muscle use between females and males. Specifically, mean MSM scores were calculated for each MSM site separately for females and males. MSM sites were then ordered by their mean MSM scores, again females separately from males, and accommodating for ties in rank. Finally, differences between females and males for the rank of each MSM site were calculated, large differences suggesting differences in muscle or ligament use between the sexes. These differences can be compared with the results of

Wilcoxon rank-sum tests to get a composite, unbiased, yet statistical view of the data.

(3) *Grand mean*. To further investigate distinctions between females and males for each muscle and ligament attachment site, a grand mean score of all the observations at all MSM sites was calculated, weighted according to the number of observations at each MSM site. This was done separately for females and males. The mean scores for all the individual MSM sites examined were then ordered by size. Those muscle locations above and below the grand mean (a statistical breakpoint) were noted. Muscle scores above the grand mean breakpoint were considered to indicate the most used muscles, whereas those below it were taken to indicate less used muscles (Hawkey and Merbs 1995).

To test hypotheses relating to the presence of porotic hyperostosis and cribra orbitalia among individuals, a Chi-square test of homogeneity was used to contrast females and males.

Comparison of Skeletal and Archaeological Data

Too few of the Madisonville skeletons used in this study ($n = 2$) were associated with artifacts to make a meaningful assessment. Comparisons of the skeletal pathological data and mortuary data were made only for the Turner population.

Potential relationships among sex, workload, and social role were explored by comparing raw numbers, by comparing percentages, and by applying Chi-square tests. To assess the relative workloads of individuals, females and males were pooled. For each MSM site, a mean MSM score averaging the left and right sides was calculated for each individual, and individuals were ranked relative to each other by that score. For each MSM site, a grand mean score for the entire population was then calculated. Individuals who fell in the group above the grand mean breakpoint were identified as having generally robust MSM development for that site and, thus, a high-level workload. Individuals having an overall score below the breakpoint were identified as having generally nominal MSM development for that site and, thus, a low-level workload. These results were then compared to the artifacts that

were found with each individual and that indicate high or low status.

To explore the possibility of sexual differentiation in terms of work load and social prestige, the sex groups were divided and the data were reevaluated using the method just described.

An individuals' social prestige was estimated from the artifact class(es) with which they were associated. *High-status* artifacts were defined as those belonging to either the probable shamanic practitioner category, the unspecified leader or important social role category, or the prestigious personal category, per Table 10.5. *Low-status* artifacts were defined as those within the nonprestigious clan category or personal category as shown in Table 10.5.

Potential relationships between muscle use and specific social roles were investigated by dividing the Turner series into groups by social role. The only social category large enough for meaningful statistical analysis was that of shamanic practitioner. MSMs of individuals associated with probable shamanic artifacts were compared to the remainder of the population using a Wilcoxon rank-sum test.

RESULTS OF MSM ANALYSIS FOR THE TURNER EARTHWORK-MOUND GROUP

Sexual Differentiation in Generalized Labor

Robusticity and Stress Lesions. Patterns of activity-induced stress within the Turner population show a labor dichotomy between females (Appendix 10.4, Tables 1–5) and males (Appendix 10.5, Tables 1–5). Both the Wilcoxon rank-sum statistical test and the difference in rank method indicate some significant differences between Turner females and Turner males (Appendix 10.6). The muscles that ranked above the grand mean in Appendix 10.4, Tables 1 through 5 and Appendix 10.5, Tables 1 through 5, are directly compared to one another (females to males) in Appendix 10.6. Of the muscles listed in Appendix 10.6, the muscle attachment sites of Turner females exhibited stronger use more frequently (53%) than those of males (47%). These results show that when a specific

muscle attachment site was directly compared between females and males, and differences in body size were considered in that assessment, females were somewhat more likely to exhibit stronger use of a given muscle than were males.

While the highest-ranked differences for Turner females emphasized the upper limbs (59%), muscle use within Turner males emphasized the lower limbs (60%) (Appendix 10.6). The Appendix 10.6 data also indicate that, compared to males, Turner females placed greater stress on muscles primarily involved in flexion and extension of the hand, wrist, and forearm (extensor indicis, flexor pollicis longus, flexor–extensor aponeurosis, flexor digitorum superficialis, flexor digitorum profundus, extensor pollicis longus), pronation and supination of the forearm (pronator quadratus, pronator teres, supinator), extension of the forearm at the elbow (triceps brachii), lateral rotation and abduction of the thigh (piriformis), lateral rotation of the thigh (obturatorius internus, quadratus femoris), abduction and/or medial rotation of the thigh (gluteus minimus), plantar flexion of the foot, and flexion of the knee on the thigh (gastrocnemius). The ligaments most stressed by Turner females include knee stabilizers (patellar, anterior cruciate).

Compared to females, Turner males ranked higher for muscles primarily involved in flexion and adduction of the arm (coracobrachialis), adduction, extension, and medial rotation of the arm (latissimus dorsi, teres major), adduction, flexion, and medial rotation of the arm (pectoralis major), lateral rotation of the arm (teres minor), flexion of the forearm (flexor common origin), flexion and rotation of the vertebral column, compression of the abdominal viscera (obliquus externus abdominus), abduction of the thigh at the hip joint (adductors), flexion of the thigh and the leg (sartorius), lateral rotation of the thigh at the hip (obturatorius externus), flexion and medial rotation of the leg, extension of the thigh at the hip (semitendinosus), flexion and medial rotation of the leg (popliteus), extension of the leg at the knee joint (vastus lateralis), plantar flexion of the foot, and flexion of the leg (plantaris). The ligament most stressed by Turner males was a knee stabilizer (posterior cruciate).

Table 10.6. Stress Lesions Observed

	Number (*n*)	Upper limbs	Lower limbs	Total
Females	5	4	1	5
Males	3	4	5	9
Total	8	8	6	14

Stress lesions were observed on five females and three males, following the female-dominant pattern for robusticity MSMs. Of the 14 muscle and ligament stress lesions observed, 57% ($n = 8$) occurred on the upper limbs and 43% ($n = 6$) occurred on the lower limbs (Table 10.6). Two upper-limb muscle sites (deltoideus, teres major) had two separate observations of stress lesions, and one lower limb muscle site (soleus) had three separate observations of stress lesions. There is no statistically significant difference in either the number of females versus males on which stress lesions were observed or the variety of observed stress lesions between females and males. Low sample size may account for this result.

Ossification Exostoses. Ossification exostoses were present on three females and one male ($n = 4$) (Table 10.7), again, following the female-dominant pattern. Of the 16 muscle and ligament ossification exostoses noted, 25% ($n = 4$) occurred on the upper limbs and 75% ($n = 12$) occurred on the lower limbs. Although there is no significant difference in the number of females versus males on which ossification exostoses were observed, a Chi-square test found that males have a significantly greater variety of sites with ossification exostoses ($p = .05$). However, all male ossification exostoses were observed on a single older male. Only one lower-limb muscle site (iliacus) had more than one incidence of injury ($n = 2$). Iliacus flexes the thigh at the hip joint.

Table 10.7. Ossification Exostoses Observed

	Number (*n*)	Upper limbs	Lower limbs	Total
Females	3	2	1	3
Males	1	1	12	13
Total	4	3	13	16

Sexual Differentiation for Specific Activities

Female and male MSM mean scores that fell above the grand mean (i.e., stronger use, see Appendices 10.4 and 10.5) were compared for their associations with predicted muscle-use patterns for various activities, and Chi-square statistics were calculated for each pattern (Appendix 10.7). No statistically significant differences were found when females and males were compared for a specific activity. However, there is a slight trend in which female muscle-use patterns are more consistent than those of males with the predicted muscle use patterns for the activities evaluated (58% versus 42%, respectively).

The activities hypothesized in Appendix 10.1 that are most consistent with female-specific patterns of muscle usage (i.e., females favored by a minimum of 10% over males) include the following: Hypothesis 1, nut and seed grinding and pulverizing using a nutting stone and pestle; Hypothesis 4, food and/or materials preparation using a knife; Hypothesis 5, hide preparation using a side scraper; Hypothesis 7, flintknapping using a hammerstone; and Hypothesis 14, running. The activities hypothesized in Appendix 10.1 that are most consistent with male-specific patterns of muscle usage (males favored by a minimum of at least 10% over females) are as follows: Hypothesis 3, nut, seed, and grain grind-ing using a mano and metate; and Hypothesis 6, hide preparation using an end scraper.

RESULTS OF MORTUARY ANALYSIS FOR THE TURNER EARTHWORK-MOUND GROUP

The Relationship among Sex, Workload, and Social Role

Sexual Differentiation and Social Role. Eighty-six percent of the females ($n = 12$) and 40% of the males ($n = 2$) were buried with artifacts. A Chi-square test found that this difference is statistically significant ($p = .10$). Because a majority of Turner individuals usable for MSM analysis were also associated with some kind of burial inclusion, it was possible to compare females and males for specific artifact types (Figure 10.2). Females, exclusive of males, were buried with probable shamanic items ($p = .05$). Females were also more often buried with non-prestigious personal/utilitarian items ($p = .10$). In addition, a greater percentage of females were also buried with items indicating leaders of un-specified kind or other important social roles and with nonprestigious clan items. Males were more frequently buried with prestigious personal items. None of these last three differences proved to be statistically significant, however. The pre-ponderance of shamanic and leadership items with females is an important difference from the
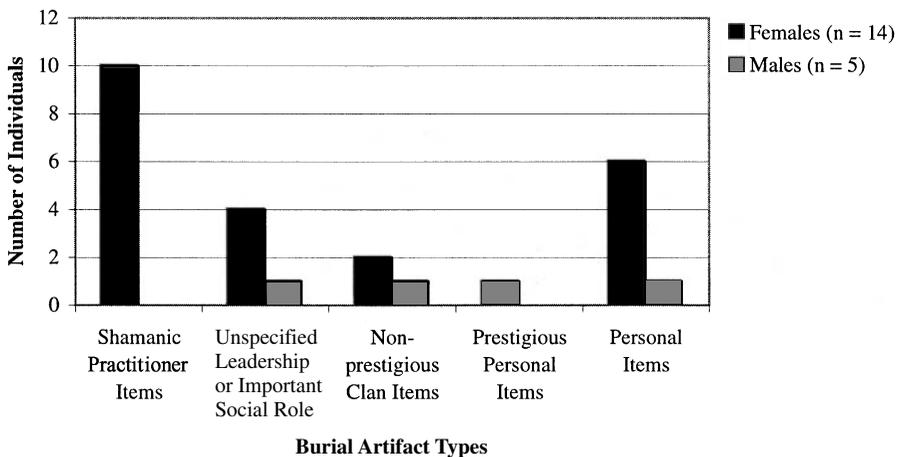
Figure 10.2. Distribution of burial artifact types between females and males.
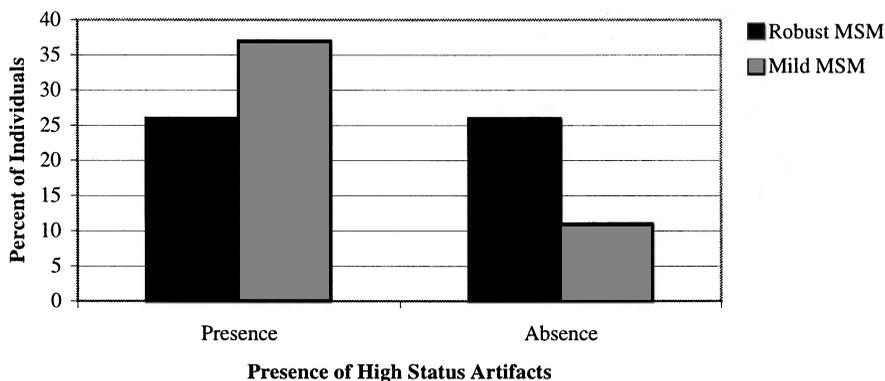
Figure 10.3. Negative co-occurrence of heavy workload and high-status artifacts.

male focused pattern in the Scioto tradition (see Field et al., Chapter 9).

Workload and Social Prestige. MSM and burial data were compared to identify potential relationships between workload and social role. Figure 10.3 indicates that when females and males are combined, individuals buried with high-status artifacts ($n = 12$) more commonly exhibited overall *mild* MSM development, suggesting a *low* workload relative to the group. Alternatively, those individuals who were not buried with high-status artifacts ($n = 7$) were more likely to exhibit relatively *robust* MSM development, suggesting a high workload relative to the group. Although these two independent results are consistent with each other and are interpretable socially, they are not statistically significant.

Workload, Social Prestige, and Sexual Differentiation. To explore the possibility of sexual differentiation in workload and social role, the individuals were separated by sex and

the data were reevaluated. None of the males ($n = 3$) in the robust MSM category were buried with high prestige items. This was not true for females: 71% of the females who exhibited robust MSM development ($n = 7$) were also interred with high-status burial items. This difference was statistically significant ($p = .05$) using a Chi-square test.

Sexual Differentiation, Workload, and Specific Social Role. To further test potential social distinctions within the Turner population, the presence of artifacts indicating the two role categories of possible shamanic practitioner, and unspecified leader or other important social role, was also compared to levels of MSM development (Table 10.8). Individuals with both shamanic roles and roles of unspecified leadership or importance are contrasted with individuals with only one of these kinds of roles and those with neither for their degrees of MSM development. Females more frequently had one or more shamanic, unspecified leadership, or other

Table 10.8. Relationship between MSM Robusticity and Number of Leadership Roles

	Females[a]		Males[b]	
	Low MSM development	High MSM development	Low MSM development	High MSM development
Shamanic AND unspecified leadership items	14%	28%	0%	0%
Shamanic OR unspecified leadership items	72%	44%	50%	0%
No shamanic or unspecified leadership items	14%	28%	50%	100%
Total of column	100%	100%	100%	100%

[a]Cell entries list the percentage of all females considered.
[b]Cell entries list the percentage of all males considered.

important social roles, and these persons generally had low MSM development. No males had both shamanic and unspecified roles of leadership or importance, but the males that did have one of these roles had low MSM development. Clearly, leadership roles reduced the workload of individuals generally, but this is no indication that females or males were more favored in this regard. Low sample size and mortuary treatments invisible in the archaeological record must be considered when interpreting these results.

The Relationship among Workload, Health, and Social Prestige

Of the 19 individuals from Turner available for MSM evaluation, only 10 could be matched to appropriate skull elements for assessing porotic hyperostosis and cribra orbitalia. The assessment indicated that porotic hyperostosis and cribra orbitalia were fairly ubiquitous within the Turner population (90% of the available skulls). When the 10 individuals were compared in a cross-tabulation of skull pathology against burial artifact associations (Figure 10.4), it was found that individuals buried with only low status artifacts or none at all ($n = 4$) were less likely to develop a strong case of porotic hyperostosis and/or cribra orbitalia. Those buried with high-status artifact classes were subject to strong cases half the time ($p = .05$).

Using the same skeletal sample, a second cross-tabulation of MSM development against burial artifact associations indicating high versus low status (Figure 10.5) shows no relationship between these variables.

The Relationship between MSMs and Specific Social Roles

To investigate the relationship between specific muscle-use patterns and specific social roles, data from MSM and burial inclusions were compared. Patterns of activity-induced stress within the Turner population show a dichotomy of labor between individuals buried with probable shamanic items and the rest of the population. Of the 28 statistically significant differences ($p = .05$) found for specific MSM sites between the probable shamanic practitioners and the remaining population, the shamanic practitioners were higher for only 32% of these comparisons ($n = 9$), whereas the rest of the population scored higher for 68% of the comparisons ($n = 19$). Thus, persons in shamanic roles were subject to less physical stress.

Shamanic practitioners at Turner scored significantly higher for upper-limb muscle and ligament stress locations more frequently than the general population (67% vs. 26%, respectively), whereas the reverse is true for lower-limb muscle and ligament stress locations (33% vs. 74%). A Chi-square test found that these differences in stress locations are statistically significant ($p = .05$).
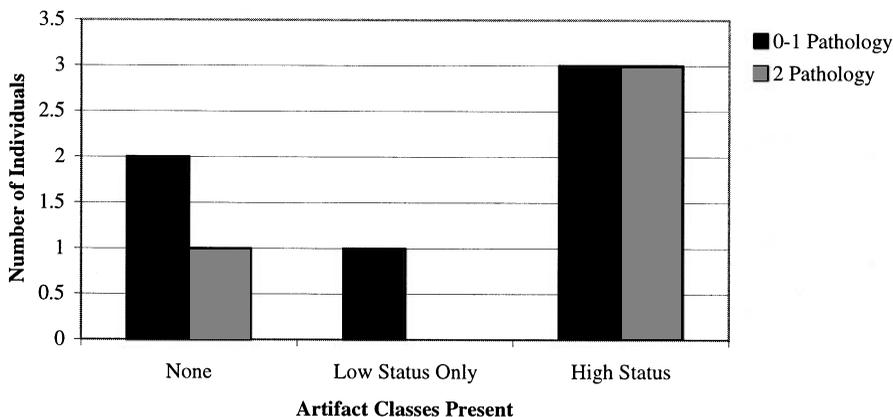
Figure 10.4. Relationship between social prestige and health for 10 selected individuals.
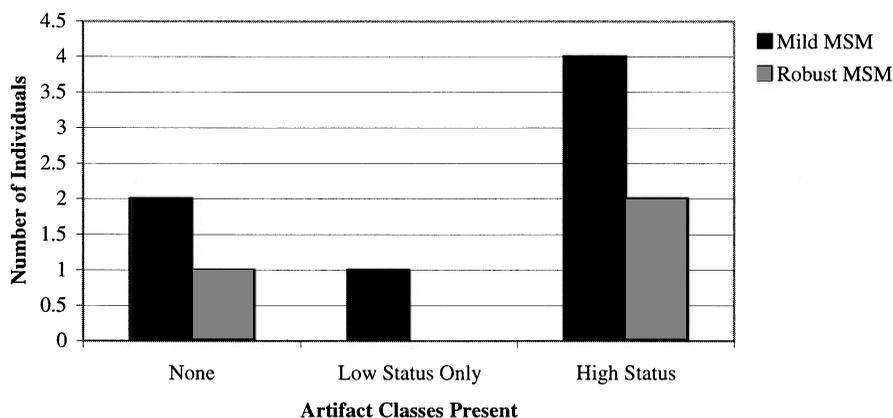
Figure 10.5. Relationship between burial inclusions and MSM development for 10 selected individuals.

The specific muscles and ligaments for which persons in shamanic roles scored statistically higher (in their mean development) than the remainder of the population are summarized in Appendix 10.8.

Small sample sizes prohibited the use of statistical tests to compare the MSM patterns of shamanic practitioners with the activities in Appendix 10.1; however, there are some possibilities worthy of note. The muscle-use patterns of persons in shamanic roles could be related to movements such as those described in Hypotheses 1–6, because these activities are most specific to hand, wrist, and forearm manipulation. These hypotheses pertain to the following activities: nut and seed grinding and pulverizing using a nutting stone and pestle; nut and seed pounding using a nutting stone and pestle; nut, seed, and grain grinding using a mano and metate; food/materials preparation using a knife; and hide preparation using a sidescraper or an endscraper. Activities not specifically examined in this study that could pertain to both shamanic behavior and the above stated muscle activity patterns include craft manufacture, artistry, collection of plants and herbs, and use of drums or other musical instruments.

Stress lesions were observed on four persons with shamanic artifacts and four individuals of the general population (50% each). Of the 13 muscle and ligament stress lesions observed, 69% ($n = 9$) occurred within the general population (trapezoid, deltoideus, pectoralis major, teres major, semimembranosus, semitendinosus, posterior cruciate, soleus), and only 31% ($n = 4$) occurred within the possible shaman group (deltoideus, teres major, triceps brachii, pronator quadratus). Persons in the general population were significantly higher in both the number and the variety of different stress lesions observed ($p = .05$). Again, shamanic practitioners appear to have been more buffered from chronic physical stress.

Ossification Exostoses. Of the four Turner individuals on which the 16 ossification exostoses were observed, only one person had shamanic equipment. Ninety-four percent ($n = 15$) of all ossification exostoses occurred within the general population (costal tuberosity, iliacus, sternocleidomastoideus, triceps brachii, obliquus externus abdominus, gluteus medius, gluteus minimus, rectus femorus, anterior cruciate, patellar, soleus, posterior cruciate, flexor digitorum longus), and 6% ($n = 1$) occurred on the one shamanic practitioner (extensor carpi radialis longus). Persons in the general population were significantly higher in both the number and the variety of different stress lesions observed ($p = .05$) compared to the one person with shamanic equipment. Thus, the shamanic practitioner showed less indication of physical trauma, and a different form of trauma, than did the remaining population at Turner. Activities not formally tested in this study that could be associated with the types of muscle movements

consistent with the ossification exostoses on the shamanic practitioner include craft manufacture, use of musical instruments (e.g., drumming), and gathering of plants.

SUMMARY OF THE PATTERNS FOUND AT TURNER

Sexual Differentiation and Generalized Labor

Robusticity and Stress Lesions. The results of Wilcoxon rank-sum statistical tests and calculations of differences in rank order indicated a division of labor between Turner females and Turner males. Whereas the highest-ranked differences for Turner females emphasized the upper limbs, muscle use within Turner males emphasized the lower limbs. Turner females scored higher for slightly more (53%) of the largest differences in rank between the sexes. However, fewer than one-fifth (13%) of the MSMs compared resulted in statistically significant differences between the sexes, and male scores were most often significantly higher. In short, females and males have high-ranking mean robusticity MSM scores for approximately similar numbers of muscles, but different specific muscles. The sometimes conflicting results of the Wilcoxon rank-sum statistical test compared to the differences in rank are likely the result of the bias that is a consequence of evaluating MSM data with this particular statistic. Specifically, the Wilcoxon rank-sum test compares the biological data without accommodating differences in body size, such as those taken into account when calculating differences in rank.

Stress lesions were observed relatively equally among females and males. Likewise, the variety of stress lesions found on females versus males is similar, and they occurred more frequently on the upper limbs. The lack of differences in the occurrence of stress lesions between the sexes implies similar levels of chronic muscle strain with reference to the specific movements examined.

Ossification Exostoses. There is no significant difference in the number of females versus males having ossification exostoses indicating

microtraumas. The one male having ossification exostoses was found to have a significantly greater variety of them. Thus, to the extent known, there does not appear to be an important difference between females and males in the occurrence of injury for the MSM attachment sites examined.

Sexual Differentiation for Specific Activities

When female and male MSM mean scores that fell above the grand mean breakpoint (i.e., stronger use) were compared in their associations with the muscle-use patterns for specific activities, no statistically significant differences were found between females and males. However, there is a slight trend in which female muscle-use patterns are more consistent than those of males with a majority of the hypotheses tested.

The activities most consistent with muscle-use and stress patterns for females are nut and seed grinding and pulverizing using a nutting stone and pestle, food and/or materials preparation using a knife, hide preparation using a side scraper, flintknapping using a hammerstone, and running. The activities most consistent with muscle-use and patterns of stress for males are nut, seed, and grain grinding using a mano and metate, and hide preparation using an end scraper.

The Relationship among Sex, Workload, and Social Role

Sexual Differentiation and Social Prestige. Examination of the Turner mortuary data indicated that both females and males performed roles associated with high prestige. The Turner females used in this study were buried with a greater variety of mortuary items and were more frequently interred with items indicating unspecified leadership or other important social roles, nonprestigious clan membership, and nonprestigious personal and utilitarian roles. Turner females, exclusive of males, were buried with probable shamanic items. Males were more frequently buried with prestigious personal items than females. Because the Turner females in this study were more frequently associated with

artifacts marking shamanic and other leadership and important social roles, it is probable that they were recruited into and filled these societal roles more frequently than did males in this population. These patterns suggest that institutionalized shamanic roles and other leadership and important roles may have been inherited through the female line. In contrast, males were involved in the achievement of prestige.

Workload and Social Prestige. Comparison of MSM and burial inclusions indicated that persons of differing prestige or social role differed in their overall workload. Individuals buried with high-status artifacts more commonly exhibit overall mild MSM development, suggesting a low workload. Individuals not buried with high-status artifacts more likely exhibit robust MSM development, suggesting a high workload. Thus, levels of MSM development and workload appear to decrease with prestige.

Workload, Social Prestige, and Sexual Differentiation. While some females buried with high-status artifacts exhibited robust MSM development, no males buried with high-status items had robust MSMs. Sample size is too small for definitive conclusions, but it is possible that there were different occupational obligations for females and males holding similar prestigious positions, leading to greater stress among females.

Some females were buried with artifacts indicating both shamanic practitioner and unspecified leadership or other important social roles, whereas males were buried with at most the artifacts of one of these categories of leadership. High MSM development was found in two of the three instances of females with artifacts indicating both categories of leadership. Thus, leadership roles did not shelter females from extensive work. Increasing numbers of socially important roles as indicated by a greater variety of burial items does not seem to have additionally decreased workload.

Workload, Health, and Social Role

The ubiquity of porotic hyperostosis and cribra orbitalia among the Turner group demonstrates that, in general, individuals associated with the different status markers of shamanic practitioner, unspecified leader or other important social role, clan member, or prestigious personal identity were probably not systematically singled out for differential treatment in life (e.g., diet, practices involving overall health) in a way that would have dramatically affected their chances of acquiring these pathologies. However, there may be a slight tendency for individuals buried with high-status artifacts to have had more severe cases of porotic hyperostosis/cribra orbitalia. Individuals buried with only low-status artifacts, or none at all, were usually subject to only mild instances of porotic hyperostosis and cribra orbitalia, whereas those buried with high-status artifact classes were subject to strong cases of porotic hyperostosis and cribra orbitalia half the time. Thus, persons in high-status roles may have experienced some differential treatment in life, such that it would have decreased their ability to resist stress. This health issue for high-status individuals was not tied to their workload, which appears to have been lower than that of lower-status individuals for males and similar to that of lower-status individuals for females.

Finally, persons with a mild case of porotic hyperostosis are also more likely to exhibit mild overall MSM development. This suggests that, for the Turner population in general, lower workloads increased resistance to biological stress.

MSMs and Specific Social Role

Comparison of MSMs with mortuary items indicates that persons of differing prestige or social roles differ in specific tasks that they performed. Possible shamanic practitioners showed significantly higher MSM compared to the remainder of the population in only a low percentage of all muscle comparisons made, indicating that they were less subject to physical stresses. Individuals buried with shamanic items used muscles relating to flexion and extension of the hand, wrist, and forearm, and pronation and supination of the forearm, to a far greater degree than other society members. These movements could imply the activities in Hypotheses 1–6 in Appendix 10.1: nut and seed grinding and pulverizing using a nutting stone and pestle; nut and seed

pounding using a nutting stone and pestle; nut, seed, and grain grinding using a mano and metate; food/material preparation with a knife; and hide preparation using a side scraper or end scraper. Activities of some unexamined kinds specific to hand, wrist, and forearm manipulation, such as craft manufacture, collection of herbs and plants, artistry, and the use of drums or other musical instruments, are also possible. Finally, possible shamanic practitioners scored significantly higher for upper-limb muscle and ligament stress locations more frequently than did the remainder of the population, and less so for lower-limb muscle and ligament stress locations.

Persons in shamanic roles less commonly had stress lesions indicating chronically stressed muscles and ligaments than did the remainder of the population. Shamanic practitioners were significantly lower in both the number and the variety of different stress lesions observed. Again, these persons appear to have been more buffered from chronic physical stress. The one shamanic practitioner found to have ossification exostoses that include macrotraumas was significantly lower than the remaining population in the number and the variety of ossification exostoses observed.

COMPARISON OF THE ANALYSES FOR THE TURNER AND MADISONVILLE POPULATIONS

Analyses similar to those made for the Turner population were performed for the Madisonville population, with the exception of those concerning artifact grave goods, which are largely lacking at Madisonville (Cadiente 1998). Space restrictions prohibit the presentation of details for the Madisonville study, but a brief comparison of the results for Turner and Madisonville is now offered.

Sexual Differentiation and Generalized Labor

Robusticity and Stress Lesions. Comparing the pattern of sex-specific differences in MSMs for the Turner and Madisonville popu-

lations demonstrated a slight increase in sexual differentiation in task allocation over time. At Turner, fewer than one-fifth (13%) of the MSMs studied showed statistically significant differences between the sexes. In contrast, more than one-fourth (26%) of the Madisonville MSMs tested did so. This differs from a similar MSM study that compared Middle Woodland and Fort Ancient data, and that found a reduced amount of sexual differentiation in the later group (Cadiente and Nagy 1998). Additional study is needed to further clarify the meaning of these differing results.

Whereas the number of statistically significant, sexually dimorphic MSMs found here is slightly higher at Madisonville than Turner, the pattern of MSM involvement is somewhat similar. When female and male MSM ranked scores above the grand mean breakpoint are considered, Turner and Madisonville females share the same highest-ranked muscle and ligament sites 84% of the time, while Turner and Madisonville males share the same highest-ranked muscle and ligament sites 77% of the time (Appendix 10.9).

In both the Turner and the Madisonville populations, stress lesions were observed relatively equally among females and males. Stress lesions occurred more frequently on the upper limbs in both populations. Of all muscle and ligament sites at which stress lesions were noted in either the Turner or the Madisonville population, there were two locations at which lesions occurred most frequently: teres major and soleus plantar. Teres major adducts, extends, and medially rotates the arm, and soleus plantar flexes the foot.

Ossification Exostoses. Ossification exostoses were observed more frequently on Turner females and Madisonville males. The difference in patterns is possibly related to lifestyle. At Turner, ossification exostoses were most likely to occur on the lower limbs, whereas at Madisonville, they were more frequently observed on the upper limbs. Lower limb ossification exostoses at Turner may have been associated with the more hunter–gatherer lifestyle of people there and their greater travel on a regular basis. The higher frequency of upper-limb ossification

exostoses within the Madisonville population would have been associated with a great amount of strain placed on the arms, possibly related to an agricultural lifestyle, in which much time might have been spent hoeing and digging.

Sexual Differentiation for Specific Activities

When Turner and Madisonville muscle-use patterns were compared for how well they fit the hypotheses listed in Appendix 10.1, which relate specific sets of muscles to specific activities, no statistically significant differences were obtained. In addition, for the Turner population, females fell more strongly in line with more of the predicted hypotheses, whereas in the Madisonville population, males were more strongly in line with more of the predicted hypotheses.

Turner females and Madisonville males were each favored by a minimum of 10% over the opposite sex for four hypotheses: Hypothesis 1, nut and seed grinding and pulverizing using a nutting stone and pestle; Hypothesis 4, food and/or materials preparation using a knife; Hypothesis 5, hide preparation using a side scraper; and Hypothesis 7, flintknapping using a hammerstone. These results show that Turner female and Madisonville male muscle-use patterns emphasized similar muscle movements in the wrist and forearm. Thus, activities may have shifted over time in their distribution among the sexes.

More broadly, other predicted muscle-use activity patterns did not clearly correspond to MSM patterns at either Turner or Madisonville. At this time, the reason is unclear. However, it may in part result from the fact that the primary muscles used in one activity sometimes overlap with those used in another activity. The great diversity of behavior that probably existed within both the Turner and the Madisonville populations could also have muddled results. Finally, tool use and positional behavior could have changed over time, making the use of some ethnographic projections inappropriate for the purposes of MSM study. Further work will hopefully improve the predictability of the activity patterns in Appendix 10.1.

Although a majority of the observed task differences found for females and males were consistent with observations made by Murdock (1949b) on historic Native American societies, some unexpected findings resulted from this study. Turner female muscle use patterns correlated more strongly than males with flint-knapping. Turner female and Madisonville male muscle-use patterns were also more consistent with preparation of animal skins with an end scraper, an activity not linked with either sex by Murdock (1949b). Although running was not included in Murdock's ethnographic study, it had been anticipated that this activity would theoretically be affiliated with hunting large game, a male task. Surprisingly, Turner and Madisonville females corresponded more strongly than did males with this muscle-use pattern. Madisonville male muscle-use patterns were consistent with weaving and with nut and seed grinding, pulverizing, and pounding—occupations that Murdock found to be most frequently associated with females.

CONCLUSIONS

This chapter has explored prehistoric social differentiation along lines of sex, including the social roles (activities) and social prestige of women and men, and the relationship of these to the general workload and health of women and men. The study methodologically expands and strengthens the recent focus on gender in archaeology by providing empirical means (skeletal information) for evaluating the activities and workloads of women and men. Undesirable projection of conventional assumptions and stereotypes about the occupations and positions of women and men upon the archaeological record has thus been circumvented.

For example, the analyses of the Turner and Madisonville skeletal data yielded some findings that are unexpected relative to ethnographic information on the activities performed by historic Native American women and men, as summarized by Murdock (1949b). Muscle-use patterns indicate that Turner females, rather than males, may have been more involved in flintknapping. Preparation of animal skins, which

ethnographically is not linked to either sex, is indicated by muscle-use patterns to have been tied more closely to females at Turner and to males at Madisonville. Whereas stereotypically, archaeologists commonly have considered running to be a male-oriented activity, associated with hunting, and nut and seed processing and weaving to be female activities, at Turner and Madisonville, muscle-use patterns indicate the reverse allocation of these tasks among the sexes. In these ways, the empirical approach, using biological data, has placed the study of prehistoric gender on firmer ground.

The approach taken here is also bioarchaeological in nature, in that it combines skeletal and archaeological mortuary data. This approach has provided not only rich details on the past lifeways of peoples at Turner and Madisonville, but also important connections between the biology and the culture of each—a more systematic and integrated view in which social role and prestige are seen as having implications in terms of workload and health.

The following points highlight some of the more important findings for the Turner and Madisonville populations.

(1) In general, females and males had similar workloads, at both Turner and Madisonville. Both sexes had similar frequencies of robusticity MSMs from normal activity, stress lesions indicating chronic muscle strain, and ossification exostoses indicating microtraumas. Neither sex was expected to physically overexert themselves on a regular basis, at least to the point of injury.

(2) Females and males performed different tasks at both sites. Turner females may have commonly performed nut and seed grinding and pulverizing using a nutting stone and pestle, food and/or materials preparation using a knife, hide preparation using a side scraper, flintknapping using a hammerstone, and running. Males may have commonly performed nut, seed, and grain grinding with a mano and metate, and hide preparation using an end scraper. At Madisonville, females may have commonly been involved in tasks requiring running, whereas males may have emphasized nut and seed grinding, pulverizing and pounding using a nutting stone and pestle,

food and materials preparation using a knife, hide preparation using an end scraper, flintknapping using a hammerstone, and weaving.

(3) Through time, from the Middle Woodland (Turner) through the Fort Ancient (Madisonville) period in Ohio, there may have been a slight increase in the sexual differentiation of task allocation. However, a contradictory study (Cadiente and Nagy 1998) suggests that further work is needed on this topic.

(4) Through time, the bulk of the activities performed by females compared to males remained the same. Turner and Madisonville females share 84% of the highest ranked muscle and ligament MSM sites, and males share 77% of such sites.

(5) A shift from a horticultural–hunting–gathering life to an agricultural–hunting–gathering life is evident in a comparison of injury patterns identified by ossification exostoses within the Turner and Madisonville populations. Lower-limb injuries, which would have been involved in running and regular travel, were more frequent in the Turner population, whereas upper-limb injuries, possibly associated with more strain placed on the arm when hoeing and digging, were more frequent in the Madisonville population.

(6) Females as well as males at Turner held leadership positions of high prestige. Females more than males were associated with shamanic and other artifacts of institutionalized leadership or important social roles, whereas males more than females were buried with prestigious personal items. It is possible that institutionalized leadership at Turner rested primarily with females, and perhaps was inherited through the female line, whereas male positions of prestige were achieved.

(7) Leadership roles and high prestige appear to have sheltered males, but not females, from extensive work at Turner. No males buried with high-status and leadership items had robust MSMs, whereas females with high-status and leadership items commonly had robust MSMs. Moreover, although females alone were buried with artifacts indicating more than one role of leadership or social importance, an increase in the number of roles does not seem to have led to

a decrease in workload for females. This suggests a lack of full-time specialists in leadership.

(8) Shamanic practitioners at Turner appear to have been subject to less physical stress, less chronic physical stress, and less physical trauma than the remainder of the population, as indicated by their lower percentage of muscles with high robusticity MSM, less frequent and variable stress lesions, and fewer ossification exostoses. This pattern may indicate the beginning of a trend toward shamanic social leaders having been freed from at least some subsistence tasks.

(9) Persons in shamanic roles at Turner appear to have devoted large amounts of time to activities specific to hand, wrist, and forearm flexion and extension. The activities associated with these movements cannot yet be specified precisely, but could include nut, seed, and/or grain processing, hide preparation, cutting items with a knife, craft manufacture, artistry, plant collection, and/or use of a drum or other musical instrument.

(10) Porotic hyperostosis and cribra orbitalia seem to have been fairly common within the Turner population.

(11) High-status individuals did not necessarily enjoy an increased level of health. Whereas persons buried with low-status items or none at all commonly had only mild cases of porotic hyperostosis and cribra orbitalia, those buried with high-status artifact classes had strong cases of these pathologies half of the time. This health issue for high-status individuals was not tied to their workload, which appears to have been lower than that of lower-status individuals for males and similar to that of lower-status individuals for females.

Future work is necessary to strengthen or modify the above generalizations. The study of larger skeletal samples from additional Hopewell sites, and more of the Madisonville skeletal series and/or skeletons from other Ohio Fort Ancient-period sites, is desirable. Additional electromyographic studies of specific muscle activity in relation to prehistoric tasks would help the linkage of MSM patterning to activity patterning. Notwithstanding these needs for continued research, the above analyses show the promise of MSM studies in documenting social organization issues, and particularly gender issues, in prehistory.

Gender, Role, Prestige, and Ritual Interaction across the Ohio, Mann, and Havana Hopewellian Regions, as Evidenced by Ceramic Figurines

CYNTHIA KELLER AND CHRISTOPHER CARR

The interpretation of gender as a cultural distinction through archaeology can be a difficult task. Archaeological gender studies have been few until the last decade, due to a lack of helpful analytical tools and models. Although speculative, this chapter attempts to increase our understanding of various cultural practices influenced by gender in northern Hopewellian societies. Specifically, what can be learned of the social roles, roles in ritual, relative prestige, and social interactions of northern Hopewellian women through archaeologically preserved materials?

This chapter focuses on Hopewellian societies in three regions of the Woodlands: the Scioto–Miami area of Ohio, the Havana region of the Illinois valley, and the Mann area of Indiana. The artifacts that are used to gain insight on these societies are ceramic figurines, totaling 148 from 19 Hopewellian sites.

The first half of the chapter is a general, descriptive study of figurines in all three regions. A search is made for empirical patterning in the representational content, formal details, technology, and depositional contexts of figurines, with an eye that these might express gender roles and other features of social organization, the function(s) of figurines, and their nature of production. The survey shows that Hopewellian figurines depict both males and females, in life, hunting, rearing children, milling grain, and engaging in other activities, and in death. Children and the elderly were seldom portrayed. Figurines were very likely produced by women, primarily in residential sites for domestic ceremonies. They were also deposited in mortuary contexts, although less frequently. The sequential addition of utilitarian pottery, fancy pottery, and figurines to the list of goods placed in graves over the course of the Early and Middle Woodland may indicate an increase in the participation of women in mortuary rituals through time. Markings of status on figurines show that some women held important social positions and expressed these actively, most frequently in the Havana region.

In the second half of the chapter, a stylistic, geographic analysis of the figurines is presented. The analysis suggests that figurines were

not traded frequently interregionally, that women who produced figures were not frequently exchanged in marriage interregionally, and that women did not commonly travel long distances to acquire from each other formal rights and formulae for producing and using figurines. Instead, information about figurine styles and uses was exchanged. This probably occurred informally, with open rights to figurine production—perhaps through casual observation and learning at interregional ceremonial gatherings, but not through simple down-the-line interactions.

Examples of Hopewellian figurines with various characteristics, some previously published, many not, are illustrated throughout the text. Citations to other published and unpublished illustrations and descriptions of figurines are provided in Tables 11.1 and 11.2 and in the text. Appendices 11.1 through 11.9 contain line drawings of previously unpublished figurines, primarily from the Mann site, Indiana. Griffin et al. (1970) illustrate a broad diversity of figurines from eight sites in Illinois and Ohio.

Both authors collected the primary data for this chapter and worked on the analyses. Keller had a greater hand in the interpretations about gender in the first half of the chapter; Carr, in the interpretations of figurine styles and artisan interactions in the second half.

ANALYSES OF GENDER, SOCIAL ROLES, AND PRESTIGE

Description of Dimensions of Variation of Figurines

In the first part of this chapter, the sample of figurines selected for study are those that are as complete as possible. This was necessary to search for patterns of association among and geographic distributions of figurine attributes, such as their sex, hairstyle, clothing style, and posture. The sample of figurines used consists of 31 pieces from 4 major sites in the Scioto–Miami region, 59 pieces from 13 sites in the Havana region, and 58 pieces from 2 sites in the Mann region (Table 11.1). Different criteria were used to select figurines for the stylistic study in the second half of the chapter (see below).

The sample used here includes figurine descriptions and depictions available in published literature, as well as unpublished photographs of additional figurines that were provided by C. Carr and B. K. Schwartz. Only figurines that could be provenienced to site were analyzed. The sample is not an exhaustive collection of figurines from the regions. There are many figurines available in private collections that are not dependably provenienced, as well as figurines that are too fragmentary for use here. In addition, some figurines are known from the southeastern United States.[1]

In the following descriptive material, when percentages of a figurine trait are given, such as the percentages of figurines from a region or of a sex that have ornamentation or certain hairstyles or eye styles, care has been taken to distinguish between the actual absence of the trait from a figurine and absence that results from missing parts due to preservation. Figurines missing a part where a given trait might occur were excluded from calculating percentages for that trait.

To begin, some basic dimensions of variation that characterize northern Hopewell figurines must be described.

Representational Content

Figurines represent the arenas of both life and death. They show individuals in various life activities, including holding and nursing children (Figures 11.1a and b); sitting, possibly in counsels (Figure 11.1c); and holding hunting equipment (Figure 11.1d). Another may represent a body being prepared after death, arms crossed and lying in prone position (Figure 11.2a). One figurine with its knees flexed tightly against its chest (Figure 11.2b) may represent a body prepared for a flexed burial. An analogous depiction of a person in death or trance, with eyes closed, but sculpted from stone into a pipe bowl, is illustrated by Squire and Davis (1848:244, fig. 144).

The elderly and children are rarely depicted, probably because adult life expectancies were short (see Scuilli et al. n.d.). Similarly, children are seldom represented, perhaps because they were thought of as extensions of their parents, without well-defined, individual and social identities of their own until they grew older. This

Table 11.1. Basic Data on Figurines Included in This Study

Region	Site	ID#	Context (1)	Sex (2)	Hair (3)	Topknot (4)	Earspools (4)	Belt (4)	Arm band (4)	Necklace (4)	Item held (6)	Temper (4)	Posture (5)	Ref. (7)	Notes
Havana	Knight	1	B	M	2	N	Y	N	N	N	Atlatl	Y	1	2, 6, 7	Belt with a pouch
		2	B	F	3	N	Y	Y	N	N	N	Y	2	2, 6, 7	Burial is that of a child; crude figurine
		3	B	F	3	N	Y	N	N	N	Child	Y	2	2, 6, 7	
		4	B	F	3	N	Y	N	Y	N	Child	Y	3	2, 6, 7	
		5	B	F	1	Y	Y	Y	Y	Y	Foot trophies	Y	3	2, 3, 6, 7	
		6	B	U	U	N	U	LC	N	N	N	N	3	2, 3, 7	In fiber bag with copper celt and pottery, head broken
	Baehr	1	B	M	U	U	U	LC	N	N	N	Y	3	1, 7	On a mica plate with flint blades and bone earspool
		2	B	M	U	U	U	LC	N	N	N	Y	3	1, 7	Male with only one side of head shaved
	Crable	1	U	U	3	N	N	U	U	U	U	Y	U	1, 7	
	Steuben	1	V	U	4	N	N	U	U	U	U	Y	U	1, 7	
	Schuyler	1	V	M	1	Y	Y	LC	N	N	N	U	3	1, 7	
		2	V	F	3	N	Y	N	N	Y	U	U	2	1, 2, 7	
		3	V	F	2	Y	Y	U	U	U	N	U	5	1, 7	Posture known as naughty Marietta style, with hands under chin
		4	V	F	U	N	U	U	U	U	N	U	2	1, 7	
		5	V	F	3	N	Y	U	U	U	U	U	U	1, 7	
		6	V	F	3	N	Y	U	U	U	U	U	U	1, 7	
		7	V	F	3	N	Y	U	U	U	U	U	U	1, 7	
		8	V	F	U	U	U	U	U	U	U	U	3	1, 7	
		9	V	F	U	U	U	U	U	U	U	U	3	1, 7	
		10	V	F	U	U	U	U	U	U	U	U	2	1, 7	
		11–16*	V	U	U	N	Y	U	N	U	U	U	U	7	
	Twenhofel	1	U	F	1	N	N	U	U	U	U	N	2	1, 7	
		2–4*	U	U	U	N	N	N	N	U	U	U	3	7	Fragments
		5–23*	V	U	U	U	U	U	U	U	U	U	U	7	
	Sister Creek	1	V	F	U	U	U	N	N	N	N	N	3	1, 9	Crude
	White Co.	1	V	U	U	U	U	U	U	U	U	U	U	1, 9	Crude
	Murphysboro	1	U	F	U	Y	N	U	U	U	U	U	U	1, 9	Crude
	Sugar Camp Hill	1	U	F	U	N	N	N	N	N	N	N	3	1, 9	Crude
	Carrier Mills	1	V	M	2	U	U	U	N	N	U	U	3	1, 9	Squared shoulders with hands on thighs
	Whitnah	1	V	F	U	N	N	N	N	N	U	U	3	1, 9	Crude
	Smiling Dan	1–3*	U	U	U	N	N	N	N	N	N	U	3	9	Crude

Table 11.1. (*continued*)

Region	Site	ID#	Context (1)	Sex (2)	Hair (3)	Topknot (4)	Earspools (4)	Belt (4)	Arm band (4)	Necklace (4)	Item held (6)	Temper (4)	Posture (5)	Ref. (7)	Notes
Mann phase	Mann	1	V	M	U	U	Y	U	N	N	U	U	U	1, 2	Elderly and toothless
		2–10*	V	M	2	Y	Y	LC	N	N	U	U	U	2	
		11–20*	V	M	2	Y	N	LC	N	N	U	U	U	2	
		21	V	F	U	Y	U	U	N	Y	U	U	U	1, 2	
		22–23*	V	F	U	U	U	U	N	N	U	U	U	2	Swollen abdomens as if pregnant
		24–29*	V	F	U	N	N	N	N	N	U	U	5	2	Not ornamented in detail like Knight figurines
		30–33*	V	F	U	N	N	Y	N	N	U	U	U	2	
		34–51*	V	F	U	N	N	N	N	N	U	U	U	1	
		52	V	U	U	U	Y	U	N	N	U	U	U	1, 2	
		53	V	U	1	U	U	U	N	N	U	U	U	1, 2, 5	
		54	V	U	4	Y	Y	U	N	N	U	U	U	1, 2, 5	Holes for headdress antlers
		55	V	U	U	Y	Y	U	N	N	U	U	U	1, 2	
		56	V	U	U	Y	U	U	N	N	U	U	U	1, 2, 5	
		57	V	U	3	U	U	U	N	N	U	U	U	1, 2	
	Worthington	1	B	M	5	Y	N	U	N	N	U	U	U	1	
Scioto/Miami	Marietta	1	U	M	2	N	N	N	N	N	N	N	5	1	Hands under chin
		2	U	F	4	N	N	N	U	U	U	U	5	1	
	Turner	1	A	M	4	Y	Y	Y	N	N	N	N	3	2, 4, 7	Hands over abdomen
		2	A	M	2	N	U	U	N	N	N	U	3	1, 4, 7	
		3	A	M	2	N	N	N	N	N	N	N	2	2, 4, 7	Warrior hairstyle
		4	A	M	4	Y	Y	N	N	N	N	N	1	2, 4, 7	
		5	A	M	2	Y	Y	Y	N	N	N	N	3	2, 4, 7	
		6	A	M	2	Y	Y	U	U	U	U	N	U	1, 7	
		7	A	M	U	U	U	N	N	N	N	N	2	1, 7	Knees to chest/head destroyed
		8	A	F	3	N	N	N	U	U	U	U	3	2, 4, 7	
		9	A	F	U	U	U	Y	U	U	U	U	U	1, 7	
		10–23*	A	U	U	U	U	U	U	U	U	U	U	7	Bird shapes
		24–25*	A	U	U	U	Y	U	U	U	U	U	U	7	
		26	A	U	U	U	Y	U	U	U	U	U	3	1, 7	
	Newark	1	U	M	U	U	Y	U	U	U	U	U	U	1	
	Seip	1	A	M	4	N	N	U	U	U	U	U	U	1, 2	Eyes round, mouth resembles Indiana style

Note. *More than one figurine represented in the row because all variable states are the same.
(1) V—village/domestic; B—burial; A—alter; U—unknown.
(2) M—male; F—female; U—unknown.
(3) 1—one side shaved; 2—two sides shaved; 3—straight/long; 4—bald/cap; 5—other; U—unknown.
(4) Y—present; N—not present; LC—loincloth (belt); U—unknown.
(5) 1—kneeling; 2—sitting; 3—standing; 4—knees to chest; 5—prone with bent knees.
(6) N—nothing; U—unknown.
(7) 1—Swartz (n.d.a); 2—Carr (slide collection); 3—Struever and Houart (1972); 4—Penny (1983); 5—Adams (1949); 6—Griffin (1978); 7—Griffin et al. (1970).

Table 11.2. Data for Figurines Used in the Style Analyses

Region	Site	Sex	Mouth (1)	Nose (2)	Eyes (3)	Slant (4)	Hair (5)	Ears (6)	Ref (7)	Size
Havana	Schuyler Co.	F	1	3	M	0	1	4	1, 2, 7	3.5 × 2.5 cm
		F	1	3	M	0	1	4	1, 2, 7	3.5 × 2.5 cm
		F	1	3	M	0	1	U	1, 2, 7	3.5 × 2.5 cm
		F	1	3	M	1	1	1	1, 2, 7	5.5 cm
		M	1	3	M	1	1	1	1, 2, 7	12.2 cm(hd, 3.5 cm)
		F	1	3	M	0	1	4	1, 2, 7	10.5 cm(hd, 3.5 cm)
		F	1	3	U	U	1	4	1, 2, 7	7.5 cm
		F	1	3	M	0	1	U	1, 2, 7	5.5 cm (hd, 2 cm)
	Crable site	U	1	3	M	0	1	N	1, 7	3.7 × 2 cm
	Steuben village	U	1	3	M	0	U	1	1, 7	2.4 cm
	Knight	M	1	4	N	1	1	4	2, 6, 7	3.1 in.
	(Child burial)	U	2	4	N	1	U	N	2, 3, 7	6.9 cm
		F	1	4	N	1	1	4	2, 6, 7	3.75 cm
		F	1	4	N	1	1	1	2, 6, 7	4.5 in.
		F	1	4	N	1	1	4	2, 6, 7	3.2 in.
		F	1	4	N	1	1	4	2, 6, 7	3.2 in.
	Unknown*	F	2	6	N	0	2	N	1	
		F	1	U	M	0	1	1	1	
		F	1	2	N	1	1	1	1	
		F	4	1	N	2	1	N	1	
Scioto/Miami	Adena Md.	M	3	5	M	0	1	1	1	U
	Seip	M	3	5	W	0	1	2	2	U
	Turner	F	1	5	M	0	1	2	2, 4, 7	U
		M	1	3	M	2	4	1	2, 4, 7	U
		M	1	4	M	2	1	2	2, 4, 7	U
		M	1	3	M	1	3	2	2, 4, 7	U
		M	1	3	M	1	U	1	2, 4, 7	U
		U	1	5	M	1	1	2	2, 7	U
Mann phase	Crab Orchard	M	3	5	M	3	3	2	1	U
	Mann	F	3	3	M	2	3	N	1, 2	U
		U	2	3	W	1	1	N	1, 2	U
		M	2	3	N	1	4	4	1, 2	U
		M	2	4	M	3	4	3	1, 2	U
		U	2	3	M	3	4	3	1, 2	U
		M	1	4	M	3	4	2	1, 2	U
		U	U	U	M	3	U	U	1, 2	U
		U	U	U	U	U	3	U	1, 2	U
		U	U	U	U	U	2	U	1, 2	U
		M	1	4	N	3	4	2	1, 2	U
		M	1	4	M	3	2	1	1, 2, 5	U
		F	2	4	M	0	4	2	1, 2	U
		U	1	4	N	2	3	2	1, 2, 5	3 cm
		U	1	4	M	1	1	N	1, 2	U
		U	4	6	W	0	4	N	1, 2	1.5 cm
		U	4	3	W	0	U	N	1, 2	1.7 cm
		M	4	6	M	0	1	3	1, 2, 5	2.2 cm
		U	1	3	M	1	1	N	1, 2	U
		U	2	3	W	1	4	N	1, 2	U
		U	4	3	M	1	4	N	1, 2	U
		U	2	3	W	3	4	N	1, 2	U

Table 11.2. (*continued*)

Region	Site	Sex	Mouth (1)	Nose (2)	Eyes (3)	Slant (4)	Hair (5)	Ears (6)	Ref (7)	Size
		U	2	3	N	3	4	3	1, 2	U
		U	2	3	N	3	4	N	1, 2	U
		U	2	3	M	3	4	3	1, 2	U
		U	4	6	W	2	4	N	1, 2	U
		U	2	6	N	1	4	N	1, 2	U

Note. *Private collections; not provenienced. (1) 1—closed with lips; 2—closed without lips; 3—open with lips; 4—open without lips; U—unknown. (2) 1—narrow/square; 2—narrow/round; 3—medium/square; 4—wide/square; 5—wide/round; 6—other; U—unknown; (3) N—narrow; M—medium; W—wide; U—unknown. (4) 0—no slant; 1—slight, 10 to 20 degrees from horizontal; 2—average, 20 to 45 degrees from horizontal; 3—extreme, above 45 degrees from horizontal. (5) 1—raised cap; 2—incised lines; 3—both incised lines and raised cap; 4—bald or caps/smooth; U—unknown; (6) 1—scrolled with ear spools; 2—scrolled without earspools; 3—ear outline; 4—earspool outline; N—no ears or earspools; U—unknown. (7) 1—Swartz (n.d.b); 2—Carr (slide collection); 3—Struever and Houart (1972); 4—Penny (1983); 5—Adams (1949); 6—Griffin (1978); 7—Griffin et al., (1970).

is a common belief cross-culturally (e.g., Driver 1969; Senior 1994).

Depositional Contexts

In the Scioto–Miami area, 90% of ceramic figurines are found in mound altars. The remaining 10% are unprovenienced (Figure 11.3). In contrast, only about 14% of Havana figurines are from mortuary contexts. These figurines are from individual or small-group burials. This difference reflects the fact that altars do not occur in the Havana area; small crypts were used instead of the large charnel houses of the Scioto–Miami area. Approximately 36% of the Havana figurines
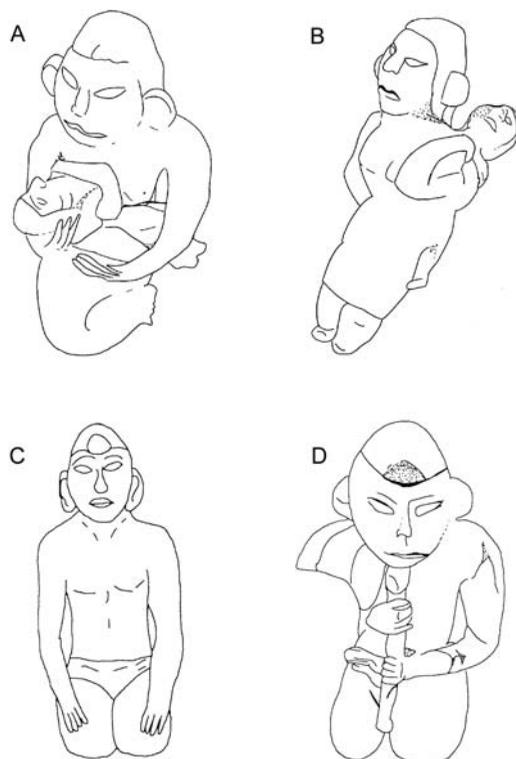
Figure 11.1. (A, B) Figurines from Knight mound site, Illinois (Griffin et al. 1970:Plates 71, 72, respectively). Persons are shown nursing and/or holding, and carrying children. (C) Kneeling figure from Altar 1, Mound 4 of the Turner site, Ohio (Willoughby and Hooton 1922:Plates 20e, 21e). (D) Figurine holding atlatl, from the Knight mound site, Illinois (Griffin et al. 1970:Plate 69).
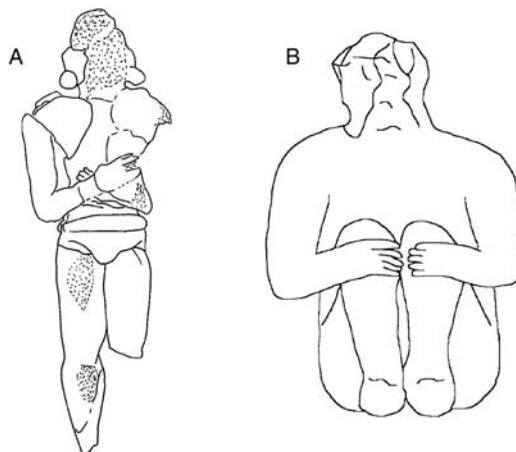
Figure 11.2. Figurines from Altar 1, Mound 4 of the Turner site, Ohio. (A) Arms crossed and laid out as if for burial (Willoughby and Hooton 1922:Plates 20g, 21g). (B) Knees flexed tightly to chest as if for burial (Willoughby and Hooton 1922:Plates 20c, 21c).

	Scioto/Miami	Havana	Mann Phase
■ Burial	90%	14%	2%
□ Village	0%	36%	98%
▨ Unknown	10%	50%	0%

■ **Burial**   □ **Village**   ▨ **Unknown**
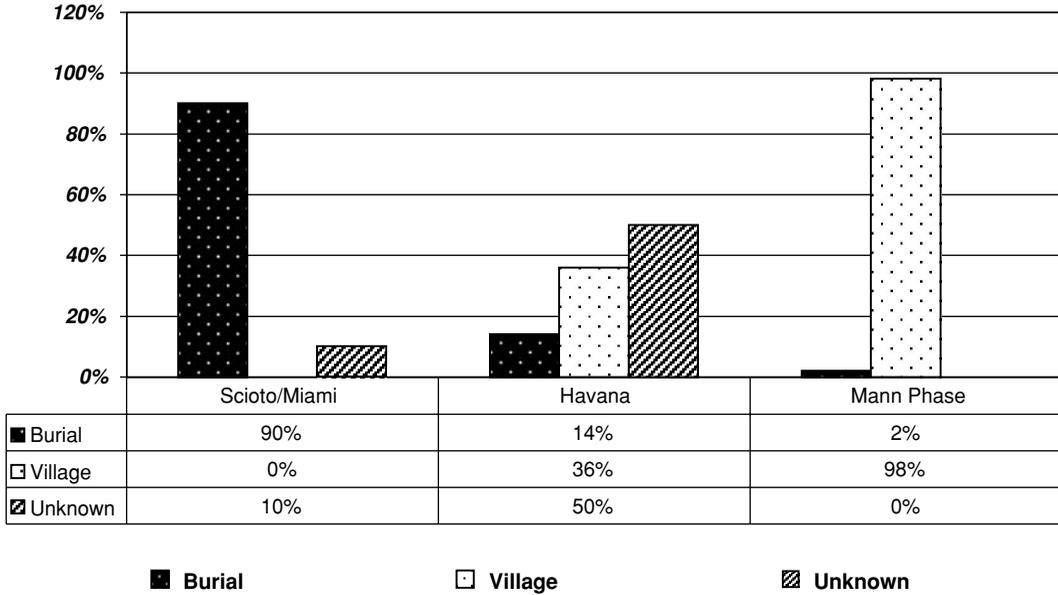
Figure 11.3. Context in which figurines were found.

occur in village contexts. The remaining 50% cannot be assigned a provenience.

Over 95% of the figurines known from the Mann site were found in residential contexts, in part because these were excavated extensively by Kellar (1979), and the one mound excavated to a considerable degree (Mann 9) was a rectangular, flat-topped, apparent stage for ceremonies rather than a burial mound. Only a few burial mounds have been partially excavated, by amateurs and antiquarians (see Ruby 1997e for summaries). However, no figurines were recovered from the Mann phase Mount Vernon burial mound, which had large numbers of ceremonial and mortuary artifacts (Seeman 1995:table 5.1).

Technology, Detail, and Realism

None of the Scioto–Miami figurines are tempered, nor are they highly ornamented. The figurines are detailed in facial features and hairstyles, and sexual distinction is easily apparent, yet their forms are rigid, with little animation (Figures 11.2a and 11.4). In contrast, nearly 50% of the Havana Hopewellian figurines are made of fine limestone tempered clay, and about 15% show ornamentation or painted bodies (Figures 11.1a–c, 11.12, and 11.14). Most of the figurines

Figure 11.4. Figurine from Altar 1, Mound 4 of the Turner site, Ohio (Willoughby and Hooton 1922:Plates 20b and 21b).
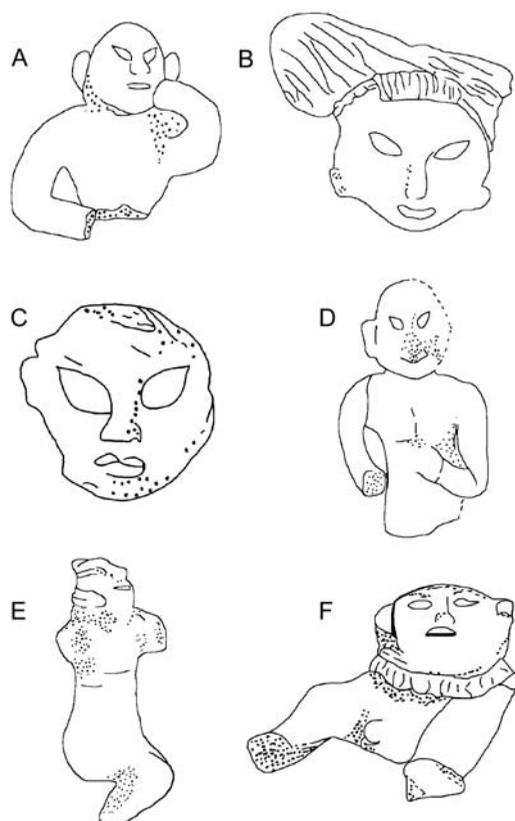
Figure 11.5. Figurines from the Mann site, Indiana (A, B, C, D, E, F). Objects courtesy of Charles Lacer, Evansville, IN.

Kinds and Commonness of Ornamentation

Significant markings on figurines include earspools, topknots, and a shaved or capped head. These may indicate social leadership and/or prestige. Figurines having these expressions are most prevalent in the Mann region. There, earspools occur on about 21% of the figurines, shaved or capped heads on about 36%, and topknots on about 41% (Figure 11.8). The Scioto–Miami figurines are more conservative, with earspools occurring on 17% of the figurines, shaved heads on 30%, and topknots on 13%. Percentages of possible leadership/prestige markers are lowest on Havana figurines, with earspools on about 21%, shaved heads on about 12%, and topknots on about 7%. However, Havana figurines are the most realistic and technically refined of those of the three traditions (see above).
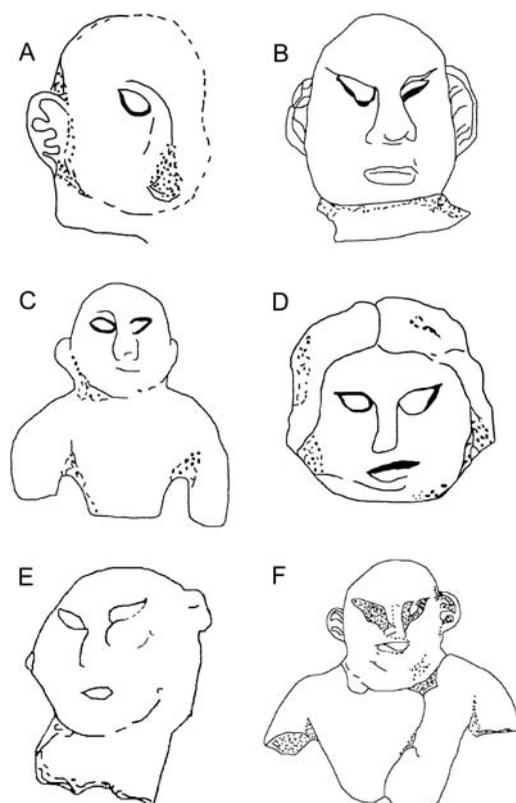
Figure 11.6. Figurines from the Mann site, Indiana (A, B, C, D, E, F). Objects courtesy of Charles Lacer, Evansville, IN.

in this area show refined sexual distinction, and they have varying degrees of animation.

Mann figurines have grog tempering, when tempering is present. Ornamentation is limited, consisting of earspools, and only one female has a necklace. Mann phase artisans produced very simple forms with little animation and little sexual distinction (Figures 11.5 and 11.6).

In the Havana region, there is a distinct class of figurines known in the literature as "Casper-the-Ghost" figurines, which are not found in the Mann or Scioto areas. These figurines have a very crude form with rough features (Figure 11.7). Of the seven such figurines within this study, four are from unknown contexts, two are from village sites, and one was placed in the burial of a child on its chest. The three ghost figurines that could be identified to sex are all female.

Figure 11.7. A Casper-the-Ghost figurine from the Whitnah village site, Illinois (Cole and Deuel 1937:161–166, Plate 34).

There are at least two possible explanations for these patterns in ornamentation. First, it may be that the several kinds of ornamentation were considered markers of social leadership or prestige for restricted sets of persons among Havana and Scioto–Miami societies, while they were worn and accepted more widely in the Mann area. Alternately, the pattern may reflect distinct beliefs among the three regions as to who should be depicted by ceramic figurines. Artists in Havana and Scioto–Miami societies may have been freer to depict commoners without ornamentation or high-status markings, and/or Mann phase producers may have sought to depict primarily leaders or other individuals of high status.

Bearing on these two possibilities, it is known that earspools themselves occur in burial contexts more frequently in the Scioto-Miami area than the Havana area. Yet the frequency of figurines with earspools in the two areas is approximately the same. This suggests that the Scioto-Miami artists may have been more constrained in depicting leaders and/or that Havana artists may have been freer in rendering

	Ear Spools	Shaved/Cap	Topknot
■ Havana	21%	12%	7%
☐ Scioto/Miami	17%	30%	13%
▨ Mann Phase	21%	36%	41%

■ **Havana**   ☐ **Scioto/Miami**   ▨ **Mann Phase**
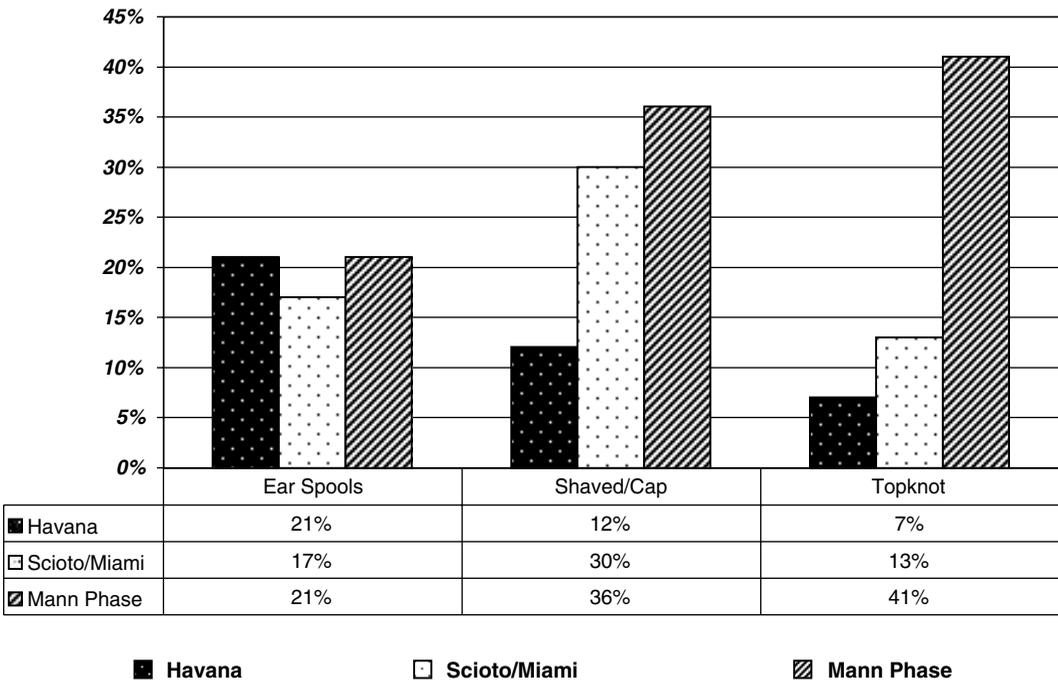
Figure 11.8. The distribution of status markers on figurines.

leaders. Frequencies of depiction of earspools in the two areas does not seem to have been related to the commonness with which earspools were worn there. Comparative data on the frequency of earspools in Mann phase burial contexts is not available to assess the two alternatives there.

Gender Differences in Decoration

In the Scioto–Miami area, about 40% of the male figures have earspools, while the females have none (Figures 11.9a and b). These gender distinctions correspond well with those obtained from burial data from Hopewellian sites in the Scioto valley. There, deceased persons interred with earspools were usually male (Carr, Chapter 7, Appendix 7.2). The Mann phase figurine sample is similar, with 48% of the males and none of the females wearing earspools.

In contrast, Havana Hopewell artisans depicted earspools on both male and female figurines, but somewhat more commonly on females (males, 40%; females, 56%). Havana Hopewell female figurines have most categories of ornamentation in higher percentages than do male figurines, but especially earspools. This may suggest some significant differences in the kinds and frequencies of leadership and/or prestige roles filled by women in the Havana area compared to the roles they took in the Mann and Scioto–Miami regions.

That the social situation is complex, requiring specification of the particular leadership and prestigious roles filled by males versus females in each area, rather than generalized statements of male or female dominance by area, is evidence from comparing these patterns to others found in other studies. Buikstra (1976) and Braun (1979) noticed in Havana burial mounds that males were interred in central crypts much more often than females, and that females never were interred there unaccompanied by a male-crypt burial indicating leadership (Carr, Chapter 6). In an analysis of the grave goods found with males and females at the Turner site in the Miami drainage, Rodrigues (Chapter 10) found that females were more commonly associated with artifacts used by shaman or other kinds of institutionalized leaders than were males.

Gender Differences in Hairstyles

Among male figurines, topknots are present in all areas: about 95% in the Mann area, 40% in the Scioto–Miami area, and 20% in the Havana area (Figure 11.10). Female figurines with topknots are absent in the Scioto–Miami area, and almost nonexistent in the Mann phase, about 3%. However, in the Havana area, female figurines with topknots nearly equal male figurines with them, about 17%.

A shaved head or cap is common among males in all areas: Mann, about 90%; Scioto–Miami, 80%; and Havana, 60% (Figure 11.11). Women share in this expression at lower percentages in two areas: Havana, at 17%, and Scioto–Miami, at 33%. No female figurines were found to have a shaved head or cap in the Mann phase.

The Production, Function, and Cultural Implications of Figurines

In this section, seven topics that are relevant to the figurines and what they reveal about Hopewellian culture and society are raised and discussed.

Were Figurines Traded within the Hopewell Interaction Sphere?

This issue must be addressed first, before any other cultural conclusions can be drawn from the frequency, distribution, style, and content of the figurines.

The interaction of Middle Woodland peoples among regions has been viewed by many archaeologists as the product of a series of exchange networks (Seeman 1977a; Struever and Houart 1972) in combination with small-group, long-distance, logistical procurement trips or ritual journeys (Carr, Chapter 16; Bernardini and Carr, Chapter 17; Spence and Fryer, Chapter 20; Carr and Sears 1985; Griffin 1965; Seeman 1995).

The equation of Hopewellian interaction with exchange has sometimes been applied to figurines as an exchanged medium. Swartz (n.d.a) and Struever and Houart (1972:77) held that the Mann site may have been a large trade–production center, given that more than 400

A

	Scioto/Miami	Havana	Mann Phase
■ Present	0%	56%	0%
⊡ Absent	67%	17%	90%
▨ Unknown	33%	28%	10%

■ Present   ⊡ Absent   ▨ Unknown

B

	Scioto/Miami	Havana	Mann Phase
■ Present	40%	40%	48%
⊡ Absent	40%	0%	52%
▨ Unknown	20%	60%	0%

■ Present   ⊡ Absent   ▨ Unknown
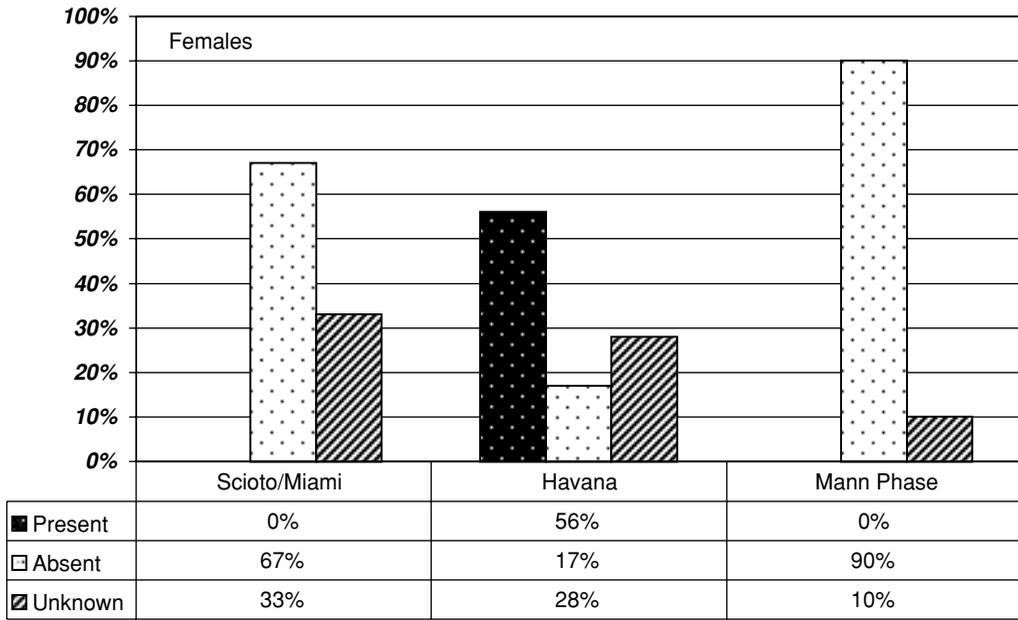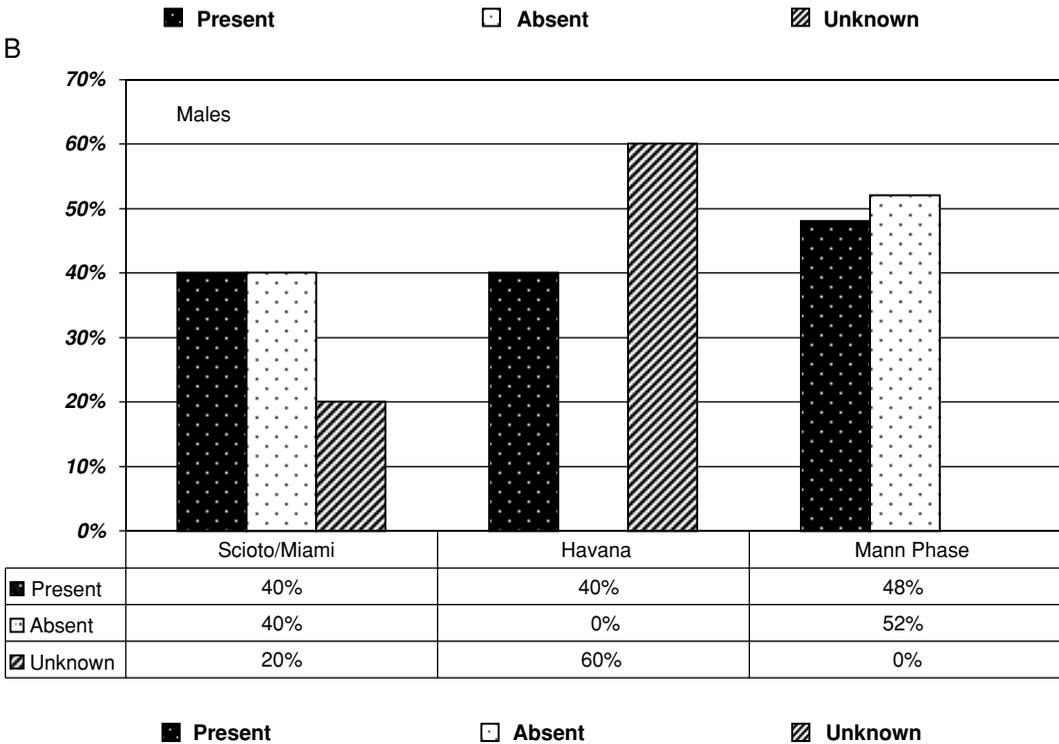
Figure 11.9. The distribution of earspools for (A) female and (B) male figurines.

Male   **Female**

Figure 11.10. The distribution of topknots for both male and female figurines.

Male   **Female**

Figure 11.11. The distribution of shaved heads or caps on male and female figurines.

figurine fragments have been recovered there. However, this idea is not upheld by the presence of figurines of the Mann phase style in other regions. More broadly, even though Hopewell figurines over the Northeast share general morphological similarities, sufficient formal variation exists to view them as locally made products.

Specifically, variations among regions are manifest in fabrication skills, hairstyles, dress styles, and figurine feature depictions (see below). All of these variations point toward primarily a sharing of ideas and knowledge rather than the actual artifacts within the Hopewell interaction sphere (Adams 1949; Griffin 1970). Adams spoke of the general resemblance of clay figurines among sites in Ohio, Indiana, and Illinois, not specific similarities. He noted that variation among regions is obvious in both fabrication skill and decisions regarding style and content. Penney (1988) held that interregional stylistic continuity is better explained by the open buying of rights to produce figurines and use them in ceremony, rather than by their trade. These data patterns and ideas, and one possible exception to them, are explored in detail in the second half of this chapter through a style analysis of figurines.

Were Figurines Produced in Ceremonial or Domestic Contexts?

In and around some Ohio Hopewell earthworks, there are areas interpreted as special activity workshops, such as the buildings at Seip possibly used for textile and mica artifact production (Baby and Langouis 1979) and the blade workshops at Liberty, Baum, and Turner (Coughlin and Seeman 1997:236–238; Greber 1997:217; Greber et al. 1981; Seeman 1981b:3). Such locations have craft-related artifacts and/or debris without the common signs of habitation, suggesting that they were used for ritual activities and/or production. Similarly, a location within the Hopewell earthworks (West Village) and another just outside the walls of Hopeton (the Redwing component) are predominated by obsidian, quartz crystal, and nonlocal chert debris and lack pottery, blades, and groundstone tools, suggesting the manufacture of ritual para-

phernalia there (Ruby et al., Chapter 4; Pederson and Dancey 2002; Pederson et al. 2002; Ruby 1997b, 1997c, 1997d). However, no evidence of analogous workshop locations in which clay figurines were produced is known in earthwork and mound sites in the northern Hopewellian regions we studied.

Evidence for locations of pottery vessel production is currently known only in domestic settings in Ohio, Indiana, and Illinois (e.g., Carr and Komorowski 1995; Neumann and Fowler 1952; Prufer 1965; see also Ruby and Shriner, Chapter 15). Complementarily, there is little indication of the manufacture of items of fancy gems, minerals, and metals in residential sites, where these materials are rare (Brose 1985), although mica scrap is more common in residential sites in Ohio (Dancey and Pacheco 1997). Thus, it appears that pottery and clay figurines were formed and fired primarily within residential sites.

Did Males or Females Produce the Figurines?

Clay is an accessible and easily worked medium, and may have been used more naturally by women. The appearance of figurines in primarily village sites and domestic middens in the Mann and Havana areas has been considered to be a strong reason, in itself, for concluding that figurines were produced by females (Griffin 1967). In contrast, copper, mica, iron, silver, and galena are more labor-intensive to work and take long excursions to procure, suggesting male use, in light of ethnographic analogs (see below).

It is also significant that clay figurines have a naturalistic style. Clay figurines rarely show facial scarification, tattoos, or painting in the form of geometric designs or power animal features, unlike human images carved from stone, antler, and pipestone (see Carr and Case, Chapter 5, Table 5.2, and Carr 2000c, for an inventory) or patinated on copper headplates, breastplates, and celts (Carr 2000c, 2000d) in Ohio. Significantly, at least headplates, breastplates, and celts are found in predominantly male burials (Carr, Chapter 7).

Hopewellian women were clearly invested in the earthy Middle World. They bore and raised

children (Figures 11.1a and b), probably worked the earth in horticulture (Burton et al. 1976), and, if ethnographic analogies pertain, may have prepared corpses for burial (Trigger 1969). The naturalistic style of clay figurines expresses the feel of the world that Hopewell women would have known and of which they were a part. The congruence of this naturalistic style and these female Hopewellian roles suggests that figurines were more likely produced by women.

These patterns are significant in light of cross-cultural studies on the division of labor, which show ceramic production to be overwhelmingly a female activity. George Murdock and Caterina Provost (1973) coded labor by sex for 185 societies world-wide and 50 different activities. In examining the qualities of raw materials, Murdock and Provost found that manufacturing activities using materials that are hard or tough to process tended strongly to be assigned to males. Females were assigned to working materials that are soft and pliable such as clay. Ceramic production was traditionally a woman's activity in more than 90% of the societies examined. Among Historic-period Native Americans of the Eastern Woodlands, ethnohistories (Driver 1969; Flannery 1946) show that ceramic producers were predominantly female. These ethnographic data support the archaeological inference that females were more likely responsible for producing figurines.[2]

What Role Did Figurines and Females Play in Mortuary Ceremony?

In Kentucky, Early Woodland utilitarian plain ware was used during graveside rituals, but was not placed with the dead to accompany them to the hereafter (Clay 1986). By the Middle Woodland period, Havana and Scioto Hopewellian peoples placed utilitarian and elaborated ceramics with some burials. If ceramics can be seen as a female medium of expression, then graduating from the utilitarian use of pottery at the graveside to the actual inclusion of it in burials was a significant addition to the influence of women in mortuary ritual. A stronger statement of female expression would have been the production and inclusion in burials of elaborately decorated pottery used in ritual, such as the fine Hopewell wares with bird designs and other decorated ceramic types. The manufacture and burial of Hopewell ware, in particular, would have been especially significant, given its bird, snake, and other symbolism of the Upper, Middle, and Lower Worlds of the cosmos, its representation of the inversion of the cosmos at night, and the power that would have been generated from joining Upper World and Lower World designs (Carr 1998, 2000a, 2000b; Carr and Case 1995). The production and mortuary use of Hopewell ware by women would suggest an acceptance of women participating in arenas other than just the earthy Middle World. A yet greater and final step in the ceremonial expression of women would have been the production and inclusion in burials of ceramic figurines, which were concerned most basically with the human condition and human welfare.

It might be argued that fine Hopewell and other elaborated ceramic wares, which were most likely used in mortuary and domestic rituals, were produced by men rather than women. Then the interpretation that the role of women in mortuary rituals increased progressively through time would be less clear. However, Neumann and Fowler (1952) concluded from their excavation of a residential site with both refuse pits and burials in White County, Illinois, that the Havana utilitarian pottery and the carefully decorated Hopewell ware were both made by the same potters.

Ethnohistorical accounts for the Eastern Woodlands (Driver 1969; Trigger 1969) also suggest that women played an important role in mortuary behavior and ritual. Huron women did much of the preparation of the corpse and transporting of it to places of burial. They were responsible for bundling bones, participated in choosing the placing of grave goods, performed rituals, and placed food in graves for use by the souls.

It is significant that the Turner site in Ohio, which dates later in the Middle Woodland and perhaps later in the sequence of elaborated involvement of women in mortuary ritual, has produced the most symbolic incorporation of figurines in mortuary contexts. In Altar 1 of Mound 4, naturalistic clay figurines, which have

been argued above to have been associated with the Middle World, were surrounded by effigies of Lower World monsterous, dangerous, and powerful creatures (Willoughby 1922:68–74). The combining of these items demonstrates an attempt to relate these two worlds and their beings in some fashion. Based on widespread Woodland ethnohistorical accounts, Penney (1983) inferred that the Altar 1 deposit referred to the dangerous journey that souls of the deceased make through the Lower World to a land of the dead. To this interpretation might be added the guidance and facilitation of souls in their journey to that afterlife, and the potential role of women in psychopomp work. Again, if females produced the Turner figurines, the participation of women in more than the earthy, Middle World arena is implied. Significantly, Pauketat and Emerson (1991), in their discussion of symbolism and ideology expressed on Ramey incised pots from Cahokia, state that the material expression of a worldview is a way in which individuals and groups become aware of their social position and, we would add, their place in the cosmos.

What Was the Purpose of Figurines in Village Contexts?

The scarcity of figurines that were deposited in mortuary contexts compared to village contexts in the Havana and perhaps Mann areas may point toward mound inclusion and mortuary ceremony as not being the sole or even the primary purpose for figurines in these two regions.

Ceramic items are a natural and easy form of self-expression and identity creation for the producer. It is possible that Hopewell figurines, particularly the simple and possibly spontaneously produced ghost figurines found in the Havana region, started as self-portraits. McCoid and McDermott (1996), in their study of Upper Paleolithic Venus figurines, discussed the probability that figurines were a form of female self-representation. The Venus figurines are faceless, with thin or nonexistent arms. Their unnaturally short legs, disproportionately small feet, and large breasts are all apt renderings, if one considers the body as seen by a woman looking down on herself. This description has significant

similarities to the rough ghost figurines and may imply an analogous function for them.

The commonness of figurines in habitation sites in the Havana and Mann areas might lead to the impression that figurines were not ceremonial in nature. We contend that this fact means only that they were not used exclusively in mortuary ceremonies. Ceremony almost certainly also occurred in the domestic arena. Women's ceremonies might have addressed such concerns as fertility, the life cycle, and offerings to household or clan ancestors, spirits, or deities.

It is possible that ghost figurines of the Havana Hopewell represented a cult of human female fertility. One ghost figurine at the Knight mound site was found in the burial of a child (Giffin et al. 1970:plate 79). The figurine may have been a fertility talisman or image of the mother herself.

The fertility hypothesis fits well within the context of early sedentary agricultural economies that are demographically expansive and that value children as labor and the elderly as child caretakers (Ford 1974). This is an apt description of Havana Hopewell ecology at the time of the appearance of ghost figurines (Ruby et al., Chapter 4; Charles 1992).

Who Did the Figurines Represent?

There are several reasons to believe that Hopewellian figurines in burials represent the person or group with which they are found. Items included in burials often reflect the identity of the deceased as perceived by the survivors (Binford 1971; Braun 1979; Peebles 1974; Saxe 1970). Following this line of thought, at the Turner site, the ear ornament style found in burials matches the style depicted on figurines. Also, figurine cranial deformation at Mann matches the skulls of persons in the burials (Swartz n.d.a:5). Finally, at the Knight Mound, five figurines were cached together in a burial of five individuals (Griffin et al. 1970; McKern et al. 1945). The skeletons were of three adults, one of whom was male, and two children. The figurines were of three adults, one of whom was male, and two holding children.[3]

Figurines in burials also could have been miniature surrogates for the deceased. Items

found in Scioto Hopewell altars and basins, such as pipes, panpipes, necklaces, bracelets, boatstones, and tools often were unused and sometimes were too small to have been used (J. A. Brown 1979). They may have symbolized or held the spirit of the true piece and been intended for use by the dead. Analogously, figurines may have been miniature representations of whole persons or their souls. They might have been used as a way to bring the dead back to oversee and participate in burial procedures, especially if the burial had been postponed for winter-season constraints, transport of the body, or multistage body processing. (For an ethnographic analogy see Metcalf and Huntington [1991:87–90.]) In addition, placing figurines in mortuary altars could have been part of the ritual means and symbolism of letting go of the dead. This would be fitting if construction of a mound over the dead represented the final act of separation of the dead from the living and announced the reincorporating of surviving kin back into the society of the living (see Carr, Chapter 12).

Figurines may have had multiple purposes that varied within and between geographic regions. It is also possible that individual figurines changed in purpose and meaning with a change in context—for example, the transfer of a figurine from a residential area to a mortuary context.

What Was the Social Status and Power of Hopewell Women, as Revealed by Figurines?

The ornamentation and hairstyles of figurines suggest the high status of some women. Greber (1979a) and Carr (Chapter 7) conclude from mortuary analyses that earspools were high-status markers of a kind. Significantly, earspools are present on female figurines of only the Havana region, and on a fairly high percentage of them (56%; Figure 11.9). In addition shaving the head—completely or on one or both sides—may have been an indication of high status. This action would have allowed both earspools or one to show. Shaving of the head is depicted largely on male figurines. However, female figurines with one or both sides shaven, and in one case completely shaven, do occur in the Havana and
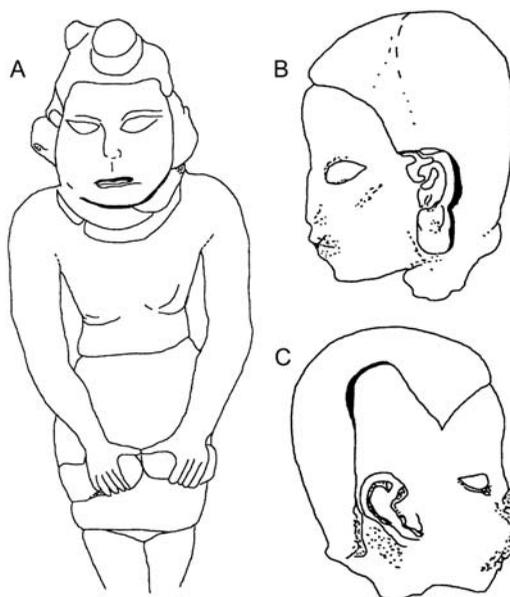
Figure 11.12. (A) A female figurine from the Knight mound site, Illinois (Griffin et al., 1970:Plate 73), and (B, C) one from the Havana region, probably the Twenhofel site (Griffin et al. 1970:Plate 86a). Both figurines show shaved heads.

Scioto–Miami areas, implying the high social status of some women. One highly decorated female figure from the Havana region shows only one side of the head shaven (Figure 11.12b,c). This hairstyle would have allowed her earspool to show (Figure 11.12c) without shaving both sides completely—practices more commonly reserved for males (Table 11.1).

Another hair form or headdress that possibly expressed high status is topknots. In the Havana area, all female figurines with topknots had earspools and shaven heads, where these parts of the figurine were preserved. One female figurine from the Mann phase has a topknot, but it is unclear whether it had earspools.

Belts are rare. They are associated with topknots and earspools and are shown on both male and female figurines. This pattern, too, suggests that some women occupied high-status positions. In addition, one female figurine (Figure 11.12a) from the Knight site, Illinois, has a belt with a pouch connected in back. This pouch is very similar to the one on the high-status male represented in the sculpted stone Adena pipe found
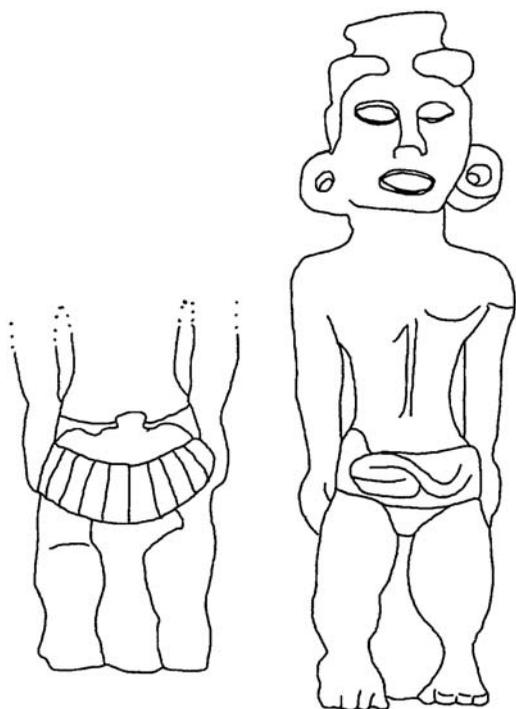
Figure 11.13. Adena pipe figurine from the Adena site, Ohio, showing belt and pouch.

Figure 11.14. (A) Female figurine from the Knight mound site, Illinois (Griffin et al. 1970:Plate 70). (B) Male figurine from Altar 1, Mound 4 of the Turner site, Ohio, without earspools and sitting rather than kneeling (Willoughby and Hooton 1922:Plates 20f, 21f).

in the Adena site, Ohio (Figure 11.13) (Mills 1902:476–478).

Posture is an expression that seems to be gender-specific. It may generally imply male dominance. Female figurines sit with legs to the side, while males kneel directly on their knees. This posture allows the male to sit higher, in contrast to the more diminutive sitting height of females (Figures 11.1a, c, d and 11.14a). There are no benefits physically or for modesty's sake to sitting with the legs to the side as opposed to kneeling.

The idea that posture in general indicated prestige, and in particular the lower prestige of females, is supported by the fact that some male figurines sit cross-legged and therefore lower than other sitting males. Significantly, these male figurines have no earspools (Figure 11.14b).

Trophy pieces as symbols of power are also relevant to the issue of female status. The same female figurine from the Knight mound who wears a belt also holds a pair of "foot-like" (McKern et al. 1945) objects, possibly foot tro-

phies (Figure 11.12a). In the Eastern Woodlands, ownership of trophies was very significant because this allowed control of a victim's soul, which was believed to reside in joints and pulse points (Hall 1976). Thus, the female Knight figurine may show a woman controlling the soul of a victim.

Certain ethnographic analogs are especially relevant to this case and may explain the trophies held by the Knight figurine. Iroquois women were powerful in counsels and in disposition of war captives. Among the Miami, although a woman would not take part in military action, she could participate by obtaining visions sanctioning military action. Peace chiefs were either women or men, and they could determine the fate of war captives. They also led the preparations for important feasts, readied supplies for war parties, and could order an end to blood feuds or wars (Callender 1979:256; Trowbridge 1938; Voegelin 1944). The Knight figurine gives a hint of the many arenas of power in which women may have played important roles.

STYLE ANALYSIS

The style of material culture can be valuable for defining interactions within and among social

groups. In this section, an analysis is made of the style of Hopewellian figurines in order to assess the nature of intraregional and interregional interactions that fall under the umbrella concept of the Hopewell Interaction Sphere (Caldwell 1964). As with analyses in Chapters 16 through 20 of this book, this one has the goal of helping to resolve monolithic "Hopewellian interaction" into its many constituent actors and processes (Carr, Chapter 16). In particular, because it is likely that females produced figurines, an analysis of their style may reflect the movements of women or information available to women within and among Hopewell societies. Thus, the primary question addressed in this section is, *What do various stylistic attributes reveal about intraregional and interregional interactions among female artisans and the messages they attempted to convey?*

To address this question, the tactic set forth in Carr's (1995a) unified theory of artifact design will be used. A range of attributes that vary in their visibility and other properties will be selected in order to find interpretable patterns of stylistic similarity and differences between and within regions.

Specifically, style attributes can be arranged hierarchically as first, middle, or last order, depending on their visibility, order of manufacturing, order of planning in a sequence of production decisions, and geographic expanse (Carr 1995a:174–178). Attributes at different levels of a style hierarchy are likely to reflect different processes, constraints, or sociocultural/psychological units. Simplifying ideas, highly visible attributes that are broadly distributed geographically are commonly constrained by only technological procedures or raw material limitations. Such attributes include color, size, shape, and texture. Moderately visible attributes with a more limited spatial distribution can reflect a society, a community, some segment of these, and the sociocultural processes that define them. Poorly visible attributes that are very restricted geographically directly reflect interaction—either active or passive—on an artisan-to-artisan level.

Active and passive interaction are explored in our analysis and must be distinguished here. In the context of material style, passive interaction involves the casual learning of cultural practices, including stylistic ones, among artisans during weakly structured and often brief contacts. In contrast, active interaction involves a broader range of processes that are controlled by the actor/artisan. These processes vary in the amount and scale of artisan control, depending on the outcome that the artisan is attempting to achieve. The least control involves the simple stylistic expression of personal preferences and social traditions for personal reasons. More control is involved in the stylistic communication of personal and social messages to others for adaptive purposes not aimed at changing the social order. The greatest control is expressed in negotiating or manipulating style with the intent of altering or maintaining a social order (Carr 1995a:183–184). These several processes occur in the context of more structured and longer contact among artisans, including intermarriage, adoption, artifact exchange among groups, and joint participation in intimate rituals. In these situations, there is more opportunity for artisans to learn and master the details of a foreign style (Carr 1995a:177, 183–184, 195; Pryor and Carr 1995:260–261).

Regarding the choice of the stylistic attributes to be analyzed here, study had to be focused on three dimensions of variation that could be defined for the majority of cases. Many Hopewellian figurines are fragmented and did not permit other potentially useful attributes to be included. The attributes studied, in descending order of visibility, are raw material, overall design, and facial features including the mouth, nose, eyes, ears, and hair. Attribute analyses are presented in this natural order.

The sample of figurines used for this study is slightly different from that used in the first half of this chapter. Here, focus is placed on figurines with extant facial features, instead of those that are most complete. The sample includes a total of 57 figurines from three Hopewellian traditions: 8 from three sites in the Scioto–Miami region, 22 from nine sites in the Havana Hopewell region, and 27 from two sites in the Mann phase (Table 11.2). The numbers of ceramic figurines from each site are too small to measure variation within sites. Therefore, the unit of study

that is used here is the learning pool within a region. Also acknowledged is the disproportionately small sample of figurines available from the Scioto–Miami region and the few sites within both the Scioto–Miami and the Mann phases, which may affect results. We have kept these sample issues in mind when interpreting data patterns.

Raw Materials

Theoretically, one might expect clay, as an attribute of figurines, to reflect either the passive use of an available raw material or the active selection of a raw material to express, communicate, or manipulate, at the personal to interregional scales. These possibilities arise because (1) natural clay deposits are broadly distributed geographically and readily available in all the study regions, and (2) clay as the medium from which Hopewell figurines were manufactured is broadly distributed, but also (3) clay is a highly visible attribute susceptible to serving as a means of expression, communication, and manipulation. Here we ask, Is it possible that clay served as an identifier of female ceremonial expression in ritual contexts otherwise unavailable to women? Could clay items have expressed the active presence of females in Hopewellian rituals and an "active interaction" and solidarity among individual, networked Hopewell women within and among regions?

Clay, as a visible aspect of figurines, could have been socially active. It is very easy to see that the figurines are not made of copper, galena, silver, mica, or other rare materials commonly designated as ceremonial. Why would clay have been chosen above these other materials to make figurines? Calling to mind the study by Murdock and Provost (1973), the fact that clay is both pliable and locally available is a strong argument for the production of figurines by females. In contrast, quartz, copper, mica, galena, iron, silver, and stone are labor-intensive materials to work and take great effort in time and travel to procure. This suggests that males worked them. Considering that producers are often the users of a product implies that males used exotic raw materials for ceremony, that female opportunities for the cere-

monial use of such rare materials might have been limited, and that, consequently, clay might have been actively selected by females for expressing themselves and their interrelationships in ceremonial activities. Moreover, because clay is a geographically uniform and unbounded medium, it might have been used in an active way by female artisans to express their interaction and solidarity within and among regions. Other explanations for the selection of clay to make figurines do not fare well empirically.[4]

Overall Design

A second attribute of interest is the general, naturalistic style of the figurines compared to other Hopewell artifacts. This is a visible aspect of figurines and is widely and uniformly distributed over all of the northern Hopewellian societies examined here. These visual and geographic characteristics of the naturalistic style theoretically suggest that it was an active choice.

Helping to corroborate this conclusion, the visible nature and broad distribution of the naturalistic style of Hopewellian figurines are similar to the visible nature and broad distribution of symbolic Hopewellian forms made of exotic raw materials, such as copper and mica. These latter forms are more clearly the products of active choices and active interaction among artisans, implying that the naturalistic style of figurines may have been as well. Both forms may reflect the "active interaction" among individual, networked artisans—female and male, respectively.

It is possible that the pan-regional association between symbolic designs and fancy raw materials, and that between naturalistic style and clay, relates specifically to actively shared ideological constraints in Hopewellian societies as to what kinds of styles and images could be properly expressed in what kinds of raw materials. Perhaps Hopewellian beliefs required or encouraged the manufacturing of symbolic designs out of fancy raw materials and human figures out of clay, antler, or stone. However, this does not seem to be the case empirically. Highly symbolic raptor and duck images linked to the Upper and Lower Worlds were depicted on clay Hopewell ware

(Mills 1922:510–511). Also, human figures were sometimes made of copper (Mills 1922:542, 552) and mica (Shetrone 1926:209). Instead, it would appear that the kinds of ceremonial uses to which fancy raw material designs and clay figurines were put may have dictated both their style and their raw material, which were correlated only secondarily. In turn, ceremonial usage probably was tied to gender (see Did Males or Females Produce the Figurines? above).

Tempering Material

Tempering material has a much lower visibility than clay and the naturalistic style of figurines. Individual tempering materials also have more restricted natural geographic distributions and distributions of use than do the clay and the naturalistic style of figurines. Empirically, there are clear and bounded distinctions among the regions in temper usage. The Havana region has very fine limestone tempered clay. The Turner and Marietta sites of the Scioto–Miami region used untempered clay. When tempering is present in the Mann phase region, it is grog and grit, with the ceramics showing signs of imperfections and re-firing.

Both the low visibility of tempering materials and their natural and cultural restriction to specific regions suggest theoretically (Carr 1995a:174–178) that they indicate means for making figurines that were developed and maintained within regions through casual learning, that is, passive interaction within regions. It is very unlikely that tempering materials were used to actively communicate among persons within a region or to symbolize a whole regional social network internally or externally. There is no empirical support that tempering materials communicated or symbolized interregional connections. Other figurine attributes, such as hairstyle, would have been more appropriate to these kinds of communication.

Facial Features

These final attributes of interest include the mouth, nose, eyes, ears, and hairstyle. These attributes all have low physical visibility. The figurines are all rather small, with heads averag-

ing between 2 and 3.5 centimeters in diameter. The low visibility of these features suggests theoretically (Carr 1995a:174–178) that they might reflect active interactions among individual artists at the local level, personal choices, learned or developed habits, or passive motor skills. We chose to examine facial features because they require more detailed tooling than some other figurine attributes in order to obtain a real or naturalistic look; thus, they are more likely to reflect active choices.

It would have been preferable to have examined the homogeneity and diversity of facial features both within sites and within and among regions, given the fine-scale processes that these features likely reflect. Unfortunately, many sites are represented by only one to five figurines, so finding patterns within sites was not possible. Thus, data analysis focused on the variability of attribute states within and among regions.

Several processes that might be responsible for *intra*regional uniformity or diversity were considered. These are: (1) the degree of interaction among artisans within a region or among regions, (2) the degree of acceptance of extralocal and extraregional innovations, (3) freedom for or constraint upon personal artistic innovation locally, and (4) the number of figurine producers. *Inter*regional uniformity and diversity were interpreted in relation to other processes: (5) the degree of interaction among artisans of different regions, and (6) the acceptance or not of extraregional artistic innovations. Finally, by looking at patterns of diversity and uniformity for other ceramic artifacts, it was sometimes possible to more clearly tie the patterns of figurine variation found to one of these several explanations.

Mouths

The first trait analyzed is figurine mouths. Mouth variations include the following: (1) open with depiction of lips; (2) open without depiction of lips—a hole placed in the clay while it was still plastic; (3) closed with depiction of lips; and (4) closed without lips—roughly an incised line.

Of the three regions, the Mann phase region has a higher degree of internal variation, showing some of all of these variable states. This is especially significant because the Mann phase
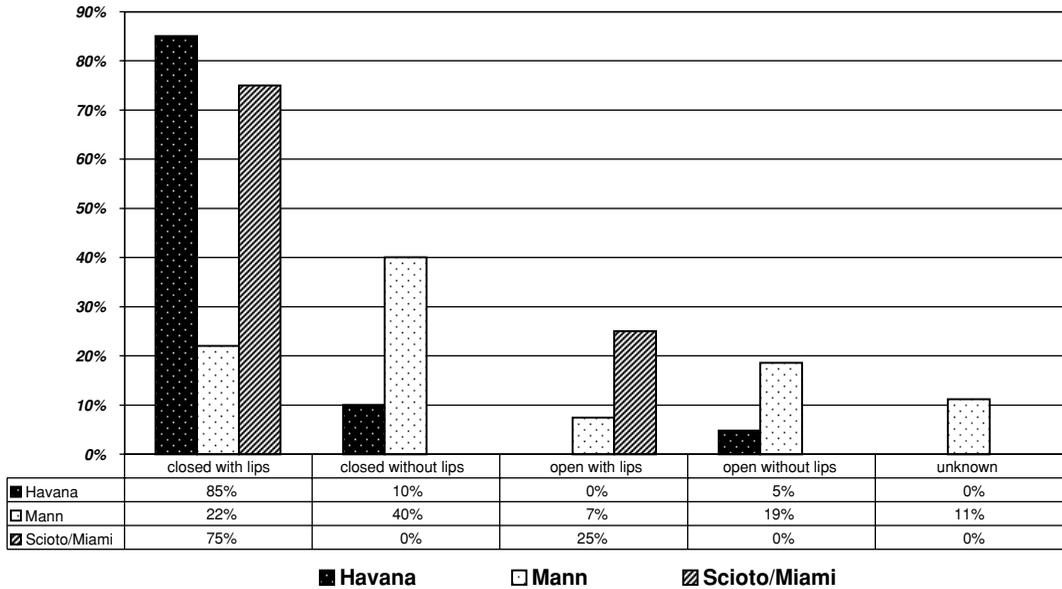
Figure 11.15. Distribution of mouth and lip depictions for each region.

sample comes from only two sites, and mostly from the Mann site itself. The most common depiction in the Mann phase is a closed mouth without lips (40%), but there are also depictions of closed mouths with lips (22%), open mouths without lips (19%), and open mouths with lips (7%) (Figure 11.15).

The diversity of the Mann phase figurines suggests several possible situations: (1) intraregional and interregional interactions among artisans, (2) acceptance of local and extralocal artistic innovations, (3) freedom for personal innovation locally, and/or (4) a greater number of artisans within the region. With regard to interregional interactions and the acceptance of extralocal styles, it is important that pottery of this area shows much influence in both design and technology from Hopewellian groups in the Havana area and the Southeast. People in the Mann phase manufactured their ceramics locally but made both classic Hopewellian zoned, incised, dentate-stamped, and rocker-stamped ceramics similar to those at Havana sites and carved-paddle, simple and complex-stamped techniques and motifs clearly derived from Georgia and Florida (Ruby and Shriner, Chapter 15; Brose 1990). This would cause one to characterize Mann phase artisans by their in-

terregional interactions and their openness and acceptance of interregional influences. It may also imply their freedom to express their own innovations.

The Scioto–Miami area displayed only two variations, although it must be remembered that the sample is smaller. A closed mouth with lip depiction is most common (75%) and an open mouth with lips is less frequent (25%). In the Havana region, a full 85% of the figurines displayed a closed mouth with lips. A small percentage (15%) have closed and open mouths without lips, but this figure reflects the presence of regionally specific ghost figurines that are rough in all of their features.

Thus, both the Havana and the Scioto–Miami regions do not show much stylistic variation in mouth form. These situations could arise from intensive local interaction among artisans with little input from other regions, intraregional constraints on expression, a lack of acceptance of intraregional and interregional innovation, and/or the small number of artisans within each region. The more significant of the two cases is the Havana region, since its sample includes many figurines from many sites yet one dominant form. This is interesting in light of the fact that the Havana region shows relatively

advanced and decoratively diverse craftsmanship in its ceramic vessels.

Interregionally, the Scioto–Miami and Havana regions are the most similar to each other in figurine mouth form, and the Mann phase is the most distinct. Both the Scioto–Miami and the Havana regions are predominated by figurines with closed mouths having lips. The Mann phase figurines have primarily closed mouths without lips. The similarity of the Scioto–Miami and Havana regions in their figurines and the distinction of the Mann phase are paralleled in pottery vessel decoration.

Eyes

The next trait documented is figurine eyes. The variables measured were eye size (narrow, medium, and wide) and slant (ranging from no slant [0] to extreme slant [3]). As with mouth forms, eye attributes show a great deal of variation among the figurines from the Mann phase (Figures 11.16a and b). Eye attributes are more uniform in the Havana area and most uniform in the Scioto–Miami area. The Mann phase figurines have eyes of all sizes and slants; the area is the only one with extreme slants, coded 3. Havana figurine eyes are the least slanted—mostly 0 and 1, at approximately equal frequencies, and ranging to 2 in one case. They vary somewhat in size, between narrow and medium, at approximately equal frequencies. Figurines from the Scioto–Miami region have moderately slanted eyes. They are predominantly medium in size, with only one figurine registering wide in eye size.

The above interpretation of intraregional diversity in mouth form also holds for eye size and slant. Compared to the Scioto–Miami and Havana regions, the Mann region may have been characterized by more intraregional and interregional interactions among artisans, greater acceptance of local and extralocal artistic innovation, freedom for personal innovation locally, and/or a greater number of artisans within the region.

Interregional relationships as seen in eye size and slant follow the same pattern found for mouth form. The Scioto–Miami and Havana regions are most similar and the Mann phase is most distinct. However, it is significant that largely one eye shape is found in each area— almond-oblique. This suggests interregional interaction across all three northern Hopewellian manifestations. The only exceptions to this pattern are the rough Havana ghost figurines and a few simple Mann phase figurines that have only incised lines to depict eyes. These were recorded as unknown/incised.

There is one extreme variant in the Scioto–Miami region from the large mound at Seip (Mound 2, Seip–Pricer [Mills 1907a]). It is a very well-made, detailed ceramic head with "rounded" eyes. This shape seems to mimic human effigy stone pipes from Ohio. Could this have been an artisan also fluent in stone pipe work? The other features of the face are very realistic and well formed, as are human and animal-effigy pipes in Ohio.

Hair

Hair was examined for both its style and how it was depicted. The attribute states recorded include: (1) hair depicted by a raised cap, (2) hair depicted with incised lines, (3) hair depicted by a combination of both raised cap and incised lines, and (4) baldness or caps depicted by incised outline. The first three states differ in hair depiction. The contrast between the first three states and the fourth is one in hairstyle. Hairstyle probably reflects actual hairstyles and might have been a social pattern more so than a personal choice. Hair depiction might give better definition of individual artistic choice.

The Mann phase again shows the greatest amount of variation, with some of all styles and depictions (Figure 11.17). The majority of figurines have the bald/smooth depiction. The Havana region is most uniform, artisans there having preferred raised cap depiction in all but one of the definable cases. The one incised line depiction used in the Havana region is on a ghost figurine. The Scioto–Miami region has figurines with three of the four hairstyles and depictions; no figurines have hair depicted with incised lines. In sum, the Mann phase figurines show greater diversity in each of mouth, eye, and hair form

A

	narrow	medium	wide	unknown
■ Havana	45%	50%	0%	5%
□ Mann Phase	22%	48%	22%	8%
▨ Scioto/Miami	0%	88%	12%	0%

■ **Havana** □ **Mann Phase** ▨ **Scioto/Miami**

B

	0	Slight	Average	Extreme	unknown
■ Havana	45%	45%	5%	0%	5%
□ Mann Phase	15%	26%	11%	41%	7%
▨ Scioto/Miami	38%	38%	24%	0%	0%

■ **Havana** □ **Mann Phase** ▨ **Scioto/Miami**
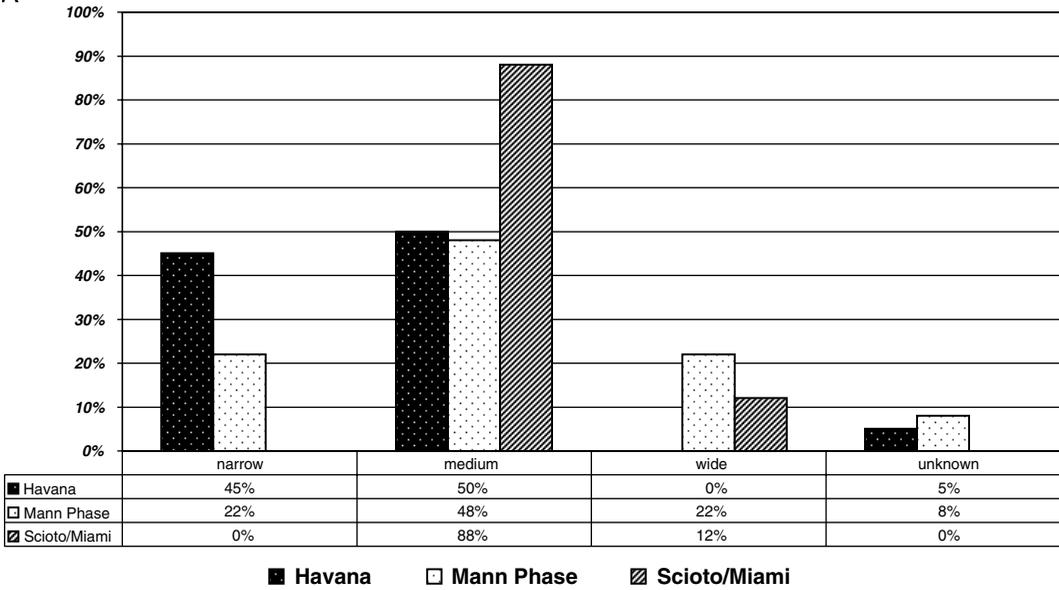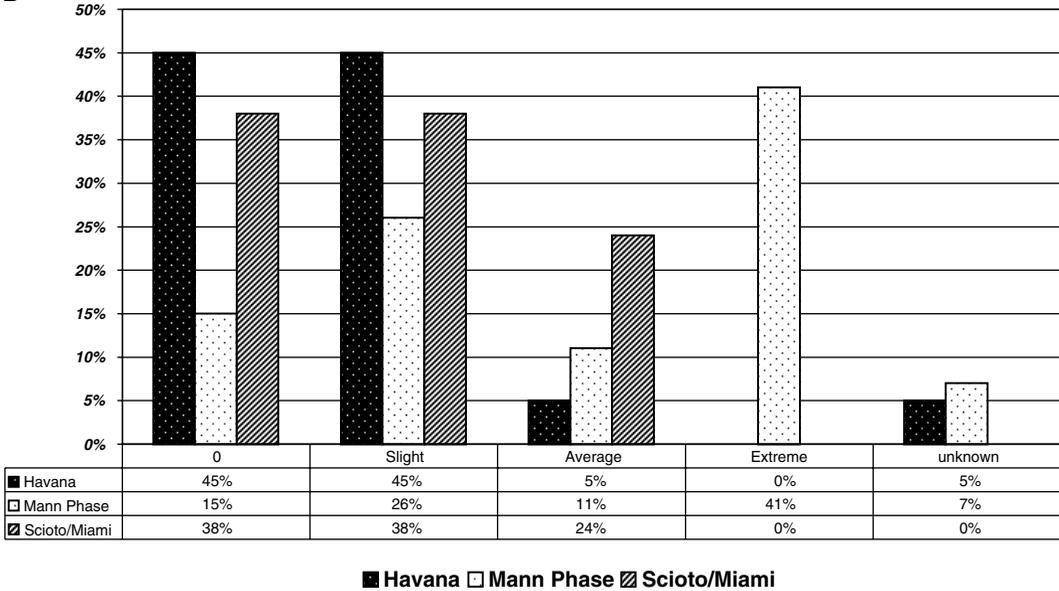
Figure 11.16. Distribution of (a) eye size/shape and (b) eye slant depictions for each region.

compared to the Havana and Scioto–Miami region. Each of these attributes suggests that Mann phase artisans interacted more with other artisans intraregionally and interregionally, were more accepted for their innovations and the styles they borrowed from afar, had more freedom to be creative, and/or were more numerous. In contrast, Havana figurines are more diverse than Scioto–

Miami figurines for mouth and eye form and less diverse for hair form, making the stylistic comparison of these two regions to each other more difficult to interpret.

Interregional relationships among people of the Mann, Scioto, and Havana regions, as indicated by the overall similarity in figurine hairstyles and depictions, differ from those

	raised cap	incised lines	raised&incised	bald	unknown
■ Havana	85%	5%	0%	0%	10%
□ Mann	15%	7%	15%	56%	7%
▨ Scioto/Miami	63%	0%	13%	13%	13%
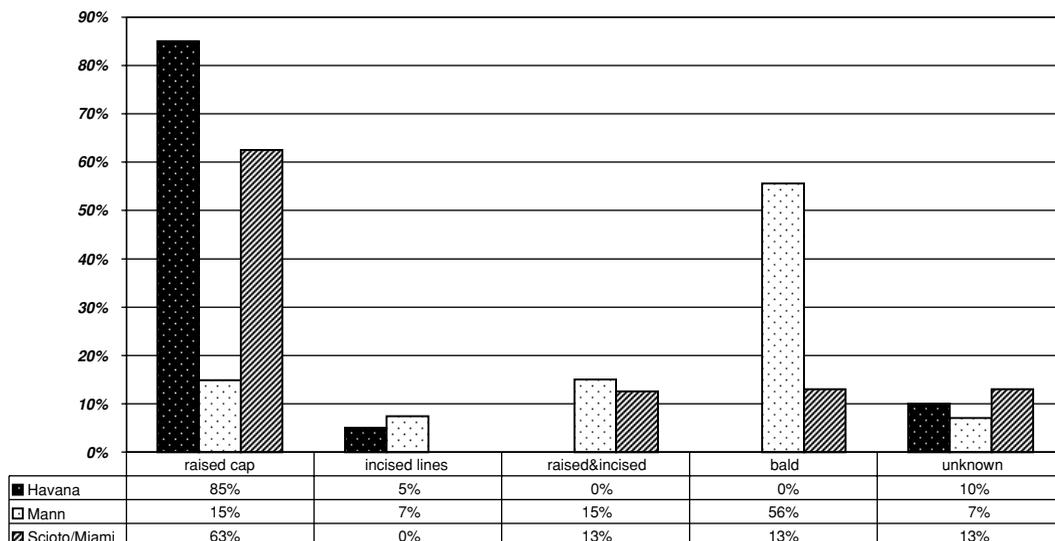
■ **Havana** □ **Mann** ▨ **Scioto/Miami**

Figure 11.17. Distribution of hair depiction forms for each region.

indicated by figurine mouth and eye forms. The hairstyles and depictions found in the Mann and Scioto–Miami areas are more similar to each other than to those of the Havana region. Mann phase and Scioto–Miami figurines each have raised caps, incised lines combined with raised caps, and baldness/smooth caps. Havana figurines have only raised caps and incised lines, and the latter in only one case (Table 11.2).

The similarity of the Mann phase and Scioto–Miami figurines can also be seen in the relationship of hairstyle to gender. In the Mann phase, baldness or caps with incised outlines are prevalent (56%). All figurines with baldness or caps, and that could be identified to gender, are male in the Mann phase. This hairstyle was probably gender-specific for the region and socially constrained rather than a personal choice. In the Scioto–Miami area, the one figurine that is bald or has a cap with an incised outline is also male. In contrast, the Havana sample contains two male figurines, neither of which have this hair depiction, and has no figurines with this hair depiction at all.

Ears

The next trait examined is ear depiction. Detailed depiction of the ear seems to have been an in-terregionally shared way in Hopewell iconography to identify the status and importance of an individual. An inspection of the leather and copper effigy ears found at the Mt. Vernon and Hopewell sites (Burkett 1997; Greber and Ruhl 1989:124) reveals that they were meant to portray individuals who wore earspools, which signified prestige of a kind. Significantly, the ear effigies from Mt. Vernon have been rendered useless for earspool display by slitting the earspool holes. This may indicate an individual who had lost a prestigious social position through some social demise (Burkett 1997:273–274; for analogs, see Carr, Chapter 7, Table 7.2). It can be concluded that ear depiction communicates an informative story about the individual represented and their social circumstances. In particular, earspools appear to have represented high social standing in Scioto Hopewell societies, although not standing as high as that represented by breastplates, celts, and head plates (Carr, Chapter 7; Ruhl, Chapter 19; Carr and Lydecker 1998; Greber 1979a). Ears depicted in detail also appear to have indicated high status, given the above-mentioned renderings of such in leather and copper, and especially in copper as a valued material. Taking this information into consideration when studying the Hopewellian figurines leads one to

observe ear depictions and ornamentation with an awareness that they are more significant than simply rendering the human figure anatomically correctly.

With these thoughts in mind, five aspects of ear depiction were observed: (1) the absence of ears and earspools; (2) the presence of ears, but with only simple outlines and no earspools; (3) the presence of ears with scrolled and detailed depictions and no earspools; (4) the presence of only earspools and no ear depiction; and (5) the presence of earspools and ears with scrolled and detailed depictions.

This sequence possibly suggests a conscious decision made by artisans to express specific information about levels of social status. The obvious omission of ears and/or earspools from figurines cannot be considered an oversight. Likewise, depicting ears in detail yet omitting earspools would have been a way for an artisan to accentuate the status of the individual but also to emphasize what was absent—earspools and the social status that they represented. By drawing the eye to a well-formed ear that nonetheless had an empty lobe, the artist made a clear statement about the relative social status of the person depicted. This logic seems to have been followed by figurine artisans in the Scioto–Miami region, where figurines with detailed, scrolled ears both

have a clear depiction of earspools (38%) and lack earspools (62%), and these are the only two stylistic options. Next in the proposed stylistic sequence, figurines that show the outline of earspools without the detailed depiction of ears may have expressed the ultimate level of social status in the sequence of stylistic variation, and/or perhaps an ideology that placed importance on earspools displayed at the ears over the ears themselves. This ideology seems to have characterized artisans in the Havana region, who did not depict ears unless they had earspools attached to them. Finally, the social standing expressed by figurines with both earspools and detailed ears, relative to those with only earspools, is unclear in the absence of ideological information on the relative social importance of earspools and ears. This contrast occurs among the figurines from the Mann phase.

The pattern noted earlier for other figurine attributes, where Mann phase figurines are more stylistically variable than figurines from the Scioto–Miami and Havana regions, holds for ear styles (Figure 11.18). The Mann phase figurines have some of all variants. The largest group (44%) is comprised of figurines not depicting ears or earspools at all. This variant does not occur elsewhere, other than in the Havana region at a minor frequency (20%), where its

	scrolled with earspools	scrolled without earspools	outlined ears	only earspools	no ears	unknown
■ Havana	30%	0%	0%	40%	20%	10%
□ Mann	4%	19%	19%	4%	44%	11%
▨ Scioto/Miami	38%	62%	0%	0%	0%	0%

■ Havana   □ Mann   ▨ Scioto/Miami
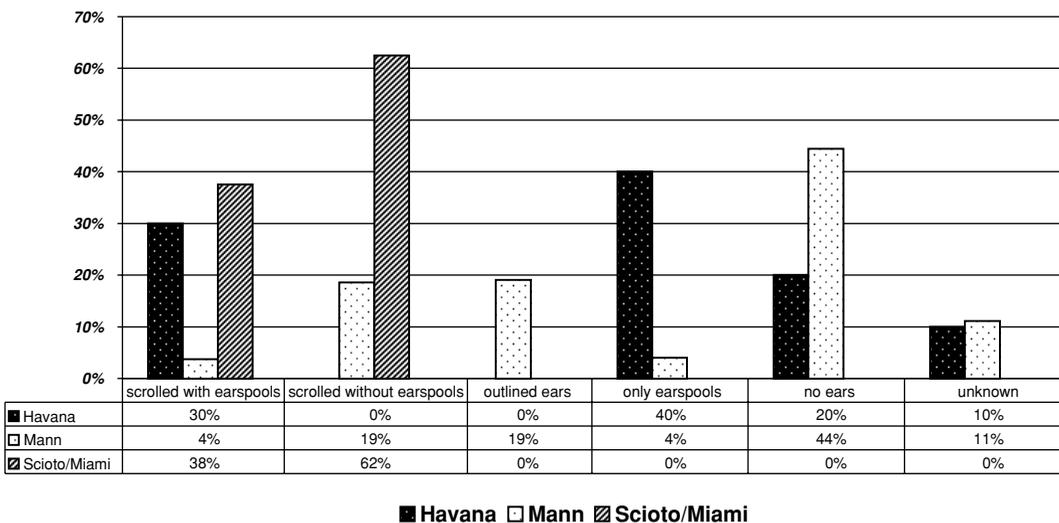
Figure 11.18. Distribution of ear depiction forms for each region.

presence can be attributed to the occurrence of ghost figurines. In the Havana region, large outlines of earspools are often substituted for the ears themselves (40%), which are not depicted. Scrolled ears with earspool outlines are almost as common (30%). Scrolled, detailed ears, with or without earspools, are the only style in the Scioto–Miami region (100%), whereas in the Havana and Mann regions, scrolled ears accounted for only 23%–30% of the cases. These findings again show both the Havana and the Scioto–Miami regions to be internally more uniform stylistically, whereas the Mann phase shows greater variety. As with mouth, eyes, and hair attributes, the patterning for ear depiction suggests that figurine producers in the Mann phase were more connected with other artisans intraregionally and interregionally, were more accepted for their creations and the styles they borrowed extralocally, had more freedom to be creative, and/or were more numerous.

Interregionally, the Scioto–Miami area and Mann phase share more ear attributes in common than they do with the Havana area. The Havana area has only figurines with scrolled ears and earspools, save one with scrolled ears and no earspools. The former are found in only one instance

among the Mann figurines and twice among the Scioto–Miami figurines.

Nose

The final feature analyzed is nose style. Both the size and the shape of the nose were considered. Nose size was defined as narrow, medium, or wide; nose shape, as square or rounded. A few figurines have noses formed simply by pinching up a portion of the clay; this form was designated "other or pinched."

The Scioto–Miami region shows a preference for two sizes and shapes, wide and rounded (50%) and medium and square (38%) (Figure 11.19). Wide, rounded noses are depicted on one other figurine outside the Scioto–Miami region, in the Mann phase. The Havana region is the only region with narrow noses and has only two examples of them (10%). These cases of regionally constrained Scioto–Miami and Havana nose styles indicate a lack of acceptance of these particular styles outside the region in which each is known. In contrast, other nose styles are more widely spread and show acceptance. The most prevalent of all variable states is the square shape, at 85% in the Havana area, 51% in the Scioto–Miami area, and 70% in the Mann phase.

	narrow/square	narrow/round	medium/square	wide/square	wide/round	other	unknown
■ Havana	5%	5%	50%	30%	0%	5%	5%
☐ Mann	0%	0%	44%	26%	4%	15%	11%
▨ Scioto/Miami	0%	0%	38%	13%	50%	0%	0%

■ Havana ☐ Mann ▨ Scioto/Miami
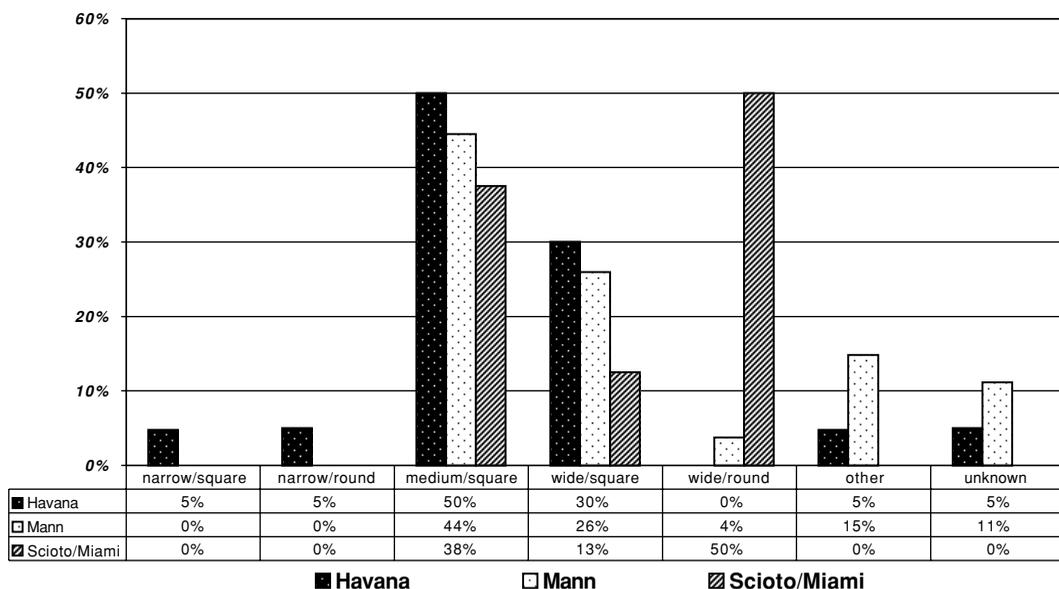
Figure 11.19. Distribution of nose depiction forms for each region.

As with other facial features, the nose shows much formal variation in the Mann phase figurines. Surprisingly, both the Havana and the Scioto–Miami regions also show fair amounts of variation in nose shape; these regions are very uniform for other facial attributes. Variation in nose shape and size may indicate that many artisans were allowed to produce figurines in the Havana and Scioto–Miami regions and that the artisans varied in their production skills or their personal perception of the human image. In addition, nose size and shape probably were less constrained by social convention, and innovations in these features and interregionally borrowed forms probably were more readily accepted. Since nose size and shape are features not easily controlled or altered for marking status, they could have been left open to individual artisan depiction. Features used as status markers (i.e., hairstyle, earspools) would more likely be the ones that would have been made uniformly over a region.

Interregionally, the Havana and Mann phases are most similar to each other in the kinds of nose shapes found on their figurines. The Scioto–Miami region is more unique. This pattern is distinct from those found for other facial attributes, in which case the Havana and Scioto–Miami regions aligned more closely.

Summary of Information on Facial Features

The Mann phase has a large variation in all attributes, suggesting wide, active interaction of its artisans, an acceptance of extralocal artist innovations, freedom for personal innovation locally, and/or numerous artisans. In contrast, the Havana sample, which is composed of many figurines from many sites, is generally fairly uniform. This uniformity suggests the strong interaction of artisans within the region, as well as the existence there of strong grammatical rules in form and production rather than family styles or individual innovations, and the lack of acceptance of extraregional styles. The number of artisans may also have been limited, although the presence of informal ghost figurines and the diversity of nose styles in the Havana region would suggest otherwise. The Scioto–Miami region is also fairly

uniform in the facial traits of its figurines. Although the sample is small, figurines were acquired from three separate sites and should be sufficient to show some intraregional variation. Again, the data suggest that artisan interaction was focused within the region, form and production were constrained by rigid grammatical rules, extraregional styles were not well accepted, and perhaps figurine producers were less frequent.

Certain facial features predominate or commonly occur in one region and rarely or never occur in the other two. The region in which these features are common is likely where the feature was innovated. Their rarity elsewhere suggests an active lack of acceptance of the specific traits by other traditions rather than a lack of interregional interaction among artisans, because other figurine features are widespread among two or all three areas. Facial features that predominate or are common in one area include wide and round noses in the Scioto–Miami area, baldness or smooth caps in the Mann phase, ears scrolled and without earspools in the Scioto–Miami area, and earspools with no ear outline in the Havana area. More generally, the minimalist ghost figurines of the Havana area fit this pattern.

Many other facial features were popular in two or more areas and suggest interaction among them. These include a closed mouth with lips, a medium-sized and square nose, a wide and square nose, medium-sized eyes, eyes with no slant or a slight slant, and hair with a raised cap. The commonality of almond-shaped eyes, often oblique, in all regions is particularly marked. However, there does not appear to have been any consistent pairing of regions stylistically, considering all of the facial features studied. For some features (mouth, eyes), figurines in the Scioto–Miami and Havana regions are most alike; for other features (hair, ears), figurines in the Scioto–Miami and Mann regions are most similar; and for one feature (nose) figurines in the Havana and Mann areas are more alike. Thus, different attributes are shared among different pairs of regions.

This inconsistent pattern of interregional resemblances points toward a sharing of ideas, knowledge, and forms among regions, but not the actual exchange of artifacts (Adams 1949)

as covering *bundles of traits* among two or three regions. Nor does it support the idea of regular and frequent interregional marital exchange or adoption (Hall 1997) of women who would have produced figurines as covarying bundles of traits. The idea of the occasional exchange of women among Hopewellian elite of different traditions remains a possibility that the found patterning does not address. Finally, the inconsistent pattern of similarities of figurines among regions does not accord well with Penney's (1989) model of individuals traveling interregionally to acquire rights and formulas for producing and using ceremonial artifacts (here figurines). Again, the interregional spread of covarying bundles of figurine traits is lacking. Instead, the varying geographic distributions of figurine facial features suggest the informal exchange of information concerning the production of figurines—for example, casual observational learning at ceremonial gatherings and an open right to produce figurines. This conclusion was also reached impressionistically by Penney (1989). The mechanism has been used to explain interregional stylistic similarities in other kinds of artifacts as well (see Ruby and Shriner, Chapter 15; Turf and Carr, Chapter 18; Ruhl, Chapter 19). Simple down-the-line interactions and exchanges of figurine styles are not evidenced, because figurine styles are not distributed clinally across regions.

Discussion of Style Analysis

The clay medium and the naturalistic style of figurines are both highly visible and pan-regionally uniform traits. Several lines of argumentation made above suggest that both traits were active choices and expressions, quite possibly of female interaction and solidarity within and among regions, and of female ceremonial roles. The naturalistic style of the figurines might also have reflected more particularly the association of females with earthy aspects of the Middle World.

The regionally uniform distribution of the clay medium and the naturalistic style of figurines also suggest that they were produced and used in open social contexts rather than closed and/or secretive ones. Had the latter been true, these two physically visible attributes would have been contextually obscure and, likely, would

have been more variable among regions (Carr 1995a:195–196).

The raw materials used to temper the clay of figurines have regionally bounded distributions, in part due to their geographic availability. Both the cultural and the natural restriction of tempering materials to given regions, as well as the low visibility of temper in figurines, suggest that means for tempering were developed and maintained within regions through casual learning (i.e., passive interaction) there.

Facial features reflect a broad range of processes, depending on the feature and the region. Figurines from the Mann phase vary considerably in all the facial attributes studied, suggesting a wide network of "active interaction" among artisans within this area and with those in other regions, an acceptance of extralocal artistic innovation, freedom for personal innovation locally, and/or a large number of artisans. The location of the Mann phase along the lower Ohio River, and near the mouths of the Wabash, Tennessee, and Cumberland rivers, and the presence in Mann phase sites of ceramic styles that reflect Southeastern Hopewell culture influences (Ruby and Shriner Chapter 15), support the inference drawn from figurine styles that this area may have had more interaction with neighboring areas than did the Havana and Scioto–Miami areas. In contrast, figurines from the Havana region are fairly uniform for most facial stylistic features, despite figurines being numerous and from many sites there. This suggests a good amount of interaction among artisans within the region, social conformity to strong grammatical rules of form and production as opposed to family or individual innovation, and a lack of acceptance of extraregional style. The same may be true of the Scioto–Miami area, but the smaller sample of sites and figurines makes this conclusion less certain. Both the Havana and the Scioto–Miami areas are removed from riverine connections to the southeastern United States.

The material expressions of Hopewell society and ideology in total show well-formalized pan-society rules about the appropriate production, context of use, decommissioning, and burial of fancy artifact classes (e.g., Carr and Case, Chapter 5; Carr et al., Chapter 13). This

formalization is expectable, given that across the eastern United States, the depictions on and designs of many kinds of Hopewellian mortuary items are symbolic of the Upper and Lower Worlds and their inhabitants (e.g., Carr 1998, 1999a, 2000a, 2000b; Carr and Case 1995; Penney 1982, 1985). So too are the very specific materials that were worked (e.g., Turff and Carr, Chapter 18). Figurines share in this pan-regional pattern regarding their clay raw material and naturalistic design, but vary among regions in their less visible tempering and facial stylistic attributes. In addition, the particular facial features that are similar or different among regions vary with the regions being compared, rather than form bundles of attributes that are consistently similar or different among all three regions. These patterns in combination suggest an informal sharing of the ideology behind the figurines and their usage, without much regular and frequent exchange of figurines among regions, marriage exchange or adoption of females among regions, or formal long-distance acquisition of rights and formulas for producing and using figurines.

The lack of stylistic evidence for marriage exchange or adoption of females among regions aligns with metric and nonmetric skeletal biological evidence for the continuity of human populations within Ohio from the terminal Late Archaic (1000–500 B.C.) through the Middle Woodland (Scuilli and Mahaney 1987). It also is supported by metric cranial biological differences found between peoples of the Illinois valley Woodland and those of the central and eastern Ohio Middle Woodland (Jamison 1971). In addition, metric and nonmetric cranial biological comparisons of Middle Woodland populations in the lower Illinois valley to those in the Scioto valley indicate their biological separation to a fair degree—equivalent to a time spread of up to 800 years within the lower Illinois valley Middle and Late Woodland periods (Reichs 1975, 1984). At the same time, metric cranial comparisons between the Illinois valley Woodland and the Middle Woodland Turner population in western Ohio have indicated their close relationship (Jamison 1971), making the picture more complex.

In total, the stylistic figurine patterns presented here and the bulk of the human biological patterns just summarized imply the improbability of regularized, frequent marital exchange or adoption of women among regions. This conclusion does not preclude, however, small-scale, occasional marriage exchange or adoption of women among Hopewellian regions, such as infrequent marital exchange among elite members of different areas.

Looking more widely across the eastern United States suggests the inference that Hopewellian figurines were not or were seldom exchanged among traditions but does provide one instance that suggests intermarriage or adoption of females or long-distance acquisition of formal rights to the production and use figurines. In Mounds A and B of the Mandeville site in Georgia were found a complete female clay figurine, a clay human head, and two clay female(?) torso fragments that resemble Havana Hopewellian figurines from Illinois in their overall form, pose, and/or painting (Kellar et al 1962:344, 351). The complete figurine looks like ones from the Knight mound, Illinois, in its hair, which runs far down its back, hair part, skirt down to the knees, short and stubby legs, relatively broad shoulders, chest form, straight and closed lips, and painting. However, the pastes of at least the broken figurines (that of the whole figurine is not reported) are similar to the local Mandeville pottery in their micaceous temper. These attributes suggest that the figurines were not transported or exchanged from Illinois (Kellar et al. 1962:344, 351), but do imply production by a person from or near Mandeville who knew the Illinois style of figurines more than casually. A female from Illinois who married or was adopted into the Mandeville community, or who traveled to Illinois and back and obtained any necessary rights and specific procedures for producing figurines, are strong possibilities.

CONCLUSIONS

Contextual and stylistic studies of a large sample of figurines from the Havana, Mann, and Scioto–Miami regions tell us much about the

roles of women in northern Hopewellian societies, as well as the nature of female Hopewellian interaction and Hopewellian interaction, generally. Some of the more important conclusions drawn and ideas raised in this chapter are as follows.

(1) It is very likely that Hopewellian figurines were produced by females. Clay as a raw material was easily accessible to women, in a way that exotic raw materials obtained by long-distance journeys and perhaps restricted to men may not have been. Cross-cultural ethnographic survey (Murdock and Provost 1973) indicates that females usually work soft, pliable materials such as clay, whereas males work hard, tough-to-process, labor-intensive materials, which are the characteristics of Hopewellian exotics. Specific ethnographic analogs in the Historic Eastern Woodlands show that ceramics were made predominantly by females. Finally, the naturalistic style of figurines, in contrast to the geometric shapes of symbols made out of exotic raw materials, might be argued to indicate production by females. However, the naturalistic style of the animal effigy pipes that were found at the Tremper and Mound City sites in Ohio, and that were not ethnohistorically feminine accoutrements, must be kept in mind.

(2) Figurines have been found in both village and mortuary contexts. In both contexts, they may have served in ceremonies—domestic and funerary, respectively. Figurines in both arenas also may have been a medium for self-expression and identity creation and communication, including the display of the social positions and prestige of males and females. Figurines from all three geographic regions depict status markers, including earspools, topknots, and half- and fully shaven heads or capped heads.

(3) Although figurines have been found in both domestic and mortuary settings, and were probably used ceremonially in both, they were likely produced in residential sites. No workshops for the production of figurines or pottery vessels have been found in mortuary sites, whereas locations for working mica, obsidian, quartz crystal, and nonlocal cherts are known there. This pattern, as well as the relative abundance of figurines in domestic contexts compared

to mortuary contexts in the Havana and Mann areas, suggests that the primary function(s) of most Hopewellian figurines was in domestic rituals.

(4) Figurines were probably produced and used in open social contexts rather than closed, secretive ones. The pan-regionally uniform distribution of the clay medium and natural style of figurines, which are physically visible attributes, suggest this.

(5) The females probably played defined roles in domestic and funerary ceremonies. The use of utilitarian pottery vessels in graveside ceremonies in Ohio and Kentucky during the Early Woodland, followed by the inclusion of utilitarian and fancy pottery and figurines in Middle Woodland graves in Ohio and Illinois, may represent a sequential increase in the role of women in funerary rites over these periods. This interpretation is based on the likelihood that women produced all of these kinds of ceramic forms (e.g., Neumann and Fowler 1952) and the generalization that, in simple societies, the producer of a utilitarian object is commonly its user.

(6) Although figurines were probably produced by females, they were not used to express or communicate exclusively female social roles and standing. Male and female figurines are equally abundant. Regional differences in the sexes of persons who filled various social roles, in the prestige had by women, and in gender relations are apparent in Hopewellian figurines. Earspools, which occur primarily with males in the Scioto–Miami region, are depicted on figurines of only males there and in the Mann phase. Topknots are found on figurines of only males in the Scioto–Miami region and almost completely on figurines of males in the Mann phase. Heads shaven on two sides are shown on only male figurines in both regions. In contrast, in the Havana region, figurines of both males and females have earspools, but females somewhat more commonly. Topknots, heads shaven on one side, and heads shaven on two sides appear equally on figurines of males and females there. The only known instance of a figurine showing a probable human trophy being displayed by a person—an image recalling military action and power ethnohistorically in the East—is a female

figurine from the Havana area. The distinction of the Havana region from the Scioto–Miami and Mann regions in all these regards may indicate differences among these areas in female access to leadership and/or prestige and in gender relations. Females in the Havana area appear to have enjoyed greater access to positions of leadership and/or prestige, and were active in communicating their social positions and power. At the same time, figurines in the Havana region show that sitting postures allowed males to sit higher than females, implying a general male dominance there. One must remember that figurine depictions indicate how social reality was perceived by figurine producers, and perhaps manipulated by them through material communication.

(7) The meanings of figurines to Hopewellian peoples can be known to some extent empirically. Within graves, figurines sometimes represented the person or group of persons with whom they were placed. Cases of correspondences between the age and sex of buried persons and those of figurines laid with them make this clear. The disproportionate shape of the ghost figurines from the Havana region suggests self-portraits of persons looking down on their own body. In altars, figurines and other deposited artifacts that often were miniatures or unused possibly symbolized the soul/essence of the persons and items. Figurines thus may have played important roles in the spiritual-focused components of mortuary ceremonies. The common occurrence of figurines in habitation sites in the Havana and Mann areas suggests their use in domestic ceremonies. Human fertility rights, life-cycle ceremonies, and clan or household ancestor worship are possibilities that remain to be explored. The naturalistic style and the clay of figurines suggest reference to the earthy Middle World tasks in which Hopewell women would have participated, by ethnohistorical comparison (e.g., birthing, horticulture, and body care of the dead). In contrast, the Upper and Lower Worlds, and the Cosmos at large, are referenced by copper, mica, silver, and other exotic raw materials and the symbolic forms made from them (Turff and Carr, Chapter 18; Henry et al. 1994), such as copper and mica cutouts. These materials were procured and worked more

probably by men (Murdock and Provost 1973), and possibly used primarily by them.

(8) Figurines do not appear to have been traded much interregionally, and females who probably produced figurines do not appear to have been exchanged in marriage or adopted much interregionally, among Hopewellian peoples of the Scioto–Miami, Mann, and Havana areas. Nor does it appear that individuals traveled interregionally to acquire rights and formulas for producing and using figurines as ceremonial paraphernalia as persons may have for smoking pipes (Penney 1989). Several kinds of evidence do not accord with these three hypothetical mechanisms of interregional interaction. The poorly visible figurine trait of tempering raw material, which theoretically should monitor figurine exchange, is distinct among the three regions. Certain states of the obscure attributes of nose width and shape, eye slant, hairstyle, and ear depiction, which should monitor artisan interaction and mobility, also vary considerably among the regions. Finally, patterns of resemblance of figurines among the three regions are inconsistent, with different traits shared among different pairs of regions; covarying bundles of traits among two or three regions, which would be expected with interregional figurine exchange, intermarriage, adoption, or acquisition of production rites, do not occur. The lack of stylistic evidence for frequent interregional marriage and/or adoption concurs with the results of a number of metric and nonmetric skeletal biological analyses, which suggest the continuity of human populations within regions and infrequent marital exchange and adoption of women across regions (Jamison 1971; Reichs 1975, 1984; Sciulli and Mohaney 1987). The only figurines that may suggest the interregional marriage or adoption of a figurine's producer, or long-distance formal acquisition of rights and procedures for figurine production, are the several figurine fragments and the complete figurine from Mounds A and B at the Mandeville site in Georgia. These figurines closely resemble in overall form and detail figurines from Illinois, specifically the Knight mound, yet were made of local materials.

(9) Although figurines probably were not exchanged much among the Scioto–Miami, Mann, and Havana regions, aspects of their form, the ideology behind them, and their uses probably were. The pan-regional distribution of the clay raw material of figurines, their naturalistic design, and perhaps their dual contexts of ceremonial use, in village and mortuary settings, hint at this sharing of ideas. The varying geographic distributions of different facial features among regions suggest the informal nature of interregional exchange of information about figurine production. This perhaps occurred through casual observation and learning at ceremonial gatherings, with open rights to produce figurines (see also Penney 1989), but not by simple down-the-line interaction.

(10) The considerable variation found among Mann phase figurines in their facial features, which are poorly visible traits that likely monitor close artisan interaction, suggests that Mann phase figurine artisans had wide networks of contacts outside of their region. This finding accords with the location of the Mann phase near the confluence of the Wabash, Tennessee, and Cumberland rivers with the Ohio, and with the relative commonness of southeastern ceramic styles and vessel imports at the Mann site (Ruby and Shriner, Chapter 15). Mann phase artisans also must have been accepting of artistic innovations of local and extraregional origin. In contrast, figurines from each of the Havana and Scioto–Miami areas are fairly uniform in their facial features, suggesting a good amount of intraregional interaction among artisans within each area, social conformity to regional norms of form and production, and less acceptance of extraregional styles. Neither the Havana nor the Scioto–Miami area has close riverine connections with the southeastern United States or abundant examples of southeastern ceramic styles.

(11) Hopewellian women were active in the creation and maintenance of their social positions and prestige, and their identity as women. Their capability in this regard is shown by the common interaction between figurine artisans within both the Havana and the Scioto–Miami areas, as indicated by the sharing of obscure stylistic traits (temper, facial features) within regions, as well as by the occurrence of status markers (earspools, topknots, shaved heads, belts) on some female figurines. Active communication of female social positions, prestige, and identity does not appear to have been coordinated over multiple regions: female figurines from different regions vary in the status markers they do and do not exhibit, and in the frequency of these. However, the general resemblance of the figurines from the different regions in their clay raw material and naturalistic style may speak to the shared, Middle World, earthy place that Hopewellian women perceived themselves to occupy in a Hopewellian cosmos generally.

In the future, it would be worthwhile to explore other kinds of variation in northern Hopewellian figurines. The Havana region was the only region to express children, and then only as extensions of adult caretakers. Depicting the elderly was also rare and may prove to be regionally distinct. Coupling bioarchaeological, social, and ideological data about the skeletons and goods included in graves with figurines would make a richer context for interpreting the meanings and uses of those figurines. Finally, the stylistic attributes and depositional contexts of clay figurines in the Scioto–Miami region might be compared with those of human representations in other media, such as copper, mica, bone, and stone. This comparison might shed light on possible gender distinctions in the production and use of different kinds of items and different intraregional patterns of interaction among women compared to men.[5]

Hopewell ceramic figurines are not silent artifacts. Discovering their origin, use, and stylistic patterning helps them to speak about the people who produced them. We believe that the question of authorship sheds a different light on the study of figurines than has traditionally been the case, particularly regarding the roles of women and individuals in Hopewellian societies.

Evansville, Indiana, for allowing photographs of figurines from his artifact collection from the Mann site, Indiana, to be taken.

NOTES

1. Clay figurines of humans are known from the Santa Rosa–Swift Creek tradition sites of Crystal River, Mandeville, Crooks, and Block–Sterns, and the Marksville tradition site of Coral Snake (Brose 1979b:147; Seeman 1977a: table 23).

2. In line with Murdock and Provost's (1973) study, and closer in time and space to the Hopewellian peoples studied here, the working of hard compared to soft materials can be attributed to men compared to women at the Illinois Mississippian site of Dickson Mounds. There, excavation of domestic house floors showed the pattern that stone tool making, wood working, and ornament making—activities involving hard materials—occurred in the southwest corners of houses, while food processing, leather preparation, and weaving—activities involving soft materials—occurred in the northeast corners of houses. The location of smoking pipes in the areas of hard material working but not soft material working suggest that males processed the hard materials and females the soft ones (Dickson Mounds Museum display, Lewistown, IL).

3. The representation of these children in figurines is the only instance of children rendered in figurines. This circumstance may relate to the fact that the Havana region, of all the regions considered here, has the greatest number of burial goods associated with children (J. A. Brown 1979; Penney 1989). These patterns may relate to the relative value placed on childen, the age at which persons were attributed personhood and/or were held to become a member of society, or religious beliefs about the death of children compared to adults.

4. It is logically possible that the geographic uniformity and expanse of clay as the chosen medium for manufacturing figurines could reflect the transport and/or exchange of figurines and their styles over long distances. Other data below, however, suggest that figurines were seldom exchanged over long distances between regions.

5. Published examples of human representations made of materials other than clay and found in the Scioto–Miami region are few. They include the Wray stone figurine bear impersonator from the Newark site (Dragoo and Wray 1964); the mica cutout bird impersonator with a multilayered headdress from Mound 3 at the Turner site (Willoughby 1922:plate 15); the bird impersonator carved on a human femur from the Burial Place within the Great Enclosure at Turner (Willoughby 1922:plate 2c); the pipe with a bird's body and a human head from Mound City (Fowke 1902:592); the deer–"rabbit" impersonator carved on a human femur from Mound 25 at the Hopewell site (Moorehead 1922:128); the stone figurine cat impersonator from Mound City (Shetrone 1936:122); the carved pipe-fragment human head with curvilinear face painting, tattooing, or scarification from the Edwin Harness mound (Greber 1983:33); the carved fossil ivory figurine with facial painting, tattooing, or scarification from the Hopewell site (Moorehead 1922:169); the copper cutout of a human face with a tall headdress from Mound 25 at the Hopewell site (Shetrone 1926:214); the copper cutout of a human face with a tall, flowing headdress from the Hopewell site (Shetrone 1926:214); the several (three?) anthropomorphic masked figures carved on a human ulna from the Burial Place within the Great Enclosure at the Turner site (Willoughby 1922:plate 2); and the earlier raptor–human faces carved on Adena stone and clay tablets (Carr 1999b; Otto 1975; Webb and Baby 1957:83–101).

Ritual Gatherings of Northern Hopewellian Peoples

Scioto Hopewell Ritual Gatherings

A Review and Discussion of
Previous Interpretations and Data

CHRISTOPHER CARR

From the late 1800s through the 1950s, professional opinion held that Hopewell earthwork–mound complexes in the Scioto valley, and in Ohio more generally, had villages within them and immediately surrounding them (L. H. Morgan 1881; R. G. Morgan 1946, 1952; Moorehead 1892:509; Shetrone and Greenman 1931:359). This view was challenged when Olaf Prufer (1964a, 1964b) put forth his "vacant center–dispersed hamlet" hypothesis. Prufer posed that Ohio Hopewell peoples lived instead in dispersed communities of households that surrounded the earthwork–mound centers. Each center had at most only a small resident population of religious practitioners and site caretakers, and was visited by parts or all of the dispersed community only periodically for mortuary and other rituals.

Prufer's hypothesis set the stage for two lines of archaeological research on Ohio Hopewell that have continued to this day and that remain essential. The first and dominant line of work has involved archaeological surveys and excavations to determine whether earthwork–mound complexes contained or lacked villages within them (J. A. Brown 1982; Burks and Pederson 1999, 2000; Burks et al 2002; Pederson and Burks 2000; Seeman 1981b; see also Kellar

1979; Ruby 1997e) and whether domestic debris outside of the earthworks took the form of small, scattered settlements or larger villages (J. A. Brown 1982; Burks and Pederson 1999; Burks et al. 2002; Dancey 1991; Dancey and Pacheco 1997a, 1997b; Greber 1995; Pacheco 1988, 1993, 1996; Pacheco and Dancey n.d.; Prufer 1967; Ruby 1996, 1997b:2; Ruby and Troy 1997; B. D. Smith 1992). The data obtained from these field projects have supported the basic tenets of Prufer's vacant center–dispersed hamlet hypothesis, and are summarized and integrated into a broader model of Scioto Hopewell community organization by Ruby et al., in Chapter 4. A recent reiteration of the village interpretation by Griffin (1996) is now empirically out of date. The more subtle issue of the duration of occupation of dispersed hamlets and the mobility of Scioto Hopewell peoples is being worked out empirically only now (Ruby et al., Chapter 4; Carr and Haas 1996; Rainey 2003; see also Yerkes 1988, 1990).

The second and less explored line of research set in motion by Prufer's ideas concerns the nature of the supposedly periodic gatherings of social groups at the earthwork–mound centers. Attention has been given primarily to the

activities of those who gathered at the centers: mortuary-related rituals (J. A. Brown 1979; Greber 1996) and nonmortuary activities (DeBoer 1997; Seeman 1979b; B. D. Smith 1992). The particular sizes and social compositions of the groups who gathered have scarcely been considered (but see Seeman 1979b) and are the subject of this and the other chapters in Part III of this book.

This chapter sets the historical and conceptual groundwork for the remaining chapters of Part III by systematizing past ideas and data about social gatherings at Hopewell ceremonial centers. It then introduces the other chapters. Eight models of Hopewell social gatherings, in addition to Prufer's initial idea that the mounds and earthworks were "vacant" religious centers of congregation, are reviewed or built. In brief, the eight models are as follows. Baby and Langlois qualified Prufer's hypothesis by documenting that craft production occurred in the centers and proposing that craftspersons resided in them for substantial periods of time. Seeman's analyses focused on faunal remains within the centers and concluded that large-scale feasts were had within them as a means for redistributing meat—a food resource he argued to be limiting in the midwestern United States. Smith systematized previous interpretations, envisioning mortuary programs, corporate labor projects, the manufacturing of ceremonial items, and redistributive feasting as multifaceted aspects of Hopewell gatherings in the centers. Smith tied these activities to very specific kinds of archaeological correlates within the centers. DeBoer and Pacheco each summarized thought-provoking ethnographic analogs from South America (the Chachi and Mapuche) as a basis for proposing that many kinds of activities occurred within the earthworks—mortuary rituals, feasts, weddings, courting and renewal of kinship ties, races, games, dances, gambling—but cited little archaeological evidence to link these propositions to Ohio Hopewell cases. Greber envisioned ceremonial gatherings of several different purposes, sizes, and temporal frequencies, from small and presumably common ones to very large ones every two or three generations, based on her observation of ceremonial deposits of different

kinds within mounds. Her general idea of a spectrum of ceremonies of various kinds is credible; her more specific reconstructions are questionable because the types of deposits defined are sometimes internally heterogeneous, overlap in character, mask considerable material variation, and/or are assigned group gathering sizes inconsistently. Hall concluded that Hopewell mortuary ceremonies in Illinois, Michigan, and Wisconsin were carried out as reenactments of the mud-diver creation myth and as world renewal ceremonies, which may have intertwined rites of initiation of youngsters into adulthood. Corpse treatment, tomb layouts, mound stratigraphy, and common Historic Woodland myths served as bases for his inferences. Romain extended Hall's interpretive framework of world renewal to Ohio Hopewell gatherings, basing his arguments on the shapes and flood plain locations of the earthworks in Ohio. Finally, following Callender's (1979) lead, I construct an analogy between the protohistoric and historic Algonkian and Huron Feasts of the Dead and Ohio Hopewell mortuary gatherings. The analogy is supported by six features shared between the Algonkian–Huron and the Hopewell cases: a dispersed settlement pattern, the combining of mortuary rituals with feasting that involved large numbers of persons, the large distances from which some participants came, a three-phase burial program, possibly the synchronous transport of many bodily remains from dispersed residences to certain burial sites, and mortuary rites specifically designed to create alliances among communities through the burial of their dead together in a single cemetery. Archaeological evidence for these features in the Hopewell case is presented. The three-stage burial programs of the Algonkians, Hurons, and Ohio Hopewell are related to each other using van Gennep's tripartite discrimination of rites of separation, liminality, and reincorporation. In total, the various models and evidence of gatherings within earthwork–mound centers suggest that the gatherings were quite diverse in their functions and sizes.

In this literature review, attention is focused on evidence from sites in the Scioto valley, with applicability to the Licking–Muskingum drainage implied. The occupancy and nature of

ceremonies at Turner, Fort Ancient, Stubbs, and other sites within the Miami drainage are not taken up here because community patterning and social organization in this part of Ohio seem distinct from those in central and eastern Ohio in several important ways (Ruby et al., Chapter 4; Field et al., Chapter 9; Rodrigues, Chapter 10; Keller and Carr, Chapter 11; Cowan et al. 2002; Lazazzera 2002), and to some extent more akin to lifeways in the Mann phase of Indiana.[1]

PRUFER'S, BABY'S AND LANGLOIS'S IDEAS

Prufer's (1964a:71, 1964b:94) original conception of Ohio Hopewell community patterning posed that earthwork–mound complexes were largely vacant religious centers. These were built and used periodically for mortuary and other ceremonies by peoples who lived in the surrounding territory in dispersed hamlets. The hamlets were thought to have had "little permanence" (Prufer 1964a:71)—about a generation, in the case of the exemplary McGraw site (Prufer et al. 1965:137)—inasmuch as Hopewell economy was taken to have been based on swidden agriculture of corn and other crops (Prufer 1964a:71).[2] Prufer's model of Ohio Hopewell settlement was inspired by the then-popular reconstructions of the vacant religious centers, dispersed communities, and swidden agricultural systems of lowland Mesoamerican Formative and Classic period civilizations (e.g., Bullard 1962; Willey 1956).

Prufer was unclear about whether he thought religious practitioners or site caretakers lived within Ohio Hopewell earthwork–mound complexes. Nor did he address the occurrence of utilitarian living debris found within the open areas, embankments, and mound fill of various earthwork–mound complexes, which are now well confirmed (J. A. Brown 1982; Griffin 1996) and had once prompted archaeologists to posit the occurrence of villages within the works (L. H. Morgan 1881; R. G. Morgan 1946; Moorehead 1892:509; Shetrone and Greenman 1931:359).

Some insight on these issues was obtained by Raymond Baby and Suzanne Langois's six field seasons of work at Seip, which revealed a foot-thick midden of utilitarian living debris and 7 to 10 square or rectangular buildings located halfway between the large, central mound and the embankment. The buildings all lacked hearths, contained large numbers of bladelets, and had mica fragments—in one building, worked and partially worked geometric forms. The buildings were architecturally similar to the subrectangular, single and double-post walled charnel houses revealed at Mound City (J. A. Brown 1979:213–125), but their subfloor features were structurally unique and apparently specialized in function. None of the buildings evidenced cremation or manipulation of the human skeleton. Baby and Langois interpreted these and other data as evidence of specialized craft workshops involved in the production of mica ornaments, shell beads, and textiles or basketry used in Hopewellian rituals. They concluded that Seip was occupied by "specialized craftsmen who, by their status, by the role of their products in the Hopewell ritual system, and possibly by hereditary position, were privileged to practice their arts, and to occupy structures, within the sacred precincts of the earthworks enclosure" (Baby and Langlois 1977:11; see also 1979). Although some of Baby and Langlois's specific conclusions may be unwarranted, their general inference that Seip was not a fully vacant center (Baby and Langlois 1979:18), and that craftpersons resided there long enough to have produced fairly substantial midden deposits, appears to be essentially correct and deserves investigation at other Ohio Hopewell earthwork–mound complexes.

Since Prufer's, and Baby and Langlois's, development of the vacant ceremonial center model for interpreting Ohio Hopewell earthwork–mound complexes, six other important interpretive models have been offered in print. These models address more directly the subject of gatherings of dispersed community members, and perhaps other visitors, for mortuary and nonmortuary ceremonies within the centers. Each of these models goes further in explaining the occurrence of utilitarian living debris within the confines of Ohio Hopewell earthwork–mound complexes. The six models, by B. D. Smith, DeBoer, Pacheco, Seeman, Greber, and Hall and Romain, are summarized now. A seventh,

popularly discussed but unpublished one, drawing on the historic Huron and Algonkian Feasts of the Dead, is formalized.

SMITH'S IDEAS

The most general of these models is B. D. Smith's (1992:209–243). Smith translated Prufer's vacant ceremonial center–dispersed hamlet model into a distinction between what he terms the "corporate–ceremonial" sphere of activities within earthwork–mound complexes and the everyday "domestic" sphere of activities within farming settlements of one to three households. Within the corporate–ceremonial sphere, Smith (1992:figure 5) included four classes of activities: (1) mortuary programs, evidenced by cremation basins, burials, and charnel houses; (2) corporate labor building projects, evidenced by the earthworks, burial mounds, and large corporate mortuary structures; (3) production of ceremonial items for burial and exchange, evidenced by the structures at Seip found by Baby and Langlois, raw materials, and utilized broken bladelets; and (4) possibly redistributive feasting, evidenced by limited food species and meat cuts and an absence of storage facilities. Although feasting was modeled by Smith as having occurred proximal to the earthwork–mound complexes rather than within them, no specific justification for this was provided.

Smith followed Greber (1983:26–27, 92) in emphasizing that the big charnel houses under some Ohio Hopewell mounds (e.g., Edwin Harness, Seip–Pricer, Hopewell Mound 25) were probably used for a broad range of civic, ceremonial, and religious activities beyond funerary ones. This appears reasonable from ethnographic hints: among the Shawnee, for example, the word *m'šikamekwi*, which literally means "big house", was also used for "ceremonial house" and "stomp dance ground".

The four above-cited classes of activities defined by Smith have implications for the nature of gatherings at ceremonial centers. Redistributive feasting could have involved large gatherings of persons. Building projects involving corporate labor could have involved groups of a broad range of sizes. Greber (1997:209, 221) favored groups of moderately small size (four to eight contemporaneous households) who compiled the earthworks in stages over many generations. Manufacturing of ritual items probably did not involve sizable aggregations of persons directly, although it might have been done in the context of large mortuary rituals or feasts. The various steps within Hopewell mortuary programs could have involved a few to many persons, with differing ranges of roles, and these ceremonial conditions could have varied with the social roles of the deceased. Other ceremonial activities associated with Big Houses, at sites where they occurred, also could also have involved gatherings of varying sizes. The large size and gridded pattern of the posts that form the Big House at Edwin Harness suggest the possibility that this building had a second-story floor or platform area (Greber 1983:27), which could have served to stage public civic or ceremonial events (J. A. Brown, personal communication, 1995). Such staged events could have had a large number of participants and/or a large audience, in contrast to possibly more private mortuary activities that would have occurred below it. Elevated decks for public aspects of mortuary ceremonies also seem to have characterized the smaller charnel houses at Mound City (J. A. Brown 1979:213). These proposed stages are at home within a broader pattern of possible earthen stages on top of platform mounds found within mortuary sites throughout the Hopewell world: in Ohio, Indiana, Illinois, Tennessee, Mississippi, Alabama, and Louisiana.[3]

DeBOER'S IDEAS

DeBoer (1997) has interpreted Ohio Hopewell earthwork–mound contexts similarly to Smith. He saw the earthwork–mound complexes as ceremonial centers that housed a variety of activities, including mortuary rituals, feasts, causeway-directed foot races, games, dances, and gambling. His interpretation is based on an analogy to a distant cultural tradition—the Chachi of Ecuador, South America—who have a vacant center–dispersed hamlet settlement pattern

formally similar to that posited for the Ohio Hopewell. DeBoer noted that Chachi centers are places for gatherings of a variety of sizes: large aggregations for Christmas and Easter and smaller get-togethers for weddings and funerals.

DeBoer also described how the centers have guest houses for members of the communities who come together at the centers, and a plaza for their various activities such as feasting. Although DeBoer did not specifically consider whether Ohio Hopewell centers were temporarily lived in like Chachi centers, Greber (1997:218) did make this connection, and used it to explain the utilitarian living debris found within Hopewell centers (see below)—specifically the Seip works: "Groups of different sizes did live at Seip for different periods of time and in living quarters whose locations are not yet clear." Greber's conclusion differ's from Smith's view, that feasting and such occurred outside of the walls of earthwork–mound complexes.

Unlike Smith, DeBoer did not offer archaeological evidence for the activities he hypothesized to have occurred in Hopewell centers. DeBoer's approach to ethnographic analogy is based on the simple, formal resemblance of settlement patterns and, in this regard, is similar to Prufer's (1964a, 1964b).

PACHECO'S IDEAS

Pacheco (1996:22–24) summarized an ethnographic analogy similar to DeBoer's, which helps one to visualize the nature of gatherings within Ohio Hopewell earthworks. Pacheco's inspirations were drawn from the Peruvian Mapuche (Dillehay 1990, 1992), who have a dispersed settlement pattern and vacant centers that are used in manners similar those of the Chachi. Gatherings occur in centers for scheduled festivals, religious events, and burial rites. A key contribution of Pacheco's analogy is the emphasis he placed, following Dillehay, on the creation and reconstitution of marriage and kinship ties that could have occurred among lineages from different territorial groups during festivals within the centers.

The Mapuche, like the Chachi, reside temporarily within their centers when gathering there

(Dillehay 1990). However, Pacheco did not draw upon this element of Mapuche settlement to explain the utilitarian living debris found within Hopewell earthwork–mound complexes.

SEEMAN'S IDEAS

Another model that addresses the topic of gatherings within earthwork–mound complexes is Seeman's (1979b) study of possible archaeological remains of feasts within the works. Seeman's essay has two strengths that remain relevant, today. First, it summarizes the characteristics of a large number of archaeological deposits of animal bones and one cache of hickory nuts within 17 Ohio Hopewell mound or earthwork–mound sites. The cited cases include several kinds of depositional contexts that, unfortunately, vary in their relevance as evidence of meals and feasting: submound charnel house floors scattered with largely unbroken bone, a submound charnel house floor scattered with minute pieces of broken animal bone, refuse pits originating within submound charnel house floors and within a cemetery area, a cache pit originating within a submound charnel house floor, refuse pits outside of charnel houses, a midden adjacent to the possible craft workshops at Seip, mound strata including both ash beds and general fill, postmold fill, and embankment fill. However, the general picture emerges that: (1) considerable amounts of animal products were processed and consumed at most Ohio earthwork–mound complexes, both within and outside of the charnel houses; and (2) to extend Seeman's inferences, the amounts of animal products processed varied widely by the occasion, pointing to gatherings of varying size and/or duration. The quantities of animal bones in some deposits numerically exceed those reported for the McGraw site—the one apparent Scioto Hopewell homestead having preserved fauna (Parmalee 1965:117). Other faunal deposits are much smaller.

Complementary reports summarized by Griffin (1996), as well as cases presented by Greber (1997:214) and J. A. Brown (1982:9–10), support this picture. Griffin enumerated locations of large and small areal scatters of lithic and

ceramic debris that might represent midden deposits within and surrounding earthwork–mound complexes, as well as debris within mound fill that may have derived from such areas. Greber estimated that the amount of midden redeposited in the large mound at the Seip works was 15–20 times that of the midden excavated at McGraw. Brown reported a rich sheet midden under a part of the embankment at Mound City and refuse elsewhere at the site.[4]

Finally, more precise activity reconstruction is possible following Seeman's (1979b:40) report that the faunal assemblage excavated by Baby and Brown (1966) from Mound 13, the embankment adjacent to Mound 10, and other locations at Mound City had an unexpected preponderance of deer rib fragments relative to other elements. This fact suggests meals and/or funerary offerings comprised of choice cuts of meat (Brown and Baby 1966:appendix II).

The possibility that feasting occurred outside and nearby the earthworks, as opposed to just inside them, was not considered by Seeman. However, this possibility is not out of accord with certain observations of "village site debris" adjacent to some earthworks (e.g., Turner, in Griffin 1996). In addition, it appears that some small sites outside of the earthworks possibly were used as locations for ritual activities and artifact manufacture, in preparation for mortuary activites within the earthworks (Burks and Pederson 1999; Burks et al. 2002; Coughlin and Seeman 1997:237–238; Geber 1995; Ruby 1996, 1997:2).

The second strength of Seeman's essay is its summary of the many functions of charnel houses described in ethnographic literature for historic Native Americans of the southeastern United States. These uses include: as a display and burial place for commoners and/or high-ranking individuals; as a structure for processing the dead for burial there or elsewhere; as a place for connecting with the deceased through food offerings; as a general location for having a feast in honor of the defleshing of the deceased; as a storage place for important ritual objects, weapons, and war trophies; and/or as the location of the sacred fire of the community (see also J. A. Brown 1979:212). This list provides

a suite of hypotheses about how Ohio Hopewell charnel houses might have been used and about the various functions and sizes of gatherings that may have been associated with them. However, the analogy warrants caution, because the simple to complex chiefdoms in the southeastern United States are distant from Ohio Hopewell societies in time, space, and social complexity.

Seeman interpreted the faunal and floral depositional data he assembled as evidence for chiefly regulated redistribution of limited meat resources through feasting—a now unpopular view in light of recent trends to see Ohio Hopewell social organization as less hierarchical and less centralized (Carr and Case, Chapter 5; Carr, Chapter 7; Braun 1979, 1986; Ford 1974; B. D. Smith 1986). However, his ideas about feasts within the earthwork–mound centers and their ties to mortuary rituals can easily be worked out within the context of socially simple ethnographic analogs: in particular, the "Feasts of the Dead" of the Algonkian tribes, the Huron, and other Iroquoian tribes in southern Ontario.

FEAST OF THE DEAD

The protohistoric and historic Huron Feast of the Dead (Heidenreich 1978:374–375; Trigger 1969:106–112) and its historic Algonkian version (Hickerson 1960) provide yet another model for the nature of gatherings within Ohio Hopewell earthwork–mound complexes. The analogy has been discussed informally by at least several Hopewell archaeologists and mentioned in passing in print as relevant to Hopewellian traditions across the Woodlands generally (Calender 1979:257), and to the Duck's Nest sector of the Pinson Mounds site, specifically (Mainfort 1986:46). The analogy has never been formalized, however. The strength of the analogy lies in its clarifying the form and function of Hopewell gatherings, with the recognition that the particular historical circumstances underlying Huron and Hopewellian gatherings were different.

The Huron Feast of the Dead was a ceremony held approximately once every 8 to 12 years, or apparently each time a large village changed locations in order to develop new

swidden horticultural plots. The Feast involved disintering all persons of that village and satellite villages who had died during this period, and reburying them in a large ossuary. Sometimes persons of neighboring villages who had wished to be reburied with friends, as well as the deceased of allied tribes and perhaps a few persons from tribes outside of the Huron confederacy, were also buried in the ossuaries. The numbers of people who gathered for the feasts was not reported. However, the largest ossuaries contained the bones of about 1,000 persons, and at one large feast, over 1,200 presents were given (Trigger 1969:107). These figures would suggest attendances of over 1,000 persons.

Importantly, the Huron Feast of the Dead involved seven or eight days of feasting, dancing, and game-playing for prizes before the reburial of the dead. During this time, kinship ties were renewed, and clan segments displayed their wealth in a socially acceptable manner. Feasting together and burying of the dead together helped to unite the Huron, who were spread over a territory of about two or three days' walk (20 × 35 miles)—about the size of Ross County, Ohio. The Huron who buried their dead together felt obliged to live in peace and support of each other because the bones and souls of their deceased relatives and ancestors were co-mingled and unified. The ceremony created a logic similar to, "We are allies always, because our ancestors in spirit are allies always."

The Algonkian Feast of the Dead (Hickerson 1960) was similar to the Huron counterpart from which it was derived and reworked. However, it was more of an intertribal, regional affair, having involved seven or eight distinct Algonkian-speaking peoples (e.g., the Saulteur, Nipissing, Achiligouan) between northern Lake Huron and eastern Lake Superior. In addition, members of more distant tribes with whom these Algonkians wished to establish trade relations were invited: the Memoninee, Dakota, Cree, and, perhaps, Ottawa. The feast was an annual event, with the role of host alternating among the Algonkian groups. The number of attendees ranged between 1,000 and 1,600, which required the host group to build a huge cabin for entertaining and perhaps lodging the guests. Guest houses similar

to a Plains camp circle may also have been constructed. It appears that only the host group reburied their dead in an ossuary. All attendees, however, participated in feasts, dances, displays of warrior agility, singing, contests for prizes, and gift-giving according to the strength of alliance. Intertribal marriages were encouraged to initiate and solidify alliances. The Algonkian version of the Feast of the Dead also involved a resurrection ceremony, when the name of an honored deceased chief was transferred to a son or important tribal member.

Certain but not all elements of this ethnographic analogy may be relevant to and help explain some features of Hopewellian ceremonial sites in Ohio, of the Mann site in Indiana, and of the Pinson Mound site in Tennessee. Relevant Huron and Algonkian elements include: (1) a dispersed social unit that required unification; (2) the combining of mortuary rituals with feasting that involved large numbers of persons and that afforded opportunities for the renewal and creation of intratribal kinship and marriage ties and intertribal alliances; (3) the large distances from which some participants came to celebrate; (4) the three-phase burial program that involved initial burial of corpses (in cemeteries) near their respective villages, followed by the exhumation and reburial of these corpses at a more distant, common community location (ossuary); (5) the synchronous transport of many bodily remains from dispersed residences within and outside of a community to the burial site; and (6) a mortuary rite specifically designed, through the burial together of the skeletons of ancestors of multiple communities, to encourage peace and alliance among communities.

Regarding the relevance of these elements, archaeological evidence for the Ohio Hopewell having had dispersed communities and for their having feasted during mortuary activities has been summarized above. The extralocal and/or extraregional distances from which some participants came to celebrate within Scioto and Mann-phase Hopewellian earthworks are documented respectively in Chapter 14 by Weets et al. and in Chapter 15 by Ruby and Shriner. The latter study concludes that persons as far away as the Appalachian Piedmont of Georgia and/or the Gulf

Coastal Plain participated in ceremonies at the Mann site, Indiana. The remaining three elements require greater explanation.

The Huron and Algonkian three-phase mortuary program, with synchronous transport of corpses to a final burial place, is best understood in the context of Turner's (1969) and van Gennep's (1960) concepts of rites of passage. In their views, rites of passage of a person from one social status to another (e.g., a member of the living to a member of the dead in an afterlife) is a process rather than an event, and involves a sequence of rites of "separation," rites of "liminality," and rites of "reincorporation." In the Huron case, a first funeral was held for the deceased at his or her village and village cemetery, constituting a rite of separation. The deceased remained in a liminal period while stored as a burial in the cemetery. During this time, the body soul of the deceased remained with the corpse, while the free soul of the deceased wandered in misery and caused mischief, unable to proceed to the Land of the Dead. The Feast of the Dead, with the exhumation of, caring for, and ossuary burial of the bones of the deceased, constituted a rite of reincorporation. With ossuary burial, the free soul of the deceased was able to pass on to the Land of the Dead, west of Huronia, and join the free souls of other deceased persons. Reincorporation involved all liminal, deceased persons from a community at one time, simultaneously, as well as some members of other communities. The body soul of the deceased person remained with the body in the ossuary, co-mingled with the body souls of others, just as the bones were co-mingled. This joining of souls provided the spiritual basis for creating and maintaining alliances among the Huron communities and others.

In the Ohio Hopewell case, at least some persons were processed through a three-phase burial program of the sort generalized by van Gennep and Turner and, thus, paralleling the Huron and Algonkian pattern. The process began with the burial of the deceased under a primary mound or within a log tomb in cremated or intact form, within a charnel house. This constituted a rite of separation. This rite must have been held at least in part within the charnel house, but may have been staged as well outside the charnel house, within the earthwork complex. Few to many living persons could have been involved in the rite of separation, either within or outside the charnel house. Some charnel houses, like those under the Tremper, Seip–Pricer, Seip–Conjoined, and Edwin Harness mounds, were very large and could have accommodated many persons. Next, the remains of the deceased lay in storage within the charnel house for an unspecified period of time, defining a liminal period. In the case of burial within a log tomb, the tomb may have been opened periodically to add offerings. Remains of other deceased persons from the community in which the burial ground was situated, and sometimes from closely neighboring, allied communities (Carr, Chapter 7; Weets et al., chapter 14), were added to the assemblage within the charnel house as new deaths occurred. Finally, all of these liminal, deceased persons were simultaneously given a rite of reincorporation. This was achieved through the dismantling and/or burning of the charnel house and the building of a large mound over all of the individual primary mounds. It is conceivable that additional community members who were bundled or cremated and stored elsewhere, and bundled or cremated members of neighboring communities or distant societies with whom alliances were being maintained or sought, were brought into the community's charnel house before its dismantling or burning and included in the rite of reincorporation. It is possible that building one mound over all of these many individuals served to tie them together spiritually, much as did the Huron process of burying many individuals together within one ossuary. This could have facilitated stable alliances and peace among the descendants of the deceased from various social groups within the community, from other communities, and perhaps from far-off societies.

Three-staged burial programs of this kind are evidenced in several Ohio Hopewell mounds. These include: the Tremper, Seip–Pricer, Seip–Conjoined, Edwin Harness, Hopewell 25, and Ater mounds and multiple mounds at Mound City (J. A. Brown 1979; Greber 1979a,1979b, 1997:215; Greber and Ruhl 1983:41, Mills 1907b, 1909, 1916, 1922; Shetrone 1926; Shetrone and Greenman 1931).

Evidence for the fifth element of the Feast of the Dead—the synchronous transport of many bodily remains from remote areas to the charnel house—is mixed. Some mounds, like Seip–Pricer, Seip–Conjoined, Ater, those at Mound City, and Edwin Harness, contain largely or only cremations. Logically, these could represent any combination of three possibilities: (1) corpses of newly deceased persons that were dismembered and cremated in-the-flesh within crematory basins at these sites; (2) bundle burials that were brought to the ceremonial centers over a period of time or synchronously for cremation within the charnel houses; and/or (3) cremations that were brought over a period of time or synchronously for deposit in the charnel houses. Available contextual and osteological information does not allow a sorting-out of these options. J. A. Brown (1979:213) reminds us that Mills (1922:562) found pieces of cremation basins in a few cremations that had been laid to rest elsewhere at Mound City. This could have resulted from in-the-flesh cremation within crematory basins at Mound City or the cremation there of bundle burials (possibility 1 or 2, above). Baby (1954) examined 128 cremations from Seip, Ater, Mound City, and Edwin Harness. Correspondences between burning patterns in the osteological assemblage and an experimentally cremated cadaver led him to conclude that most cremations were a product of in-the-flesh dismemberment and burning rather than the burning of dry bones of a bundle burial. This result would accord with in-the-flesh cremation within cremation basins at the sites or the bringing-in of cremations from elsewhere to the sites for final deposition (possibility 1 or 3, above). At the same time, Baby (1954:1–2) noted that almost a third ($n = 40$ of 128) of the cremations were composed of only fragments of skulls and long bones and that ribs were absent from most of the cremations. This may indicate the selection of body parts for cremation, the selection of cremated body parts for final disposition, or the bringing-in of cremations from elsewhere to the sites for final disposal (possibility 1 or 3, above). An additional relevant piece of evidence is that most of the cremations in the Seip–Pricer, Seip–Conjoined, Ater, and Edwin Harness mounds, and those at Mound City, were laid to rest in features or on surfaces other than crematory basins, and do not indicate whether they were processed at these ceremonial centers. Finally, bundle burials were found at several Scioto Hopewell mortuary sites. These offer no clue as to whether they represent corpses defleshed at the sites or corpses processed elsewhere and brought to the sites for final disposition as bundle burials. In sum, current archaeological evidence leaves open the possibility that up to many cremations and some bundle burials from neighboring communities and distant societies were transported to Scioto Hopewell charnel houses for secondary burial, as in the Huron and Algonkian Feasts of the Dead.[5]

The exceptions to this possibility are Hopewell Mounds 25 and 23, which contain largely inhumations. These cemeteries suggest a more gradual accumulation of bodies within the charnel structures at different times of death and prior to final mound building. Radiocarbon and other chronometric assays from Mound 25 floor contexts (Carr, Chapter 7; Greber 2003) reinforce but do not clinch this view. This slow accumulation is not in line with the Huron and Algonkian Feasts of the Dead model of synchronous, final burial.

The sixth element of the Huron and Algonkian Feasts of the Dead that has relevance in explaining the Scioto Hopewell archaeological record is the burial together of skeletons of ancestors from different communities in order to facilitate alliances among them. Chapter 7, by Carr, presents many lines of evidence that the major clusters of burials under each of the Seip–Pricer, Seip–Conjoined, Edwin Harness, Hopewell 25, and Ater mounds represent portions of communities who buried their dead together in order to create and maintain alliances among the communities. Three communities were defined: one in main Paint Creek valley, one in its North Fork, and one in adjacent portions of the Scioto valley. The accumulation of human remains from these communities under these mounds may have been a slow process, over years and decades, unlike the Feast of the Dead, or a quick event, similar to the Feast of the Dead. In either case, the final dismantling and/or burning of each charnel house and the building of a mound over all of

the dead from all of the communities could have been done in the course of days, like the act of secondary burial in the Feast of the Dead.

The most convincing case of an Ohio Hopewellian center that might indicate a ceremony similar to the historic Feast of the Dead is the Tremper mound (Weets et al., Chapter 14), early in the Ohio Hopewell cultural sequence. There, approximately 280 cremations were laid to rest together, co-mingled in a single depository, and another 95 cremations were placed in three other depositories, much as bones and cremated remains of persons were mixed together in a single pit in the historic Feasts of the Dead. In addition, nearly all of the ceremonial artifacts found at the site, totaling about 500 items and including 136 smoking pipes, were placed together in a ceremonial deposit near the large deposit of cremations, reiterating the theme of burial of human remains together. Chemical sourcing and stylistic data indicate that the pipes were manufactured by multiple social groups, some from significant distances from Tremper and probably representing multiple, distinct communities. In all, the archaeological remains indicate the assembly of several hundreds of individuals, the exact number depending on the number of mourners per deceased and the duration over which cremated remains were accumulated. Gatherings approaching the size of the historic Feasts of the Dead (1,000 to 1,600 persons) seem unlikely.

Later Ohio Hopewell charnel houses, including Hopewell Mound 25, Seip–Pricer, Edwin Harness, and Seip–Conjoined, do not exhibit the co-mingling of cremations and appear to have fewer deceased within their walls. In Chapter 13, by Carr et al., these differences are attributed to changes in alliance strategies over time: from economic and social relations among individual agents to economic, social, and political activities funneled through leaders. Earlier in time, social integration among groups within a community and among communities was achieved by co-mingling the remains of many individuals who, in total (and no few of which), represented those groups or communities. Later in time, integration among these social units was accomplished by gift-giving among leaders, cooperative and/or competitive gift giving to the

deceased by leaders, and joint burial of leaders as representatives of multiple intracommunity groups and multiple communities. These alliance mechanisms produced smaller burial populations without an emphasis on co-mingling the deceased.

Farther afield, the burial together of skeletons of people from multiple communities appears to be evidenced at the Duck's Nest Sector of the Pinson Mounds site, in western Tennessee. There, a 20+ centimeter thick midden at least 100 square meters in area was found to have been liberally dispersed with calcined bone inferred to be human cremations, sandstone which was used primarily with crematory basins at the site, broken bifaces thought to have been used in mortuary tasks, and broken, local and foreign ceramic vessels that might have been funerary offerings and/or used to transport cremated remains to the site. The foreign vessels had decorative styles and technologies produced in the Marksville region of Mississippi, the Porter region of Alabama (lower Tombigbee river), the Swift Creek area of northern Florida, as well as the Tennessee valley and western and eastern Tennessee (Mainfort 1986:31, 35, 46; 1988:167–168). Mainfort (1986:46, 82; 1988:167; see also Stoltman and Mainfort 2002: 11, 16) interpreted the deposit to represent the ceremonial co-mingling of cremations of persons and pottery from these distant geographic regions, and the result of a single ceremony. A similar but smaller and secondary ceremonial deposit with numerous fragments of calcined bone, ash, and stylistically diverse ceramic vessels was found at the moderately close, Middle Woodland site of Helena Crossing, Arkansas (Pottery Deposit 6, Mound C; Ford 1963:33–38; Mainfort 1988:46). Vessels from near the mouth of the Mississippi river, the southern Lower Mississippi Valley province, the Apalachicola area of Florida, perhaps the St. Johns area of Florida, and perhaps Minnesota, along with several varieties of more local, Marksville ceramics, occurred in the deposit.

A precursor to Hopewellian cases of burying the deceased from multiple, neighboring communities and more distant societies together in one cemetery is possibly found in northern Ohio in the southwestern Lake Erie basin during

the Late Archaic through the Early Woodland. The Williams Cemetery on the lower Maumee river near Toledo, Ohio contained 20 mass burial pits with between 656 and about 1000 individuals in total, and one to 100 individuals per pit. The great majority of the individuals had been cremated within the flesh elsewhere (no in situ burning) or bundled. This excavated record constituted only one quarter of the site, so the full number of individuals interred at the site could total a couple thousand or more. Six of the burial pits had between two and four discrete layers of burials within them separated by thin layers of fine river sand, representing different social units but not likely different episodes of burial. Immediately across the river, the Sidecut Crematory site with its several clusters of burned limestone slabs and calcined bone fragments probably served as the place of cremation of some of the deceased buried at the Williams Cemetery (Stothers and Abel 1993:63). The two-site, massive and regionally unique mortuary complex has been interpreted by a number of archaeologists (references in Stothers and Abel 1993:73) as an interaction center where autonomous, dispersed local bands from the entire western Lake Erie basin, for some seven centuries (ca. 1125–360 B.C.), periodically gathered together as one or more coherent, regional bands to bury their dead, exchange gifts, trade, feast, and reaffirm their social ties. The interpretation makes good sense in light of domestic settlement patterns in the basin: no large habitation site that singly might have produced the Williams-Sidecut mortuary complex is known from its locale or the wider, western Lake Erie basin; only small base camps, each of several households that probably comprised a local band, and nuclear family hunting and collecting camps have been recorded (Stothers and Abel 1993:50–64). In addition, two small cemeteries (Hickory Island No. 2 and Marblehead) had mass burial pits with 3 to 32 cremated or bundled individuals, like the individual pits at Williams, and can be interpreted as the cemeteries of local bands of the kinds that gathered at Williams (Stothers and Abel, pp. 73, 75).

In all, the evidence from the Williams-Sidecut mortuary complex, Tremper mound, Pinson mounds, and Helena Crossing suggest a great time depth to regional-scale mortuary ceremonies and alliance-building strategies similar to the historic Huron and Algonkian Feasts of the Dead in the Eastern Woodlands. Lineal relationships of continuity in these practices, however cannot yet be demonstrated.[6]

GREBER'S IDEAS

A final model that addresses the topic of gatherings within earthwork–mound complexes has been offered by Greber (1996). She defined several kinds of deposits that recur in several major earthwork–mound complexes, or that are unique. She related the varying sizes, contents, and locations of the several types to different kinds of hypothetical rituals that had varying functions, that involved varying numbers of people, and that occurred at different frequencies or periodicities within a grand ritual cycle conjectured by her to have lasted two or three human generations. Greber's work provides substance to the more general models of B. Smith, DeBoer, Pacheco, and Seeman (above), who also each conclude or imply that multiple kinds of activities, involving social gatherings of varing sizes, took place within the earthwork–mound complexes.

The types of deposits defined by Greber, and the size and nature of gatherings thought to be associated with them, are as follows.

(1) On the prepared floors within charnel houses and/or below mounds occurred thin, spatially restricted deposits comprised of burned materials and ash from small, nearby fires. The deposits contained animal bones, fragments of pottery, broken lithic tools, pieces of mica, and/or minor personal ornaments like beads, and seem to have lacked copper items. Greber concluded that the deposits represent events carried out by a small number of persons. To this interpretation can be added that the location of some of these deposits specifically within charnel houses (e.g., at Edwin Harness and Seip–Pricer mounds), and their multiple, spatially separated occurrences, suggests the possibility of periodic rituals performed for various subsets of the dead, or all of the dead, in the charnel house, who were buried under small mounds or stored in some manner

and who awaited final burial. These rituals might be interpreted as rites within the "liminal period" of a multistaged disposal process that was begun with a rite of "separation" (initial manipulation and/or burial of the body) and ended with a rite of "reincorporation" (destroying of the charnel house and burying all persons within the charnel house under a large mound) (Turner 1969; van Gennep 1960), as suggested above.

(2) On the prepared floors within charnel houses and/or below mounds also occurred pits filled with burned materials similar to the Type 1 deposits, above. These, too, seem to represent sweepings from a floor-level fire and could be interpreted like the Type 1 deposits.

(3) Other pits and/or reused postholes on prepared floors were filled with stones, river sand, apparently a dismantled clay basin, charcoal from a variety of woods, or stratified deposits of light and dark charcoal and ash. Greber (1996:158) lumped these features typologically with Type 2 deposits and holds that, because these are diverse in content and represent a range of activities, they imply a larger gathering than type 1 deposits. This interpretation seems to reflect her typological lumping more than what each specific deposit seems to imply about the size of gatherings. Each of the features she described could represent small rites within the "liminal period" of a multistage, ritual process.

(4) Greber's grouping of deposits that lie above the floor and within the mound have only their location in common. They range greatly in content and magnitude, from the Copper Deposit of more than 100 copper pieces at Hopewell Mound 25 to the 9 pipes in the small cache at Tremper, to a simple basin with one pipe fragment at Edwin Harness. Greber concluded that these deposits overall represent the "pageantry" of ritual gatherings larger than those implied by the subfloor pits. However, it is preferable to assess the content of each of these deposit individually, as below, and to suggest that they probably reflect gatherings of many different sizes and functions.

(5) Deposits found within or adjacent to a clay basin constitute Greber's fifth type. Almost all of the large deposits of items found within Ohio Hopewell earthwork–mound complexes have this context. Some of these large deposits, such as the approximately 200 pipes buried under Mound 8 at Mound City and the 8,000 chert bifaces under Mound 2 at the Hopewell site, could represent the offerings of a large gathering of persons. Other large deposits, by their nature, might represent only a few persons. For example, obsidian could have been quite restricted in the persons who were allowed to work it, and the approximately 300-pound obsidian deposit under Mound 11 at the Hopewell site could have been made by only a few individuals. Moreover, much smaller deposits also occur within or adjacent to basins, and these probably were generated by small gatherings. Again, Greber's approach to typology smooths over significant variation in the sizes of deposits and gatherings.

(6) Pairs of clay basins with complementary, contrasting soil fills or artifact contents are Greber's last type. Some of these basins lack artifacts, as is the case for at least four pairs under Mounds 5, 7, and 9 at the Turner site. One pair at Turner and two pairs at Hopewell have large numbers of artifacts or specific animal bone elements. Greber interpreted all of these paired deposits as representing the most major of Hopewell celebrations, which involved all members of a dispersed community and probably visitors. However, archaeological evidence for large aggregations is limited to only the one pair at Turner and the two at Hopewell. Greber claimed that the celebrations marked by paired basins were the ends of cycles that lasted two or three generations. It is unclear how she reached this conclusion from the empirical evidence presented.

In short, Greber's model is the most sophisticated offered to date for estimating the size of gatherings at Ohio Hopewell earthwork–mound complexes. At the same time, her analysis ran into difficulties in several ways: most of the types of deposits she defined do not form homogeneous classes, her typological approach tends to mask and simplify variation in the nature of deposits and the group sizes represented by them, and her assignments of group sizes to deposits of the same nature are sometimes inconsistent. The quantitative approach taken by Carr et al.

(Chapter 13) to estimate the sizes of gatherings is designed to overcome some of these difficulties.

HALL AND ROMAIN ON WORLD RENEWAL CEREMONIES

The likelihood that Hopewell mortuary ceremonies were intertwined with world renewal ceremonies was brought to the attention of archaeologists by Robert Hall (1979:259–261). Hall reviewed archaeological evidence from Illinois, Michigan, and Wisconsin and found a strong pattern for the puddling of marsh soils, marls, bottom clays, or blue or green spring clays on corpses within Hopewell mounds, or the periodic layering of these materials as a mound was built up. Following the lead of others, he suggested that these ceremonial rites might reference and be a part of a reenactment of the Earth Diver creation myth, which is common in the Northeastern Woodlands. In this myth, one creature or another dives to the bottom of the primordial ocean and eventually is successful in bringing up a small bit of earth. From this earth magically grows the land (or island) of the North American continent. This interpretation was thought by Hall to be supported by another Illinois, Michigan, and Ohio Hopewell practice—the temporary covering of a corpse with a hide or fabric that was held in place by four bone skewers, commonly deer metapodials. Hall related this practice, too, to creation mythology—in particular, the Winnebago belief that when the earth was first formed, it would not stop moving, until Earthmaker pierced the earth at each of its four corners with four large snakes or water spirits and secured them with four Island Anchors or Island Weights. Hall went on to note that initiation rituals for boys around the world often involve a reenactment of the myth of creation, as sacred lore is revealed. Thus, initiation rites as well as world renewal rites may have been intertwined in Hopewell mortuary ceremonialism. Hall (1979) closed the link among these three ceremonial themes by noting that "reenactment of creation for the purpose of initiation rites often calls for a symbolic return to the condition of chaos that prevailed before creation—the extinguishing of fires, the reversal of habitual behavior, *the return of the dead*—followed by the reinstatement of the proper condition of things..." (Hall, p. 261; italics added). In sum, some gatherings at Hopewell ceremonial centers may have occurred to renew the world and/or to initiate youngsters to adulthood, and these may have been integrated within mortuary ceremonies. The mortuary record, therefore, may bear on gatherings that were larger in purpose than simply caring for the dead.

It is possible that Hall's reconstruction is applicable to Ohio as well. The Seip–Pricer, Seip–Conjoined, and Edwin Harness mounds were each built initially with culturally sterile soil capped by gravel (Greber 1979b:28, 32), which has a water association, having come from the stream bottoms. At Seip–Pricer, this symbolic stratigraphy was replayed with a secondary cap of heavy clay soil followed by dark-brown midden and a gravel retaining wall (Shetrone and Greenman 1931:356–359). At Harness, the symbolism was repeated with a secondary cap of gravelly soil, a layer of course gravels, and a retaining wall of large, flat pieces of sandstone (Greber 1979b:28; Mills 1907b:122, 132). These repetitions have been interpreted by Greber (1997:219) as two parts of a calendric cycle, although a simple periodic rite of world renewal would also explain the data.

Others have elaborated on Hall's interpretations. Romain (2000:167–197) has argued from multiple perspectives that the squares of Ohio Hopewell earthworks represented the sky or Upper World and that circles represented the earth or This World. Romain found that many historic Native Americans across the Northeast and Southeast symbolized the earth with the circle. Most significant to earth renewal ceremonialism is the historic Iroquoian belief that the earth was created when mud was spread on the approximately circular back of a turtle, which floated in a vast sea. In this symbolism, the circular walls of earthworks marked the boundary between the Earth Island/Turtle and the primordial sea, and burial mounds at the centers of some circular works (e.g., Seip, Liberty, Circleville, Marrietta,

Portsmouth) represented the bit of primal mud that had been brought up from the sea's bottom and made into land. Romain goes on to speculate that when the Scioto River flooded and covered earthworks, the first land to reappear would have been the central burial mounds and circles—a visual metaphor for the recreation of the Earth Island from a bit of primordial mud. Romain notes that 9 of 12 geometrically shaped earthworks in Ross County, Ohio, would have been inundated by flood waters periodically, based on historically known flood levels. By extension of these ideas, we would conclude that Scioto Hopewell earthworks would have been ideal locations for gatherings to celebrate world renewal.

Buikstra and Charles (1999:214–215, 2000) have interpreted the morphology of Havana Hopewellian mounds, with their elevated ramps and sunken central tombs, as stages that represented a three-layered cosmos of Upper World, This World, and Lower World. Mortuary rites that moved the dead over ramps and into central tombs are seen as having emphasized this cosmic order and celebrated and recreated it . This ceremonialism is thought to have been especially significant in flood plain mound complexes, which archaeological evidence suggests were locations of large, multicommunity gatherings. Significantly, at least one flood plain mound—Mound House, Mound 1—stood alone as an island in water like the re-created world when the Illinois River flooded historically, before being canalized (Buikstra et al. 1998:iv, 16).

SUMMARY

The models and evidence that have been described above point to the conclusion that Ohio Hopewell earthwork–mound complexes were probably the locations of gatherings that were diverse in their sizes and functions. Small numbers of ritual specialists and/or kin may have come together to cremate, offer grave goods, and/or bury a newly deceased within a charnel house as a rite of separation; to perform periodic, liminal-stage rites of passage or rites of ancestor worship; and/or to manufacture ceremonial items. Seasonal, annual, or longer-cycle liminal-stage

rites could also have occurred and involved larger social segments or the whole of a community or multiple communities. Final rites of reincorporation, which involved the destruction of a charnel house and the building of a mound over it, and which would have occurred more rarely (once every one to three generations?), probably included all of a dispersed community and/or the multiple communities buried within a charnel house, possibly along with other visitors. This would naturally have been a time for feasting, dancing, playing games, renewing and creating kinship and marriage ties, creating intracommunity and intercommunity alliances, displaying group wealth, and/or exchanging goods and ceremonial prerogatives. Subsequent acts of capping a mound with more earth and/or placing a cache on it (e.g., the upper pipe cache in Tremper mound, the Copper Deposit in Hopewell Mound 25) could have been an integral part of a multistage rite of reincorporation that began with the first episode of mound building, or an example of periodic ancestor worship. Capping a mound, and building and maintaining other earthwork features and charnel houses, could have involved the whole of a community or multiple communities, or major social segments of them. Again, these times of gathering could have involved feasting and other nonmortuary forms of celebration and relationship. Any of the mortuary ceremonies that involved rites of reincorporation or ancestor worship on a large scale could have had world renewal rites and group (age-set) initiation rites intertwined with them.

THE CHAPTERS THAT FOLLOW

Previous studies of Ohio Hopewell ritual gatherings, as summarized in this chapter, form a rich foundation of ideas and methods. The three remaining chapters in this part of the book extend some of these concepts and approaches to explore the topic of ritual gatherings in greater detail. New directions are also taken.

In Chapter 13, Carr et al. follow Greber's lead in using the sizes and contents of deposits within mounds to estimate the sizes and social compositions of gatherings. The authors extend the approach by considering burial assemblages

in addition to ceremonial deposits, by making quantitative estimates of the numbers of persons who gave artifactual gifts at ceremonies rather than qualitative assessments of the sizes of gatherings, and by focusing on continuous variation in the size and nature of deposits across sites and over time, in addition to developing a typology of deposits and inferred gatherings. The authors also use a much larger corpus of deposits, including 403 buried individuals and 55 ceremonial deposits from 22 large and small sites. The authors' quantitative approach allows many key inferences: that most ceremonial gatherings were very small; that major intercommunity and intracommunity, cooperative and/or competitive displays were not a regular aspect of Ohio Hopewellian ceremonial life, yearly or every few years; that even the largest gatherings were much smaller (about two or three times smaller) than the historic Huron and Algonkian Feasts of the Dead; that gatherings shifted in size and composition over time in accord with how, cross-culturally, intercommunity alliances tend to develop in societies of middle-range complexity; and that changes in the social compositions of gatherings over time were in line with certain anthropological theories of the religious, specifically shamanic, basis for the rise of supralocal leadership positions. Regarding the last two points, earlier gatherings were comparatively small and were dominated by gift-giving by ordinary persons who apparently built their alliances as dyads of individual agents through primarily economic means, perhaps often outside the context of ceremonial centers. Later, the sizes of gatherings grew and gift-giving became dominated by leaders, indicating more intense alliance building efforts, which were consolidated and made efficient in the hands of leaders through ritualized cooperative and/or competitive displays. Eventually, these displays among leaders waned as religious mechanisms of alliance were perfected—specifically the burial of persons from multiple communities in a shared cemetery. At the end of the Middle Woodland period, a breakdown of alliances in the Scioto valley is evidenced by a return to smaller gatherings focused on gift-giving among commoners more so than among leaders. Throughout this sequence, the proportion of leaders who gave gifts and were shamanic in nature steadily decreased, and the proportion of nonshamanic leaders increased, marking the decline of idiosyncratic shamanic leadership styles and the rise of more institutionalized forms of leadership.

Chapter 14, by Weets et al., examines ritual gatherings at the beginning of this developmental sequence, as evidenced at the Tremper site in the Scioto valley. The authors use chemical sourcing data from pipes, the layout of the cemetery, the species and kinds of faunal remains deposited in the cemetery, estimates of the number of deceased buried at the site, and artifactual estimates of the numbers of gift-givers represented at mortuary ceremonies. In combination, these pieces of evidence suggest that probably four social groups, who had access to chemically distinctive forms of pipestone, assembled at Tremper to cremate their dead. The four groups probably were clans who identified themselves with different animal species (see Thomas et al., Chapter 8), and in turn were composed of 12 lineages, cognatic groups, or communities, and were organized into two phratries, dual divisions, or moieties, to judge by the cemetery layout of crematories and combined deposits of cremations. In total, the evidence weighs toward the interpretation that the mortuary gathering(s) at Tremper was closely analogous to the historic Algonkian and Huron Feasts of the Dead. It appears that multiple communities on a regional scale assembled at Tremper, cremated and memorialized their dead, and forged spiritual and material alliances by co-mingling the cremation remains of their kin and by depositing together their ceremonial paraphernalia used at the site. The large set of smoking pipes decommissioned and placed together in one deposit at Tremper indicates alliance making through dyads of ordinary persons as individual agents, in contrast to alliance making at later Scioto Hopewell ceremonial centers, which was much more centralized through community-wide and smaller-scale leaders, as reconstructed in Chapter 13. In this interpretation, and given the chronometrically and stylistically determined early date of Tremper, the site would mark the first large and archaeologically known ceremonial center in the

Scioto valley where multiple communities gathered on a regional scale, and a disjunction from earlier Adena burial mounds and ritual enclosures, which probably were built by one or a few adjacent, small, local residential groups to bury their own kin, to reaffirm intragroup ties, and perhaps to renew relationships with close neighbors.

Chapter 15, by Ruby and Shriner, shifts attention to gatherings that occurred later in the Middle Woodland period, at the Mann site, Indiana. The authors used petrography, x-ray diffraction, and scanning electron microscopy to characterize the compositions of sherds of several styles at Mann and the natural clays around the site in order to determine which pots were manufactured locally and which were not. Assays show that complicated stamped pottery from Mann, which has paddle-impressed surface designs very similar to Early Swift Creek ceramics most common in the Georgia Piedmont and Gulf Coastal Plain, were not manufactured there but, instead, at the Mann site from local clays. In addition, pots with the Georgian designs comprise a very significant proportion of the Mann ceramic assemblage—over half of all decorated pots there. On these bases, the authors suggest that Swift Creek Hopewellian peoples came from their distant homeland to attend ritual gatherings hosted at the Mann site and, considering the large number of Swift Creek vessels, cemented their relationships with the Mann community through intermarriage and/or adoption. Swift Creek peoples may have continued to reside at the site and produce pottery of their styles there, and their styles may have spread through the community. The ceramic data can also be explained, however, if Mann phase potters traveled to the Swift Creek region, bought rights there to manufacture Swift Creek designs and to perform the ceremonies in which Swift Creek pots may have been involved, and made such pots and performances back at the Mann site as a demonstration of the esoteric knowledge they had acquired and to gain prestige and/or leadership—to follow the logic of Helms (1988) and Penney (1988). Then, local Mann phase people more widely would have been brought into the ceremonial and ceramic-manufacturing, following the ethnographic example of Wiessner (1998, 1999). Pottery with boughten Swift Creek designs might also have been helpful in building at Mann a social context that would have been understandable and predictable for Swift Creek visitors there and would have encouraged their regular visitation. The first interpretation, and possibly the second, would imply ritual gatherings at Mann that involved geographically, socially, and linguistically distant persons.

Contrasting with the locally manufactured Swift Creek pots at Mann are fine, simple-stamped vessels that, from the mineralogy of their tempers, were certainly imported from the Blue Ridge and southern Appalachian Summit provinces of eastern Tennessee and western North Carolina, and probably from the Connestee phase populations in the Appalachian Summit area. These vessels are four times less frequent than those with Swift Creek-like designs at Mann and suggest forms of interregional interaction different from those implied by the Swift Creek-like pots at Mann. Among the most convincing is long-distance travel by individuals from the Appalachian Summit to the Mann site in order to gain esoteric knowledge there and thus increase their prestige and/or validate claims on leadership at home. Connestee-like vessels, and perhaps their contents, would have been offered as gifts to their teachers at Mann, following the model of Helms (1976). The visitors might have participated in ritual gatherings there. Alternatively, members of the Mann community may have traveled to the Appalachian Summit for the same reasons and brought back vessels from there as tangible proof of their journeys and the knowledge they obtained. Thus, considering both the Swift Creek-like and the Connestee-like pots at Mann, it is possible that two different southeastern groups—from the Georgia Piedmont/Gulf Coastal Plain and from the Appalachian Summit—participated in ritual gatherings at the Mann site.

In Ohio Hopewellian ceremonial centers, where Connestee-like vessels are much rarer than at Mann, a more diverse array of mechanisms of interregional interaction is possible in Ruby and Shriner's view, including pilgrimage, long-distance travel to gain esoteric knowledge, and elite exchange. These mechanisms, and the rarity

of interaction between Hopewellian peoples in the Southeast and Ohio, have different implications for the nature of participation of Southeastern peoples in ritual gatherings in Ohio compared to those in Indiana.

The chapters in this part of this book clearly point to the diverse natures of Hopewellian ritual gatherings. They varied in their sizes, their social compositions, and the degrees to which very distant peoples possibly participated. These variations reflect, in part, differences in the purposes of rituals, such as mortuary ceremonies of separation, liminality, or reincorporation. They also reflect differences in the complexity of the cultural context of the rituals, such as earlier mortuary rituals in the Scioto valley among peoples who were creating alliances primarily through dyadic relationships among ordinary individuals versus later mortuary rituals among peoples who were creating alliances through centralized relationships among leaders. Finally, the nature of Hopewell ritual gatherings varied by regional tradition and the different kinds of interregional connections that different traditions had across the Woodlands. To homogenize this diversity within the context of any single theoretical framework, though perhaps useful ethnologically, would be to miss the cultural and historical richness of Hopewellian worlds.

NOTES

1. Information from Turner, Fort Ancient, and Stubbs within the Miami drainage currently suggests the possibility of a community pattern in which some Hopewellian peoples lived within earthwork–mound complexes, transitional to or similar to the pattern found in the neighboring Mann phase of the Wabash valley, Indiana, and distinct from the arguably largely "vacant" ceremonial centers in the Scioto valley. For example, Connolly (1992) and Cowan et al. (2001) have reported substantial structures, fire pits, limestone pavements, and midden deposits immediately east of the North Enclosure of Fort Ancient. Well-built structures, pits, and midden deposits have also been found outside the Stubbs earthwork (Cowan et al. 1998, 1999a, 1999b, 2001, 2002). Similarly, Willoughby and Hooton (1922) reported an extensive amounts of utilitarian debris at Turner, under the wall of the Great Embankment, within the space enclosed by this embankment, and within the burial mounds. The number of sherds recovered from Turner was large for excavation and collection priorities at the time—over 6,000 (Griffin 1996:6)—although this

still constitutes only about half of the sherd–count from the small, apparent homestead of McGraw.

2. This point was not understood by Dancey (1991:67; Dancey and Pacheco 1997a:6), who found Prufer's use of the term semi-permanent to be "confusing." Dancey unreasonably took the ephemeral remains at the Murphy site (e.g., 858 sherds, 1 hearth, 1 cylindrical pit, 3 shallow basins, and 9 earth ovens) to indicate about a century of occupation by a single household.

3. Middle Woodland platform mounds are found in Ohio in the Ginther mound and the Capitoleum and Quadranaou mounds of the Marietta earthworks (Shetrone 1925; Squire and Davis 1848:73–77); in Indiana in Mound 9 of the Mann site (Ruby 1997b); in Illinois in Mound 1 of the Mound House site (Buikstra and Charles 1999); in Tennessee in Mounds 5, 9, 10, 15, 28, and 29 at Pinson (Mainfort 1986) and at the Johnston site (Kwas and Mainfort 1986); in northeastern Mississippi at the Ingomar site (Rafferty 1983, 1987); in Alabama at the Walling site (Knight 1990b); in the Yazoo Basin at the Leist site (Phillips 1970:368–369); and in the Lower Mississippi Valley at the Marksville site (Toth 1974).

4. J. A. Brown (1982:9, 10) found a sheet midden under part of the embankment at Mound City and perhaps associated with an unmounded building of approximately the same size and subrectangular shape as the larger charnel houses at the site. The midden included pottery, lithics, mica waste, animal bone, fire-cracked rock, and broken-up crematory basins—debris from food preparation, craft production, and mortuary ritual. Piles of fire-cracked rock were also found near the upper charnel house of Mound 13. Considering all evidence, Brown (p. 14) concluded that the basic activity area unit at Mound City was the submound charnel house and its associated midden from mortuary and nonmortuary activities.

5. Most Ohio Hopewell charnel houses are not dated well enough to assess their duration of use and the relevance of the Huron Feast of the Dead model of synchronous burial from this perspective. The four radiocarbon dates from the charnel house under the Edwin Harness mound (Greber 1983:89, 91) and the three from Seip–Pricer (Greber 1983:92, 2000) could be used to argue for either extended or short-term use of these structures. The situation at Mound 25 of the Hopewell site is somewhat clearer (see below).

6. A hypothetical transition from a pre-Hopewellian mortuary complex like Williams-Sidecut, with its multiple mass burial pits, to a Hopewellian charnel house like that at the Tremper site, with its multiple rooms, mass cremation basins, and mass cremation depositories, would have been a small one in form and operation. Moreover, the two sites both are located in Ohio and differ in time by only two or three hundred years, making such developmental relationship logically possible. However, Adena burial practices, which were direct precursors to Scioto Hopewellian ones in many ways, do not seem to have involved the co-mingling of the dead from multiple communities in a single burial facility.

Chapter *13*

Estimating the Sizes and Social Compositions of Mortuary-Related Gatherings at Scioto Hopewell Earthwork–Mound Sites

CHRISTOPHER CARR, BEAU J. GOLDSTEIN, AND JAIMIN D. WEETS

The large, open spaces that are defined by Hopewellian earthen geometric enclosures in Ohio, the labor implied by their magnitude, and the hundreds of deceased persons who were buried in mounds within some earthen enclosures have each created images of past social and ceremonial gatherings in the imaginations of archaeologists, antiquarians, and the public. Hopewell mound sites also bring to mind images of burying and honoring the dead, as reasons for assembling. Yet, in actuality, little is known firmly about the sizes, social compositions, and range of purposes of such gatherings.

The goal of this chapter is to begin to grapple systematically and empirically with the demographic and social characteristics of the gatherings that occurred at Ohio Hopewell earthwork–mound complexes, mound groups, and isolated mounds and, in this way, to personalize the Ohio Hopewellian landscape. Five questions are addressed here. (1) How many persons attended mortuary gatherings at these centers, and how variable were these gatherings in size? (2) What were the social roles of those who attended

such gatherings, and which roles were more or less common? (3) Is there evidence for distinct kinds of ceremonies that were repeatedly performed (i.e., institutionalized), based on repetition in the sizes and compositions of gatherings? If so, which kinds of ceremonies were most and least common? (4) Did the sizes, compositions, and kinds of gatherings that occurred in Ohio vary between large earthwork–mound complexes and smaller mound groups or single mounds, which may have been functionally differentiated? (5) Did the size and composition of gatherings change over time? Whereas previous studies of Ohio Hopewell gatherings have attempted to determine the kinds of activities of those who gathered at the centers—mortuary ceremonies (J. A. Brown 1979; Greber 1996) and nonmortuary activities (DeBoer 1997; Riordon 1998; Seeman 1979b; B. D. Smith 1992)—very little consideration has been given to the specific sizes and social compositions of the gatherings (Seeman 1979b).

Personalizing the Ohio Hopewellian social landscape with estimates of the sizes and social

compositions of ritual gatherings and the roles of those who assembled is worthwhile in its own right, as thick, descriptive prehistory. However, such reconstructions can also provide a view into other aspects of the Ohio Hopewellian world: the degree to which mortuary ceremonies were harnessed for cooperative and/or competitive display and alliance building; shifts in alliance-building strategies through time; the spatial–ceremonial organization of Ohio Hopewellian communities, including functionally differentiated ceremonial centers; the population sizes of communities; and whether Ohio Hopewellian peoples followed a mortuary–ceremonial calendar, to name a few topics.

To answer these five listed questions, analyses are made of the artifacts found with 404 individuals in 375 graves and placed within 56 ceremonial deposits—all at 22 mound and/or earthwork sites (Figure 13.1). Both focused, contextually rich studies and broader, statistical analyses are made. The first half of this chapter models the possible sizes and compositions of only the largest ceremonial gatherings of Ohio
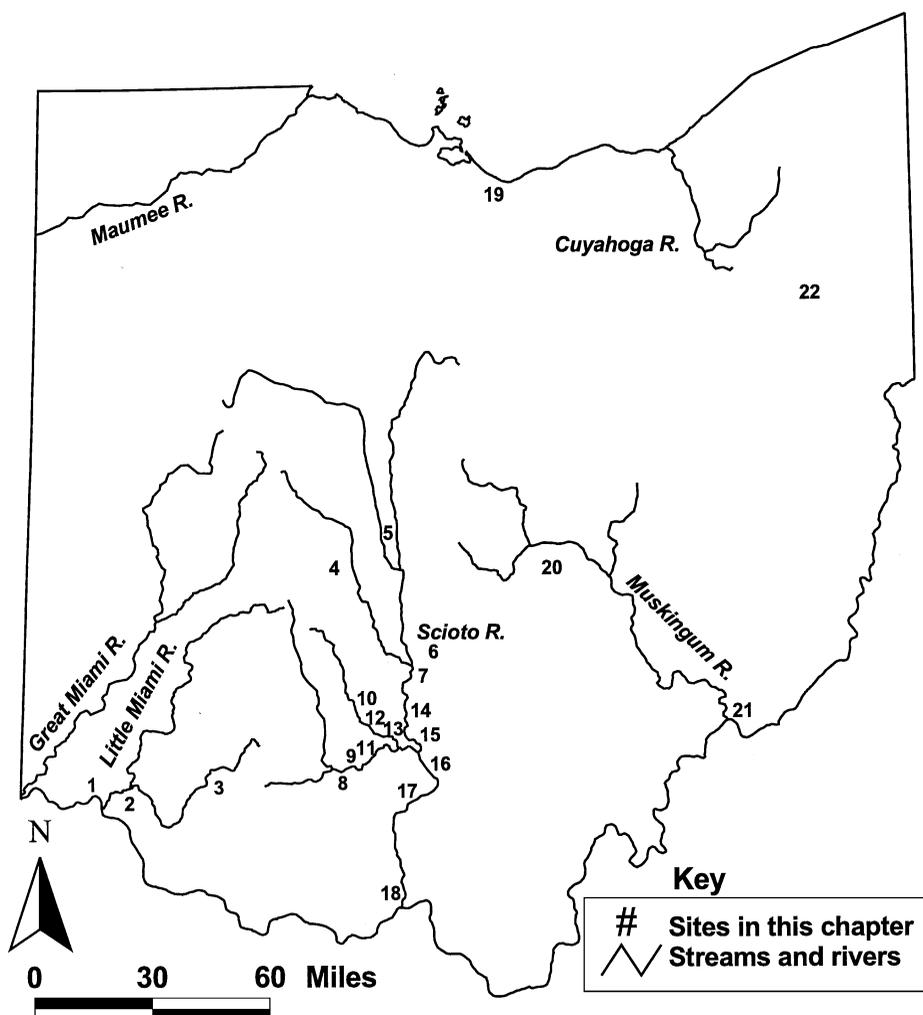
Figure 13.1. Archaeological sites with graves and ceremonial deposits used in this study: **(1)** West Mound, **(2)** Turner, **(3)** Boyle's Farm, **(4)** Rutledge, **(5)** Wright, **(6)** Snake Den, **(7)** Circleville, **(8)** Rockhold, **(9)** Seip, **(10)** Ater, **(11)** Bourneville, **(12)** Hopewell, **(13)** Mound City, **(14)** Ginther, **(15)** Shilder, **(16)** Liberty, **(17)** McKenzie, **(18)** Tremper, **(19)** Esch, **(20)** Hazlett, **(21)** Marietta, and **(22)** North Benton.

Hopewell peoples. Three approaches are used, the first two focused on gathering size and the third on gathering composition. The first approach is based on the numbers of persons buried in the largest mounds and earthworks and the numbers of relatives who might have come to mourn and honor each deceased person on average. The second approach considers graves and ceremonial deposits where artifacts of one kind were placed in large numbers but normally were owned and deposited one per individual. The multiple "extra" specimens in such graves and deposits are taken to indicate the numbers of gift givers who assembled and made offerings. The third line of analysis uses the social and ritual functions of artifacts within rich burials and ceremonial deposits to assess the kinds and diversity of social roles of those who made offerings. Several manners in which large gatherings varied are identified, including single versus multicommunity gatherings, role-homogeneous versus role-specialized ceremonies, and gatherings that focused on the deceased versus those that addressed them indirectly and had other sociopolitical or religious purposes (i.e., burials versus ceremonial deposits).

The last half of the chapter extends the study of artifacts within graves and ceremonial deposits through quantitative analysis to all recorded graves and deposits—those with few artifacts as well as many—and to artifacts of all kinds. Estimates of the sizes and social compositions of gatherings, and the frequencies of gatherings of specific sizes and compositions, are thereby refined. Assessments of gathering sizes are made in several different ways, which involve differing assumptions about artifact ownership and/or gifting of artifacts. This approach provides a holistic, multiple artifact class view, in contrast to the single artifact class view of the sizes and social compositions of gatherings that is developed in the first half of the chapter. The greater scope and quantitative detail of the estimates made in the second half of the chapter, although requiring a conceptually more complex analysis, allow distinctions to be made in ceremony sizes and compositions among regions, times, and mound centers of different functions.

The studies in the two halves of the chapter produce rich results and interpretations. First, the studies show that most ceremonial gatherings within mortuary spaces were very small, of the order of 1 to 3 gift givers, that only 10 assemblages indicate gatherings of 90 or more gift givers, and that only 2 suggest gatherings of more than 400 gift givers. Very large ceremonial gatherings within mortuary spaces were thus not regular, once-a-year events, or even fairly regular, once-a-decade events, like the historic Huron and Algonkian Feasts of the Dead, and probably did not rival the sizes of the historic Feasts. Second, it is possible to derive from the structure of the data, themselves, a typology of gatherings based on their sizes, whether or not a gathering was focused on the deceased, whether attendant gift givers were homogeneous or diverse in their social roles, and whether grave assemblages suggested rites of separation and/or rites of liminality. Third, large and intermediate-sized gatherings are found to offer little evidence of having been repeated periodically as part of a ritual "calendar" of institutionalized types of ceremonies. Fourth, gatherings of varying sizes and social compositions are shown to distinguish ceremonial centers of different, complementary functional types, which are defined here and in Chapter 7 and integrated into the model of Scioto Hopewell community organization presented in Chapter 3 by Carr and Chapter 4 by Ruby et al. Fifth, gathering sizes and compositions also are found to have shifted through time, indicating changing strategies of intracommunity and intercommunity alliance formation in the central Scioto valley. The forms of alliance documented and the sequence of changing forms accord well with anthropological theory about alliance formation. Sixth, a changing balance over time in the predominance of shaman-like versus nonshaman-like leaders at ceremonies conforms to Netting's theory of the rise of supralocal leadership through religious means, corroborating conclusions drawn by Carr and Case in Chapter 5. Seventh, gathering compositions indicate a segregation of the roles of the classic, generalized shaman among multiple, more specialized practitioners, in line with Winkelman's theory on the

changing nature of magicoreligious practitioners as societies become more complex and in agreement with the results of several analyses made by Carr and Case in Chapter 5. Eighth, some large, socially homogeneous gatherings probably represent the ceremonial meetings of multicommunity sodalities of several kinds, and by extension, indicate the formalization of this critical feature of tribal social structure among Hopewellian communities in both the central Scioto and Great Miami regions. Finally, it appears that over the course of the Middle Woodland period in the Scioto valley, social, political, and ceremonial organization was developing in complexity along three lines simultaneously: multicommunity alliances negotiated by leaders, institutionalized sodalities, and specialized magicoreligious practitioners and leaders whose positions were derived through the segregation of the roles of the classic, generalized shaman. This picture of development of social complexity is more multifaceted than that described by current anthropological models of sociopolitical evolution.

Throughout this chapter, we follow the terminological distinctions set forth in Chapter 5, by Carr and Case, among *shaman, shaman-like* practitioners, and *nonshaman-like* leaders and persons of social importance. Shaman are generalized magicoreligious practitioners in the classic sense, who take soul journeys while in trance, and use spiritual powers and information in nature. They do so in order to accomplish for their society a wide range of tasks such as healing, divination, guiding souls to lands of the dead, social adjudication, and facilitating hunt and harvest (Eliade 1972; Wallace 1966). Shaman-like practitioners are specialists who focus on one or a small subset of these tasks and evolve from classic shaman as a society becomes larger and socially more complex (Winkelman 1989, 1990, 1992). Shaman-like practitioners continue to use spiritual power and information from nature in their roles, and retain fundamental elements of classic shamanic cosmology and symbolism, but do not use soul flights routinely. Nonshaman-like leaders and important persons do not employ power and a symbolism strongly rooted in nature, and can vary from more religious in character (e.g., priest-like, community-wide leaders) to more secular (e.g., war leaders).

The overall approach that we have taken in our studies in this chapter is bottom-up, from empirical data to generalizations, without a priori theoretical expectations, but with one eye looking for the kinds of ceremonial activities posited to have taken place in the earthworks by the models summarized in Chapter 12 (see also Carr and Case, Chapter 1: Point of View, on the "exploratory approach"). We also note that the inspiration for this study came from Greber's (1996) study of the varying kinds of ceremonial deposits found within Scioto Hopewell mounds and her interpretation of the sizes of deposits in terms of numbers of persons who attended ceremonies.

FIRST VIEWS OF LARGE GATHERINGS FOR THEIR SIZES

Burial Populations

A general sense of the sizes of the largest Ohio Hopewell ceremonial gatherings can be gotten initially by considering the numbers of persons buried in the largest mounds and sites, and how many persons might have assembled to mourn or honor them. Table 13.1 presents the burial population sizes at the large Scioto Hopewell sites of Hopewell, Liberty, Seip, Ater, and Tremper, and the southwestern Ohio site of Turner. Multiplying these populations by possibly one, two, three, or four ceremony attendees per deceased yields the shown possible gathering sizes. If one considers that some deceased within these mounds were likely relatives and had the same living relatives to mourn or honor them, then a maximum of perhaps four mourners per deceased person on the average would appear to be a reasonable upper bound.

Multiple ways of conceiving of the organization of the cemeteries, coherent social groups within it, and relevant ceremony attendees are presented in the table. For example, the burial population of Hopewell Mound 25 can be considered by itself, or combined with the somewhat complementary, adjacent Mound 23, or in conjunction with all mounds at the site.

Table 13.1. Burial Populations and Possible Numbers of Mourners at Ohio Hopewell Earthworks and Mound Centers

| Site and mound | Burial population | Times number of mourners per deceased | | | | Reference |
		1	2	3	4	
Hopewell Mound 25, floor of charnel houses	98	98	196	294	392	Greber & Ruhl (1983:47–49)
Hopewell Mound 23 floor	52+	52+	104+	156+	208+	Shetrone (1926:53–55)
Mounds 23 & 25 floors combined	150+	150+	300+	450+	600+	
Mounds 23 & 25 floors and above	154+	154+	308+	462+	616+	
All mounds at the Hopewell site	**218+**	218+	436+	654+	872+	Case & Carr (n.d.)
Edwin Harness charnel house	176	176	352	528	704	Greber (1979a:34)
Russell Brown mounds	7+	7+	14+	21+	28+	Seeman (1980) & Soday
Edwin Harness & Russell Brown mounds	**183+**	183+	365+	549+	732+	
Seip–Pricer charnel house	110	110	220	330	440	Greber (1979a:34)
Seip–Conjoined charnel house	43	43	86	129	172	Greber (1979a:34)
Seip–Pricer, Seip–Conjoined, & above-floor burials	**171**	171	342	513	684	Greber (1979a:34)
Turner Great Burial Place	55+	55+	110	165	220	Greber (1979b:52)
All burials at Turner	**101+**	101+	202+	303+	404+	Greber (1979b:52)
Ater mound	**59+**	59+	118	177	236	Case & Carr (n.d.)
Tremper mound (co-mingled, cremated remains; count estimated by volume only)	**375+?**	375+?	750+?	1,125+?	1,500+?	Mills (1916:280)

A significant conclusion drawn from Table 13.1 is that even considering the largest social groupings at the site level, such as all burials at the Hopewell site or all burials at Seip, and the largest likely number of mourners per deceased, almost all of the maximal estimates of gathering sizes are considerably less than those for the historic Huron and Algonkian Feasts of the Dead. All but one of the maximal estimates are fewer than 900 persons, in contrast to the 1,000 to 1,600 individuals recorded for some historic gatherings (see Carr, Chapter 12, Feast of the Dead).

Reasonable estimates of the sizes of Hopewellian gatherings considering those buried in single charnel houses under single mounds and fewer than four mourners per deceased on average are, with one exception, more modest—of the order of several hundreds of attendees. The larger of these estimates could encompass two separate minimal breeding populations or minimally

sized tribes, suggesting intertribal alliance functions. However, even these large estimates, in addition to the smaller ones, could represent a single Historic-period Great Lakes tribe (Trigger 1978).

The one possible exception to this pattern is Tremper, with a maximum estimate of 1,500+ attendees assuming four mourners per deceased. This case may be suspect, however, because the body counts are not known clearly, having been estimated only by the total volume of co-mingled cremations (Mills 1916:280). An estimate of gathering size made by counting the grave goods at Tremper is more moderate (193 gift-givers; see Table 13.7) and more in line with other earthwork centers. Nevertheless, the historically unique, early position of Tremper in the Scioto Hopewellian sequence of earthwork centers and regional alliance development also must be considered, and leaves good room

for retaining Mills' estimate for discussion (see below).

Large Ceremonial Deposits and Burial Offerings

Another means that can be used to estimate the sizes of the largest Ohio Hopewell ceremonial gatherings considers the number of artifacts found within individual burials or ceremonial deposits. If an artifact type (e.g., breastplates, headplates) typically occurred one per deceased person across the Ohio region, and can thus arguably be characterized as having normally been owned one per person, then a ceremonial deposit with multiple examples of that artifact type can be interpreted as offerings by that number of ceremonial attendees. A burial with multiple examples can be interpreted as the offerings of that number of ceremonial attendees, perhaps minus one, representing an item possibly owned by the deceased him or herself. The same logic can be used for an artifact type that usually occurred in some set number per deceased person (e.g., earspools, which come in pairs), simply dividing the number of artifacts in the deposit or burial by the number typically found in a set.

This analytical approach turns around the traditional assumption that grave goods belonged to the deceased and that multiple examples of a kind of grave good indicate the deceased's wealth or precise prestige. Instead, the approach assumes that multiple grave goods or sets of grave goods of a kind represent gifts from mourners and other ceremonial attendees. Here, we take seriously the post-processual critique that a mortuary assemblage can reflect relationships of mourners to the deceased and the social roles and prestige of the mourners, as well as the deceased's social roles and importance (Pearson 1999:84).

This method provides an easily visualized estimate of the number of gift givers, but only a minimal, univariate one. A ceremonial deposit or burial might have had several kinds of artifacts, different kinds having been offered by different persons, but the estimate considers only one kind of artifact at a time. A complete picture requires a consideration of all the kinds of artifacts found in a deposit or burial, with the possible complexity of multiple kinds of artifacts having been given

by multiple persons in different social roles. This more complex approach is presented in the last, quantitative section of this chapter.

Table 13.2 lists all recorded Ohio Hopewell ceremonial deposits and burials that had large numbers of artifacts (most n's ≥ 15), usually primarily of one kind, and which can arguably be characterized as having typically been owned one or a set number per deceased (Case and Carr n.d.). Deposits or burials that share in a given kind of frequently offered artifact are listed together, so that gatherings of a kind can be compared to each other for their sizes and compared to other gatherings of other kinds. The table shows that from a simplistic, univariate, single-artifact-type point of view, the largest gatherings of persons of primarily one nature were several hundred people, and most were significantly smaller. This result reinforces those provided in Table 13.1, which would estimate the largest of Hopewell ceremonial gatherings of the order of several hundred attendees.

The largest gathering indicted in Table 13.2 may be represented by the five "Copena" style pipes deposited within the Seip–Pricer mound, above the Great Multiple Burial within the charnel house. Each Copena pipe was a large, probably communal pipe used by some large social unit such as a community, a clan, or a sodality. Four or five different social units are represented, the pipes depicting four or five different animals: an owl, a possible whipperwill, a possible bear, a dog, and a dog or wolf (Shetrone and Greenman 1931:373–374). If each social unit had 50–100 persons, for example, this ceremonial deposit would represent 250–500 persons—an unknown number of which might actually have been in attendance.

Another very large gathering listed in Table 13.2 is indicated by the hundreds of earspools deposited in Altar 1 of Hopewell Mound 25. The number of earspools placed in Altar 1 is not firmly known, is certainly greater than the minimal estimate of 500, and in all probability ranges between 750 and 1000 (Table 13.2, Footnote a). If each earspool was one of a pair, which is a conservative assumption (Ruhl, personal communication, 2004), then the deposit would represent the offerings of minimally 375 to 500 persons.

Table 13.2. Large Burial Assemblages and Ceremonial Deposits (Most ≥15 Items) Useful for Estimating Numbers of Gift Givers

Provenience	Number and kind of item	Estimate of number of gift givers	Reference
Communal pipes			
Seip–Pricer, Pipe Cache	5 "Copena" pipes: owl, whipperwill?, dog, dog or wolf, bear?	5 large social units: communities, clans, etc.	Shetrone & Greenman (1931:373–374)
Individual, platform pipes			
Mound City, Md. 8, Central Altar & Depository Bag	Almost 200 platform pipes & 50 fragments of pipes	200	Mills (1922:434–441)
Tremper, Lower Cache	136 platform pipes	136	Mills (1916:285)
*Hopewell, Shetrone's Md. 17, Offering 1	14 platform pipes	14	Shetrone (1926:44–45)
Cones/hemispheres			
Hopewell, Shetrone's Md. 17, Deposit 2	80 cones/hemispheres	20	Shetrone (1926:47–49)
Metal breastplates, celts, earspools			
*Hopewell Md. 25, Altar 1	500+ earspools[a]	250+	Greber and Ruhl (1983:134); Moorehead (1922:113)
*Hopewell Md. 25, Sk. 260–261	94–95 breastplates	93–94	Shetrone (1926:75–76)
*Hopewell Md. 25, Sk. 260–261	66 copper celts	65–66	Shetrone (1926:75–76)
*Hopewell Md. 25, B7	60 earspools	29–30	Shetrone (1926:65–66)
*Turner, Md. 3, Central Altar	50 earspools	25	Willoughby (1922:46–60)
*Hopewell, Shetrone's Md. 17, Offering 1	50+ granite, gabbro, slate celts	50+?	Shetrone (1926:44–45)
Seip–Pricer, Ceremonial Cache	12 breastplates	12	Shetrone & Greenman (1931:380)
Geometrics			
Hopewell Md. 25, Copper Deposit	109+ copper geometric cutouts	?	Shetrone (1926:74–75)
*Hopewell Md. 25, Altar 1	~200 mica geometric cutouts	?	Moorehead (1922:113)
Reel-shaped gorgets, crescents, pendants			
Turner, Md. 15, Cache	25 calcite reel-shaped gorgets	25	Willoughby (1922:87)
*Turner, Md. 3, Central Altar	17 copper pendants	?	Willoughby (1922:46–60)
Tremper, Sandstone Grave	8 mica crescents	8	Mills (1916:280)
Points			
*Hopewell Md. 25, Altar 2	100s (several) of obsidian spears	?	Moorehead (1922:114)
*Mound City, Md. 3, Altar & Crematory Basin	1 bushel fragmentary quartz & chert spearheads	?	Mills (1922:498–507)
*Mound City, Md. 3, Altar & Crematory Basin	50–100 limpid quartz "arrow points/knife blades"	?	Mills (1922:498–507)

Pearl & shell beads (300 max per necklace)

*Hopewell Md. 25, Altar 2	100,000 pearl & shell beads	~333	Moorehead (1922:114)
*Turner, Md. 3, Central Altar	41,000 pearl & shell beads	~137	Willoughby (1922:46–60)
*Hopewell, Md. 25, Altar 1	19,000 pearl beads	~63	Moorehead (1922:113)
*Hopewell Md. 25, Sk. 260–261	16,000 pearl & shell beads	~53	Shetrone (1926:75–76); OHS catalog
*Mound City, Md. 13, Deposit 5	5,050 pearl, shell, & bone beads	~17	Mills (1922:452–453)
*Mound City, Md. 13, B1	5,000+ shell beads	~17	Mills (1922:448–451)
*Hopewell Md. 26, Crematory Basin	5,000+ shell & bone beads	~17	Shetrone (1926:107–108)
*Hopewell Md. 25, B6–7	5,000 pearl beads	~17	Shetrone (1936:63–65)
*Hopewell Md. 26, Crematory Basin	1000s (several) of bone beads	~10	Shetrone (1926:106–107)
Hopewell Md. 2, B3	1000s (several) of shell beads	~10	Shetrone (1926:23–24)
Hopewell Md. 25, B248	1000s of pearl & shell beads probably sewn onto a garmet	1	Shetrone (1926:86–876)
*Hopewell Md. 25, Sk. 260–261	1000s of pearl, shell, metal, bone beads	~10	Shetrone (1926:75–76)
Hopewell Md. 28, Crematory Basin	1,800 shell beads	~6	Shetrone (1926:108–109); OHS records
*Seip–Pricer, Burned Offering	1000s of bone beads	~10	Shetrone & Greenman (1931:377–380)
Rutledge, Md. 1, B3	2,400 shell & pearl beads	~8	Field notes, OHS, Columbus
Hopewell Md. 26, Deposit	1,000 shell beads	~3	Shetrone (1926:105–106)

Bear canines (4 max per necklace)

*Turner, Md. 3, Central Altar	36 bear canines	~9	Willoughby (1922:46–60)
Seip–Pricer, Cremation Basin 2	30 bear canines	~7	Shetrone & Greenman (1931:366)
*Seip–Pricer, Burned Offering	30 bear canines	~7	Shetrone & Greenman (1931:377–380)
Hopewell Md. 25, B34	26 bear canines	~6	Shetrone (1926:87–89)
Harness Md., Cremation	20 bear canines	~5	Mills (1907:168–169)

Other animal teeth

*Turner, Md. 3, Central Altar	2,000 small animal canines	?	Willoughby (1922:46–60)
Hopewell Md. 23, Sk. 207	506 wolf & fox teeth, perforated	?	Moorehead (1922:98)
Mound City, Md. 8, B3	150+ elk canines, perforated	?	Mills (1922:434); Mound City art. catalog
Mound City, Md. 8, B2	~100 elk canines, perforated	?	Mills (1922:434)
*Mound City, Md. 2, B16	35 elk canines, perforated	?	Mills (1922:445–446)
*Mound City, Md. 13, Deposit 5	25 elk canines, perforated	?	Mills (1922:452–453)
Hopewell Md. 25, B41	35 bear claws, 30 raccoon teeth	?	Shetrone (1926:92–93)
*Mound City, Md. 2, B16	22 copper alligator teeth	?	Mills (1922:445–446)

(*Continued*)

Table 13.2. (*continued*)

Provenience	Number and kind of item	Estimate of number of gift givers	Reference
Raw materials			
*Hopewell, Shetrone's Md. 29, Moorehead Md. 17	3,000 mica sheets over south end of mound	?	Moorehead (1922:91a)
Mound City, Md. 7	20 ft crescent of round mica sheets (10–12 in. in diameter) overlapping like fish scales	?	Squire and Davis (1948:473)
*Mound City, Md. 13, B1	7 × 6.5 ft covered w/ mica sheets	?	Mills (1922:448–451)
Mound City, Md. 23, B1	"Considerable" mica	?	Mills (1922:461)
*Hopewell, Shetrone's Md. 29	12 galena cubes, 12–15 lb each	?	Moorehead (1922:90–92)
Mound City, Md. 5. Altar	30 lb galena in 2-oz to 3-lb pieces	?	Squire and Davis (1848:149)
*Mound City, Md. 13, B1	25 lb galena crystals	?	Mills (1922:448–451)
Hopewell Md. 2, Central Cache	8,000+ Indiana hornstone disks	?	Squire and Davis (1848:158)
Hopewell Md. 11, Crematory Basin	136 kg worked obsidian	?	Shetrone (1930:202)
Hopewell Md. 1	30–40 chlorite disks	?	Stevens (1870:438)

Note. An asterisk indicates a ceremonial deposit or grave assemblage with more than one kind of item in great frequency and, hence, listed more than once. Md., mound; Sk., skeleton; B, burial; OHS, Ohio Historical Society.

[a]Willoughby's notes on Hopewell Mound 25, Altar 1 (Greber and Ruhl 1989:77) indicate that it contained "over 500 ear ornaments". In contrast, Moorehead (1922:116) said that "While no one has yet counted the multitudinous objects in the Field Museum collection, it is estimated that there are about two thousand one hundred copper ear-ornaments or busks in storage"—most of which would have come from Moorehead's excavation of Altar 1. Willoughby was a meticulous archaeologist (Greber and Ruhl 1989:1, 9; S. Williams 1989:xxiii), whereas Moorehead was "not always inclined towards sufficient attention to details" (Greber and Ruhl 1989:2, see also p. 10). Moorehead's estimate was never confirmed. However, Katharine Ruhl (personal communication, 2004) estimates that the number of earspools found in Altar 1 was between the two figures, about 1000. She estimates that she has examined and confirmed in recent years the existence of over 700 earspools in the Field Museum's repository of Mound 25 artifacts, and many tens of them from Mound 25 at other institutions to where they were traded. She also notes that not all earspools from the Altar were apparently recovered from the field, having been embedded in the Altar, and may not have been included in Willoughby's count, and that Willoughby may not have been sent the entirety of the Mound 25 holdings at the Field Museum when he inventoried and analyzed them at Harvard. These factors may account for Willoughby's estimate being too low relative to Ruhl's observations.

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Change over time in the frequency of large gatherings also appears to be indicated in Table 13.2. Because the table includes all ceremonial deposits and burials with large numbers of artifacts of a kind that have been excavated in Ohio, one can ask whether large gatherings were more common in earlier or later Hopewell sites. Of the seven sites listed in Table 13.2, six are approximately datable and can be roughly ordered into five time periods, refining Prufer's (1961, 1964a) chronology: (1) Very Early Hopewell—Tremper; (2) Early Hopewell—Mound City; (3) early Middle Hopewell—Mounds 25 and 11 and perhaps certain other mounds at Hopewell; (4) late Middle Hopewell—Seip–Pricer, Edwin Harness, and possibly certain mounds at the Hopewell site; and (5) late Middle to Late Hopewell—Turner (see also Greber 1983, 2003; Ruhl 1996; Ruhl and Seeman 1998). Almost all (29) of the 38 large ceremonial deposits or burial assemblages found at these sites occur at the Early to early Middle Hopewell locations of Mound City, Mound 25 of the Hopewell site, and other mounds there. Only five such ceremonial deposits or burials are found in the late Middle Hopewell mounds of Seip–Pricer and Edwin Harness. The Very Early Hopewell site of Tremper has only two such deposits and the late Middle to Late Hopewell site of Turner has only two.

Interpreting sociologically the rise-and-fall pattern of the frequency of large gatherings requires a consideration of any differences in site function that might be compounded with the temporal dimension. Complementary information on the social compositions and nature of the gatherings is also desirable. These matters and the task of interpreting the rise-and-fall pattern are addressed in the second, quantitative half of this chapter.

A FIRST VIEW OF LARGE GATHERINGS FOR THEIR COMPOSITIONS

The social composition of large Hopewellian gatherings can be inferred by inventorying the kinds of artifacts found together in individual ceremonial deposits and burials, and by listing the social roles indicated by those artifacts. This is done in Tables 13.3 for a selection of deposits and burials inventoried in Table 13.2. The chosen deposits and burials each had large numbers of one or a few kinds of artifacts and, together, differed widely in the kinds of artifacts that predominated in them. The social roles marked by various artifact types are those documented ethnographically or inferred by Case and Carr (n.d.).

Socially Homogeneous versus Socially Diverse Gatherings

Patterning in Table 13.3 gives insight into the varying kinds of ceremonial gatherings that occurred. The widest and strongest pattern is a distinction between (1) deposits or burials with artifact types marking primarily one social role or a closely related set of roles, and (2) deposits or burials with artifact types indicating a great diversity of roles. This contrast distinguishes more socially homogeneous gatherings from more socially diversified gatherings, at least with regard to those persons who offered gifts.

The socially homogeneous gatherings are very common. They are predominated by shaman-like practitioners (e.g., Hopewell Mound 25, Altar 2; Mound City Mound 3, Altar; Hopewell Mound 17, Deposit 2), or sodality members marked by breastplates and leaders marked by celts and headplates (Hopewell Mound 25, Skeletons 260 and 261), or clanpersons (Mound City Mound 8, B2), or a social role marked by reel-shaped gorgets (Turner Mound 15, Cache), or a social role marked by crescents (Tremper, Sandstone Grave), or simply items of personal prestige such as smoking pipes (Mound City Mound 8, Central Altar) or beads (Hopewell Mound 26, Crematory Basin). In each case, one or two kinds of artifacts predominate: breastplates and celts, obsidian points, quartz points, cones/hemispheres, reel-shaped gorgets, crescents, animal teeth, pipes, or pearls. The social role(s) marked by the predominant artifact type are often complemented by related roles marked by much less numerous artifact types, and sometimes a few unrelated roles indicated by infrequent artifacts. For example, Hopewell Mound 25, Alter 2, is predominated by obsidian spear points that possibly indicate shaman-like

Table 13.3. Spectrum of Social Roles Associated with Large Burial Assemblages and Ceremonial Deposits

Kind of artifact	Number of specimens	Associated social role
Deposit of pipes: Mound City, Md. 8, Central Altar & Depository Bag (Mills 1922:434–441)		
Platform pipes	~200	Personal, prestigious
Pearl & shell beads	Many	Personal, prestigious
Ornaments, silver-covered copper	A number	Personal, prestigious
Disks, tubes, of copper (necklaces?)	Numerous	Personal?, prestigious
Human head sculpture	1	Unknown
Breastplates and celts: Hopewell Md. 25, Sk. 260–261 (Moorehead 1922:110; Greber and Ruhl 1989:90–100)		
Breastplates, copper	94–95	Sodality membership or achievement
Celts, copper	66	Leadership of a whole society/community or a sodality
Headdress	2	Leadership of a whole society/community
Human femur & eagle bone, carved	?	Shaman-like public ceremonial leader
Containers, shell	?	Shaman-like public ceremonial leader
Colored earths	?	Shaman-like ceremony
Nuggets of algondonite, copper, silver, meteoric iron	27+	Shaman-like manufacture
Bear head form, copper	1	Shaman-like or clan leader
Jaw	1	Clan leadership or membership
Animal teeth	A number	Clan membership
Beads, shell, pearl, bone, meteoric iron	16,000	Personal, prestigious, or community offering
Anklets, copper	~10	Personal, prestigious
Bracelets, copper	~10	Personal, prestigious
Rings, copper	~10	Personal, prestigious
Effigies, copper (1 bird)	?	?
Obsidian projectile points, knives: Hopewell Md. 25, Altar 2 (Moorehead 1922:114)		
Spearpoints, obsidian	100s	Shaman-like war or hunt divination, pulling or sending power intrusions
Spearpoints, quartz	A number	Shaman-like war or hunt divination, pulling or sending power intrusions
Knives, chalcedony	Many	Shaman-like war or hunt divination, pulling or sending power intrusions
Quartz crystals	Several dozen	Shaman-like divination
Plummet, hematite, shell	2	Shaman-like divination
Cone, hollow slate	1	Shaman-like divination
Boatstone, hawk w/ human face, antler	1	Shaman-like divination
Wand, dark triangular, decorated bones	Several	Shaman-like healing
Cutouts, copper	Various	Shaman-like philosopher
Awls, needles, bone	Many	Shaman-like psychopomp?
Tablets, stone	?	Shaman-like ceremony
Sharks teeth, fossil	Several	Shaman-like ceremonial leader (scratching)?
Iron pyrite	?	Shaman-like?
Tortoise shell pendants	?	Shaman-like?
Human head, antler	1	Shaman-like associative magic?, other
Antler effigy, copper	1	Leadership, clan or other social unit
Earspools, ceramic, graphite	?	Sodality membership or achievement?
Panpipes	Several	A social role
Animal jaws, cut	?	Clan leadership or membership
Bear canines, perforated	?	Ordinary clan membership or sodality memberhsip
Bear claws	128	Ordinary clan membership or sodality membership
Bear tooth, stone	1	Ordinary clan membership or sodality membership
Platform pipes	6	Personal, prestigious
Beads, pearl, shell, iron, bird bone	100,000	Personal, prestigious, or community offering
Bar amulet	1	A social role?, personal, prestigious

Table 13.3. (*continued*)

Kind of artifact	Number of specimens	Associated social role
Animal feet bones, small	690	Shaman-like animal power parts?
Cloth	?	?
Shells, cut, for embroidery	413	?

Quartz projectile points, knives: Mound City, Md. 3, Altar & Crematory Basin (Mills 1922:498–507)

Spearheads, quartz & chert	1 bushel	Shaman-like war or hunt divination, pulling or sending power intrusions
Arrowheads/knife blades, limpid quartz	50–100	Shaman-like war or hunt divination, pulling or sending power intrusions
Arrowpoint, obsidian	1	Shaman-like war or hunt divination, pulling or sending power intrusions
Quartz crystals, 3–4 in. in diameter	Several	Shaman-like divination
Garnet crystals, 3–4 in. in diameter	Some	Shaman-like divination
Shark teeth, perforated	?	Shaman-like ceremonial leader (scratching)?
Beads, copper tubular	20+	Personal, prestigious
Platform pipes	2	Personal, prestigious
Beads, shell & pearl	?	Personal, prestigious
Gravers, chisels, copper	2	Personal, utilitarian?
Implements, copper	Many	Personal, utilitarian?
Implements, stone	Many	Personal, utilitarian?
Pottery	A quantity	

Cones/hemispheres: Hopewell, Shetrone's Md. 17, Deposit 2 (Shetrone 1926:47–49)

Cones/hemispheres, chlorite, pyrite	80	Shaman-like divination
Boat-shaped objects, quartz crystal	3	Shaman-like divination?
Cup-shaped object, quartz crystal	1	Shaman-like ceremony?
Bird tail feather fan effigy?, chlorite	2	Shaman-like ceremony?
Tablets, chlorite	?	Shaman-like ceremony
Cutouts, mica	?	Shaman-like philosopher
Barlike objects, chlorite, pipestone	10	?
Worked chlorite	6	?
Bear claws	10	Ordinary clan membership or sodality membership
Club-shaped, sandstone	1	Warrior?
Gorgets, chlorite	?	Personal, prestigious?
Grooved axe, stone	1	Personal, utilitarian
Celts, celt-shaped, granite	5	Personal, utilitarian
Hammerstones, granite	2	Personal, utilitarian
Bladelets, flint	3	Personal, utilitarian
Pottery, utilitarian	Fragments	Personal, utilitarian
Spatulas, bone	?	Personal, utilitarian

Geometrics: Hopewell Md. 25, Copper Deposit (Moorehead 1922:109; Shetrone 1926:74–75)

Geometrics, copper	109+	Shaman-like philosopher
Arrowhead, copper effigy	1	Shaman-like war or hunt divination, pulling or sending power instrusions
Scratcher?, copper effigy	1	Shaman-like ceremonial leader?
Panpipe	1–2	A social role
Earspools, copper, iron, one with 4-Directions symbolism	6+	Sodality membership or achievement
Bear paw comb/effigy	4	Sodality or clan membership or leadership
Fish effigy, copper	3	Clan leadership or membership?
Effigy human face, copper	1	?
Sheet copper, masses, lengths	124+	?

(*Continued*)

Table 13.3. (*continued*)

Kind of artifact	Number of specimens	Associated social role
Reel-shaped gorgets: Turner, Md. 15, Cache (Willoughby 1922:86–87)		
Reel-shaped gorgets, calcite	25	A social role
Bifaces, stone	8	Personal, utilitarian
Antler handles for bifaces	?	Personal, utilitarian
Mica crescents: Tremper, Sandstone Grave (Mills 1916:280)		
Crescents, mica	8	A fairly rare social role
Earspools, copper	4	Sodality membership or achievement
Bear effigy, mica	1	Clan? Sodality?
Flint spearpoint	1	Personal
Totemic animal power parts: Mound City, Md. 8, B2 (Mills 1922:434)		
Elk canines, perforated	~100	Ordinary clan membership
Elk teeth, imitation	Several	Ordinary clan membership
Mountain lion canines	?	Ordinary clan membership
Eagle claws, copper imitation	3	Ordinary clan membership
Bear canines	?	Ordinary clan membership or sodality membership
Bear canines, imitation	?	Ordinary clan membership or sodality membership
Beads, shell and pearl	100	Personal, prestigious
Disks, shell, large & small (necklace?)	~50	Personal, prestigious
Awl, copper	1	Personal, utilitarian?
Pearl and shell beads: Hopewell Md. 26, Crematory Basin (Shetrone 1926:106–107)		
Beads, small shell & bone	5,000+	Personal, prestigious or community offering
Celts, copper	4	Leadership of a whole society/community or a sodality
Thread spool-shaped objects, shell	6	?
Raw materials and preforms: Hopewell Md. 2, Central Cache (Moorehead 1922:88–89; Squire and Davies 1848)		
Hornstone disks	8,000+	Community offering?
Raw materials: Mound City, Md. 5, Altar		
Galena, 30 lb in 2-oz to 3-lb pieces	?	Community offering?
Raw materials: Hopewell Md. 11, Crematory Basin (Shetrone 1926:39–43)		
Obsidian, from manufacture of bifaces	136 kg	Shaman-like war or hunt divination, pulling or sending power intrusions
Mica mirrors/sheets	2	Shaman-like divination
Mica figures	2	?
Beetle-shaped object, chlorite	1	?
Beads, pearl	A few	Personal, prestigious
Diverse: Hopewell Md. 25, Altar 1 (Moorehead 1922:113)		
Earspools, copper	500+[a]	Sodality membership or achievement
Earspools, slate, possibly ceramic	14+	Sodality membership or achievement
Celts, stone (nonfunctional?)	Several	Leadership?
Cystals, quartz	Many	Shaman-like divination
Crystal, black tourmaline	1	Shaman-like divination
Boatstones, stone effigy & plain	Several	Shaman-like divination
Cones, quartz	2	Shaman-like divination
Plummets, stone & shell	Several	Shaman-like divination
Balls, copper, silver-covered	?	Shaman-like divination?
Mica mirrors/sheets	Many	Shaman-like divination or community offering
Knife fragments, obsidian	?	Shaman-like war or hunt divination, pulling or sending power intrusions

Table 13.3. (*continued*)

Kind of artifact	Number of specimens	Associated social role
Cores, obsidian	?	Shaman-like?
Cutouts, mica	~200	Shaman-like philosopher
Wand, antler human effigy	1	Shaman-like public ceremonial leader
Shark's teeth (possibly present)	?	Shaman-like ceremonial leader (scratching)?
Blades & core, quartz	Many & 1	Shaman-like ceremony
Tablets, stone	?	Shaman-like ceremony
Fossils, irridescent, perforated	1	Shaman-like ceremony
Nuggets, copper, silver	?	Shaman-like manufacture
Panpipe, iron jacketed	1	A social role
Gorgets, reel-shaped, shell	?	A social role
Teeth, bear, perforated	?	Sodality membership or clan membership
Claws, bear, perforated	167	Sodality membership or clan membership
Tooth, bear, shell effigy	1	Sodality membership or clan membership
Teeth, panther	?	Clan membership
Beads, pearl	19,000	Personal, prestigious, or community offering
Beads, shell	Many	Personal, prestigious
Beads, bird bone	325, 1 string	Personal, prestigious or shamanic
Pearls, seed & mustard seed	Many	Personal, prestigious
Tubes, copper, thick & wide	?	Personal?, prestigious
Platform pipe (possibly present)	1	Personal, prestigious
Effigy, spoonbill	1	Personal?, prestigious
Ornaments, slate	Several	Personal, prestigious
Bar amulet, stone	1	Personal?, prestigious
Buttons, copper-covered	?	Personal, prestigious
Adzes, iron, w/ antler handles	Several	Personal, utilitarian?
Drill, iron	1	Personal, utilitarian
Knives, flint	?	Personal, utilitarian
Chisel, stone	1	Personal, utilitarian
Arrowpoints, spearpoints, stone	Several	Personal, utilitarian
Blades, chert	?	Personal, utilitarian
Resin lumps	?	Personal, utilitarian
Pots, fragmentary	3	Personal, utilitarian?
Cloth	?	?
Cut shells for embroidery?	?	?
Miscellaneous copper objects	?	?
Small mammal foot bones	110	Shamam-like animal power parts?

Diverse: Turner Md. 3, Central Altar (Willoughby 1922:46–60)

Kind of artifact	Number of specimens	Associated social role
Headplate, iron	1	Leadership of a whole community/society
Celt, copper	1	Leadership of a whole community/society or a sodality
Breastplate, copper	1	Sodality membership or achievement
Earspools, copper & silver/iron-covered	50	Sodality membership or achievement
Earspools, terra cotta	3	Sodality membership or achievement
Bifaces & blades, obsidian	Several	Shaman-like war or hunt divination, pulling or sending power intrusions
Bifaces & blades, micaceous schist	11	Shaman-like war or hunt divination, pulling or sending power intrusions
Geometric cutouts, copper	8	Shaman-like philosopher
Annuli & circles, mica cutouts	10	Shaman-like philosopher
Parietals, carved with cosmos model	2	Shaman-like philosopher
Fossils	Several	Shaman-like ceremony
Bird-man, mica cutout	1	Shaman
Mirrors, mica	3	Shaman-like divination

(*Continued*)

Table 13.3. (*continued*)

Kind of artifact	Number of specimens	Associated social role
Bifaces, knives, obsidian	6?	Shaman-like divination
Tinklers, copper & silver-covered	50+	Shaman-like ceremony
Nuggets of copper, meteoric iron	38+	Shaman-like manufacture
Sheets of gold	15	Shaman-like manufacture
Spatula, tortoise shell	1	Shaman-like?
Crescent, copper	1	A social role
Panpipe jacket, meteoric iron	1	A social role
Canines, bear	36+	Ordinary clan membership or sodality membership
Teeth, bear, bone & shell effigy	5+	Clan membership or sodality membership
Bear effigy, mica	5	Sodality, clan membership, or shamanic?
Canines, small animal, perforated	2,000	Ordinary clan membership
Pendants, copper	17	Personal?, prestigious
Bracelets, copper, silver-covered	2	Personal, prestigious
Buttons, copper-covered	?	Personal, prestigious
Beads, copper, wood, meteoric iron	712+	Personal, prestigious
Beads, pearl & shell	41,000	Personal, prestigious, or community offering
Rings, shell, bone	Many	Personal, prestigious
Shells for embroidery	17,000	?
Alligator teeth	12	?
Small animal phalanges	600	Shaman-like animal power parts?
Bifaces, flint	6	Personal, utilitarian
Vessels, pottery, fragmentary	Many	Personal, utilitarian

Diverse: Mound City, Md. 13, Burial 1, Mica Grave (Mills 1922:448–451)

Mica mirrors/sheets	100s	Shaman-like divination
Spear points, quartz & obsidian	?	Shaman-like war or hunt divination, pulling or sending power intrusions
Shark teeth, perforated	?	Shaman-like ceremonial leader (scratching)?
Animal canines, perforated	?	Ordinary clan membership
Platform pipes, 2 effigy frog, 2 effigy crow	4	Personal prestigious
Beads, pearl & shell	5,000+	Personal prestigious or community offering
Galena crystals	25 lb	Community offering?
Whitneyite pieces	3 lb each	Community offering?
Awls, bone & copper	2	Personal, utilitarian?

[a] See Table 13.2, Footnote a, for qualifications.

war or hunt divination, but also includes several other artifact types used in shaman-like divination generally (e.g., plummets, cones), a few other artifact types used in other shaman-like tasks (wands, tablets), and a few kinds of artifacts that indicate sodality or clan membership and personal prestige (earspools, animal canines, beads). The total picture is of a largely homogeneous set of gift givers.

Socially very diversified gatherings are rare. They are manifested in Hopewell Mound 25, Altar 1, and Turner Mound 3, Central Altar. These deposits include artifact types that marked leaders of one or more kinds, shaman-like practitioners of many kinds, sodality members, clan members, several well-defined but unidentified social roles (reel-shaped gorgets, crescents, panpipes), and personal prestige. Mound City Mound 13, Burial 1, the Mica Grave, also has diverse kinds of artifacts, but it is possible that most pertain to related shaman-like roles.

Social Roles That Were and Were Not the Focus of Large Homogeneous Gatherings

A good number of the social roles that are interpreted as having been marked by Hopewellian artifacts (Case and Carr n.d.) formed the core of gift givers in the large, socially homogeneous,

Table 13.4. Social Roles Associated with Select Hopewellian Artifact Types That Predominate in Large Ceremonial Deposits and Burial Offerings[a]

Artifact type	Social role
Spear points, obsidian	Shaman-like war or hunt divination, pulling or sending power intrusions
Obsidian from biface manufacture	Shaman-like war or hunt divination, pulling or sending power intrusions
Spear points, quartz	Shaman-like war or hunt divination, pulling or sending power intrusions
Cones & hemispheres	Shaman-like divination
Crystals, quartz, gems	Shaman-like divination
Mirrors, mica	Shaman-like divination
Geometrics, copper, mica	Shaman-like philosopher/cosmologist
Animal foot and ankle bones	Shaman-like animal power parts?
Chlorite disks	Shaman-like equipment?
Celts, copper	Leadership of a whole society/community or a society-common sodality
Breastplates, copper	Sodality membership or achievement
Earspools, copper	Sodality membership or achievement
Reel-shaped gorgets	A socially institutionalized role
Crescents, mica or copper	A socially institutionalized role
Panpipes, metallic	One or more socially institutionalized roles
Bear canines	Ordinary clan membership or sodality membership
Elk teeth	Ordinary clan membership
Raccoon teeth	Ordinary clan membership
Other animal teeth, claws	Ordinary clan membership
Platform pipes	Personal, prestigious
Necklaces, pearl and shell	Personal, prestigious
Copena pipes	Community offering involving Shaman-like leaders?
Raw materials	
Galena	Community offering through Shaman-like practioners?
Hornstone disks	Community offering through Shaman-like practioners?
Mica sheets as tomb or mound structure	Community offering through Shaman-like practioners?

[a]Social role assignments are those determined by Carr (Chapter 7), Case and Carr (n.d.), and Turff and Carr (Chapter 18).

specialized gatherings (Table 13.2) that assembled in the earthworks and at mound sites. These roles are listed in Table 13.4. They include several kinds of apparently decentralized shaman-like roles (war or hunt divination or the pulling or sending of power intrusions, other divination, philosopher), probable society-wide leadership indicated by celts, membership or achievement in two kinds of sodalities indicated by breastplates and earspools, at least three unknown institutionalized roles marked by reel-shaped gorgets, crescents, and panpipes, and membership in certain totemic groups (bear, elk, one smaller instance of raccoon).

Other important social roles that can be identified archaeologically were not, however, central to large, homogeneous gatherings. The absence of the shaman-like healer can probably be attributed to the power of this person in one-on-one or small group arenas rather than larger, public affairs. The shaman as body processor and/or psychopomp, indicated by awls (grave covering skewers), and society-wide leaders marked by headplates—although both socially critical—would not have constituted the numeric core of gatherings because they were rare individuals, by grave counts across Ohio (Case and Carr n.d.). Most known Ohio Hopewellian animal-totemic clans (Thomas et al., Chapter 8) did not predominate in any large gatherings: raptor, fox, cat, wolf/dog, opposum, and beaver. Yet by grave count, members of the wolf/dog and cat clans were three to four times more numerous than members of the elk and raccoon clans, which did predominate at some large gatherings, and members of the raptor clan were as common as those of the elk and raccoon. If demographic factors do not explain why wolf/dog, cat, and

raptor clans did not find a central place in some large, homogeneous gatherings, perhaps local historical, sociopolitical reasons do.

Sociological Interpretation of Large Homogeneous and Large Diversified Gatherings

The social units responsible for these two kinds of gatherings can be fairly easily deduced. Many of the large, socially homogeneous gatherings involved social roles that would not have been common within a single community (e.g., shaman-like practitioners, group leaders, sodality members of high achievement). The large numbers of persons of these roles who came to these gatherings suggest a drawing from multiple communities, but of specialized segments possibly responsible for particular ceremonies. Other of the large, socially homogeneous gatherings involved social roles that would have been more common within a community (e.g., clanpersons, prestigious persons). These gatherings may have been constituted by members of either single or multiple communities but, again, perhaps only specialized segments who were caretakers for particular ceremonies. The chemical source data on pipes from the ceremonial deposit at Tremper (Weets et al., Chapter 14), at least, suggest that some of those who offered pipes there came from distances and had used distinct pipestone sources; these persons probably came from different communities or societies.

The large and rare, socially diversified gatherings have compositions that accord with the spectrum of roles to be found within a whole community or the compositing of several whole communities. In the case of Hopewell Mound 25, Altar 1, the number of earspools implies the gathering of more than one community. Over 500 earspools were found in the Altar, and probably between 750 and 1000 (Table 13.2, Footnote a), equating to over 250 persons, and probably between 375 and 500 persons. These numbers are larger than the burial populations of any of the earthworks in the Chillicothe area, except perhaps Tremper's (Table 13.1), and much larger than the 133 persons that Konigsberg (1985) estimated as the probable living population that fed the Seip–Pricer cemetery, as an approximate representative of the cemeteries in the area.[1] Multiple communities are implicated. The situation at Turner Mound 3, Central Altar, is less clear. The 41,000 pearl and shell beads found in the altar equate to at least 137 persons, if they were all from necklaces, which had a maximum of about 325 beads in the documented Ohio Hopewell world. This number is less than the known, individual burial populations of earthworks in the Chillicothe area, but a minimal estimate. It could represent the contributions of persons from one community or a few.

The Issue of the Origin of Sodalities and Tribes

It is possible that certain of the large, homogeneous gatherings constituted by persons from multiple communities indicate the operation of multicommunity sodalities that crosscut community residence and kinship and that were responsible for particular ceremonies and/or other social tasks, i.e., the existence of multi-community, tribal sociopolitical organization in Service's (1971) cross-cultural terms. Relevant here are the large gatherings of specialized forms of shaman-like practitioners, including war or hunt diviners, other kinds of diviners, and philosophers/cosmologists, as well as gatherings of social personae marked by breastplates, earspools, reel-shaped gorgets, panpipes, smoking pipes, and possibly bear canines and elk teeth (Table 13.4). Breastplates and earspools have already been identified empirically as likely sodality markers by Carr (Chapter 7). All of these shaman-like and other social personae can easily be seen as analogous to the members of sodalities of the historic Central Algonkians, including "sacred pack" organizations for warfare, hunting, sorcery, healing the whole tribe, epidemics or drought, and those blessed by the same spirit, including dance cult groups (Callender 1962:31, 35, 41; Skinner 1915; Tax 1937:267). These organizations had memberships that were voluntary and nonhereditary and crosscut clans, lineages, and each other (Callendar, p. 31; Tax, p. 267).

Several kinds of evidence support the interpretation of the large, homogenous gatherings as ceremonial meetings of sodalities.

First, two kinds of sodalities, marked by earspools and breastplates, are already known with reasonable certainty to have existed among Scioto Hopewellian societies; additional sodalities would not be unexpected in this context. The probable sodalities symbolized by earspools and breastplates have been identified with multiple lines of evidence—by their frequency, demographic distribution, intrasite spatial patterning, certain contexts of deposition, and/or manufacturing charcteristics—by Carr (Chapter 7) and Ruhl (Chapter 19). Second, each kind of specialized shaman-like practitioner whose paraphernalia were placed in a homogeneous archaeological deposit was found in Chapter 8, by Thomas et al., to have been recruited from multiple kinship groups (clans) rather than along kinship lines, in accordance with the definition of a sodality. Third, many of the artifact classes that might represent sodalities were found in Chapter 5, by Carr and Case, to partially associate with each other within graves of individuals across multiple Ohio cemeteries. This archaeological pattern suggests that some persons fulfilled more than one of the social roles of concern here, and/or were members of multiple social groups that had those roles. This overlapping role pattern recalls the overlapping memberships of Central Algonkian sodalities (Callendar 1962; Skinner 1920). Fourth, the development of sodalities is expectable in social situations where the multiple roles of classic, generalized shaman are in the process of becoming segregated among specialized magicoreligious practitioners, as modeled by Winkelman (1989, 1990, 1992; see next section). This was clearly the situation of Scioto Hopewellian societies (Carr and Case, Chapter 5; see below, The Issue of the Social Evolution of Magicoreligious Practitioners).

Partially contrary of the interpretation that the large, homogeneous artifact deposits represent the remains of ceremonies of sodalities is that many of the deposits are unique in their artifact compositions and indicate one-time, unique ceremonies (Table 13.2), rather than the repeated, collective ceremonies one might expect for sodalities. However, repeated ceremonies are evidenced by three very large deposits of mica mirrors at Mound City, two large deposits of galena there, three moderately sized deposits of bear ca-

nines below the Seip-Pricer mound and Hopewell Mound 25, three moderately sized deposits of elk canines at Mound City, two large to very large deposits of earspools under Hopewell Mound 25, and two very large deposits of smoking pipes at the Tremper and Mound City sites, which may have overlapped in their times of use.

An additional, minor difficulty with interpreting the large, socially homogenous gatherings as evidence for sodality organization is that it is unclear, in a few cases, whether the social groups who assembled were comprised of persons from multiple residence groups (communities) or from within a single community. The definition of a sodality would require the former. It is possible that a certain kind of gathering that occurred at multiple, approximately coeval sites represents multiple, distinct, ceremonial societies of a similar *kind* in different communities, rather than one, formal ceremonial society spanning several communities. This possibility must be considered for the three deposits of bear canines found at Hopewell, Seip, and Liberty. The deposits are small and each could easily indicate a ceremonial society within a community. The two deposits of smoking pipes found at Tremper and Mound City, and the two deposits of breastplates recovered from Hopewell and Seip might also be interpreted in this manner, but the number of items found in the deposits from Tremper, Mound City, and Hopewell are very large (n = 136, 200, 94–95, respectively), suggesting multicommunity participation.

An alternative interpretation of the large, socially homogeneous gatherings is that they involved leaders of one kind or another (Carr and Case, Chapter 5), and were occasions of alliance formation facilitated by such leaders, rather than sodality affairs. This interpretation is strongly supported by multiple lines of intrasite and regional-scale evidence of Hopewellian alliance-building reported in Chapter 7 by Carr.

A third possible interpretation of the archaeological data currently seems most likely. Considering all available data, it appears that institutionalized sodalities and multicommunity alliances negotiated by leaders were arising and operating hand-in-hand in the Scioto valley during the Middle Woodland, and that the different, large, homogeneous, burial assemblages

and ceremonial deposits pertain to one or the other kind of social structure. All three alternative interpretations offered above require further investigation, using the demographic and other criteria by which copper breastplates and earspools were identified with good certainty to have been markers of sodalities in Chapter 7.

Assuming for the moment that at least some of the large, homogeneous gatherings documented in Table 13.2 were the meetings of sodality members, one can ask when sodality organization arose and came to flourish. The Scioto valley, with its large number of excavated sites and intrasite proveniences, gives the best picture in Ohio. There, the sites of Tremper, Mound City, and Hopewell were functionally analogous and are analytically comparable ceremonial centers (see above, Site Function and Regional Distinctions), and define a sequence through time that is now secured by many archaeological criteria (Greber 1983, 2003; Prufer 1961a, 1964a; Ruby et al., Chapter 4; Ruhl 1996, Chapter 19; Ruhl and Seeman 1998; Weets et al., Chapter 14). For these three sites, the total number of large burial assemblages and ceremonial deposits that are distinct in kind at a site–that is, that potentially indicate distinct sodalities–increased over time from 2 at the very early Middle Woodland site of Tremper, to 6 at the slightly later but still early Middle Woodland site of Mound City, to 17 at the middle Middle Woodland site of Hopewell (Table 13.2). The total number of such large assemblages and deposits, distinct in kind or repeated at a site, increased from 2 at Tremper, to 10 at Mound City, to 17 at Hopewell (Table 13.2). These data suggest that sodality organization–if the homogenous burial assemblages and ceremonial deposits can be interpreted as such–had its origins in the Scioto valley at least as early as the beginning of the Middle Woodland period. Significantly, this time coincides with a shift in the Scioto valley from vertically stratified Adena mounds to horizontally laid out Hopewellian charnel buildings (Greber 1991), indicating new, horizontal means of social organization (Carr, Chapter 7), such as the rise of multicommunity, mortuary-based alliances (Carr, Chapter 7:Summary of the Historical Reconstruction of the Tripartite Alliance and Its Fall; Weets et al., Chapter 14:Con-

clusions). The rise of sodalities, also horizontal social structures, fits comfortably in this culture-historical, developmental context. The data further suggest that sodality organization–if this identification is correct–was a major dimension of Scioto Hopewellian social life by the heart of the Middle Woodland period.

The possibility that a wide variety of sodalities characterized Ohio Hopewellian societies by the middle of the Middle Woodland Period bears directly on Braun's (1977, 1986:123–125) view of the "decline" of Hopewell. Braun argued that Hopewellian mortuary flamboyance was produced by displays of prestige and power by community leaders in the process of creating and bolstering alliances among them. The decline of this flamboyance was tied by Braun to the development of supralocal sodalities, which, as institutions, were more effective in binding communities together than unpredictable, negotiated relationships among community leaders. If the large, homogeneous, multicommunity gatherings of persons of particular social roles documented here do indicate formal sodalities (i.e., social structures) that linked Ohio Hopewell communities, rather than less formal arrangements among community leaders, then Braun's argument would be countered empirically: the timing of substantial development of sodalities would date to the heart of the Middle Woodland rather than the transition to the Late Woodland period. This conclusion deepens our questioning of Braun's hypothesis begun in Chapter 7. Rigorous testing of his idea, however, will require determining which kinds of large, homogeneous burial assemblages and ceremonial deposits do actually represent the meetings of sodalities, and which do not, following the steps taken in Chapter 7 for breastplates and earspools.

The Issue of the Social Evolution of Magicoreligious Practitioners

The large, socially homogeneous gatherings of each of several, specialized kinds of shaman-like practitioners documented here can be understood and are expectable within the framework of Winkelman's (1989, 1990, 1992) model of the changing nature of magicoreligious practitioners

as social complexity increases. Winkelman found that, cross-culturally, the social person of the shaman, who performs a great diversity of tasks for a social group, is restricted to simply organized band and tribal societies that practice hunting–gathering and, occasionally, horticulture. As societal size and complexity increase and agriculture becomes more important, the multiple roles of the shaman become dispersed (i.e., "segregated") among multiple, more specialized magicoreligious practioners within a society (see Carr and Case, Chapter 5, for details of the theory). The centralized arrangement of shamanic roles found in simply organized societies seems to characterize well the shamanic practitioners of Glacial Kame and Red Ochre peoples of the terminal Archaic and Adena peoples of the Early Woodland period in Ohio (Baby 1956; Converse 1981; Otto 1975; Webb and Baby 1957:61–76, 83–101). The segregated arrangement of roles found in larger and more complex societies fits the pattern of homogeneous gatherings of specialized kinds of shaman-like practitioners found here for Ohio Hopewell peoples. Significantly, and in line with Winkelman's model, Ohio Hopewellian societies flourished after Glacial Kame, Red Ochre, and most Adena ones, developed from Adena societies, and depended considerably more on horticulture than did these earlier societies (Wymer 1996, 1997).

An association between the process of role segregation for magicoreligious practitioners and the process of development of institutionalized, pan-tribal sodalities, as posited in the preceding section, is not discussed in detail by Winkelman. However, he does document (Winkelman 1992:58) that, cross-culturally, as the centralized roles of the classic shaman become divided among more specialized, shaman-like practitioners, the mode of training of these practitioners shifts from individual experience to formalized teaching and initiation into full status by institutionalized, professional groups with their own collective ceremonies. Winkelman's cross-cultural survey also indicates that early in the role-segregation process, members of such professional groups are recruited from multiple kinship groups–specifically clans–but does not document whether members come from multiple residential groups also, constituting sodalities in Service's (1971) terms. However, clear examples of such sodality arrangements are found in Puebloan cultures of the Southwestern United States and the Central Algonkians of the Great Lakes-Riverine area, as summarized by Carr (Chapter 7:Notes 14-16).

The large, socially homogenous Hopewell gatherings of specialized, shaman-like practitioners documented here could represent the specialized, professional sodalities and their collective ceremonies that Winkelman's model describes. In accord with the model, the shaman-like practitioners who met and deposited their paraphernalia together in ceremony are known to have been recruited from differing clans rather than by kinship line (Thomas et al., Chapter 8). Three other kinds of evidence for the gatherings having been constituted by sodalities, apart from shaman-like ceremonial evidence of concern here, are summarized in the previous section.

The Issue of Calendric Timing of Gatherings

There is no indication that either the socially homogeneous gatherings or the socially diversified gatherings were cyclical in their timing. Single sites, and even temporally nearly synchronous sites such as Seip and Liberty, seldom contain multiple examples of deposits or burials with the same artifact compositions. For example, there is only one deposit predominated by obsidian spear points at Hopewell, only one deposit predominated by quartz spear points at Mound City, only one grave with large numbers of celts and breastplates at Hopewell, only one deposit predominated by cones and hemispheres at Hopewell, only one deposit dominated by copper geometrics at Hopewell, only one large deposit of hornstone preforms at Hopewell, only one accumulation of chlorite disks at Hopewell, and only one deposit dominated by galena at Hopewell. Further, most of these artifact accumulations do not seem to pair in any obvious, complementary fashion at the same site. The two examples of massive, diverse deposits are rare and found at distant sites. These data instead paint a picture

of materially unique kinds of ceremonies, often centered around specialized social roles that differed from occasion to occasion and that shifted unpredictably over long periods of time. This cultural situation calls to mind Wiessner's (1999) description of the spread of waves of distinct religious cults among communities in Papau, New Guinea, over a 250 to 400 year period, as intercommunity alliance networks were being cemented together (Carr, Chapters 3, 16).

Greber (1996:162–165, 1997:219) proposed the existence of a multigenerational, two-part calendric cycle among pre-Middle Woodland and Middle Woodland societies of southern Ohio. Her basis for this reconstruction is the supposed two-stage construction of a number of mounds, embankments, and other mortuary facilities in southern Ohio. Greber's picture and that presented here are not necessarily contradictory, because specific ceremonies that shift in nature over time can nevertheless be woven into broader, transcultural structures, such as Chanaka–Christmas and Passover–Easter, which are periodic. Moreover, different forms of material evidence often are sensitive to different cultural phenomena.[2]

Gatherings Focused or Not Focused on the Deceased

Crosscutting the distinction between homogeneous and diversified gatherings is another, between (1) gatherings that were ceremonially focused on one or a few deceased persons and (2) gatherings that were not and that employed the mortuary realm only in general as their context of action. The first kind of assembly is marked by large accumulations of artifacts associated with the grave of one or a few deceased persons. The second kind is indicated by artifact accumulations in crematory basins (altars) or floor deposits. The multiple kinds of gatherings that can be defined by the two, crosscutting dimensions of variation add to our understanding of the great diversity of kinds of ceremonies held within Ohio Hopewellian mortuary contexts.

Artifact assemblages associated with a grave, indicating either socially homogeneous or diversified gatherings, would most likely be the remains of funerary rites of separation or liminal-

ity. Rites of separation and/or liminality would be represented by assemblages placed within the primary mounds with the deceased, whereas only rites of liminality would be represented by artifacts placed on top of the primary mounds. For example, spear point fragments, pipe fragments, galena, and other artifacts from the Mica Grave (Burial 1) in Mound 13 at Mound City (Mills 1922:448–451) were mixed within soil forming a subrectangular ridge tomb like the embankment of Mound City, itself. Over and within this rectangle were placed hundreds of rounded mica mirrors, upon which four cremations were laid. This assemblage was then covered with a primary mound of clay, a layer of fine sand, and a layer of mica plates. The artifacts within the rectangular structure of this tomb and the first layer of mica mirrors clearly were associated with the burial process and a rite of separation, perhaps having been used in the initial stages of this ceremony and then ritually killed. Possibly in contrast, are Skeletons 260 and 261 from Hopewell Mound 25 (Moorehead 1922:110). Ninety-four or ninety-five copper breastplates and 66 copper celts were found above the skeletons, tightly fitted together, forming a rectangular area 5 × 7 feet. It is likely that this deposit was placed within the limits of and above a rectangular, log-surrounded tomb, similar to the ones that Shetrone (1926) had recorded for most of the burials he excavated from the mound and that Moorehead probably missed for nearly all the burials he excavated. The two skeletons may have laid partially exposed within the log tomb, after their rites of separation, and before the layer of breastplates and celts was placed down. If so, the celts and breastplates would probably constitute the remains of a rite of liminality, offered by leaders and prestigious sodality members whose social roles were marked by these items. This interpretation fits the crosscultural observation of Turner (1969), that rites of liminality are typically the most elaborate (and socially most attended) part of rites of passage that include ceremonies of separation, liminality, and reincorporation: the gathering in honor of the two persons in Graves 260 and 261 was composed of an unusually high number of very high-prestige attendees, marked by celts and/or breastplates.[3]

Integrating our observations on grave assemblages with those on the social homogeneity or diversity of gatherings suggests that some large funerary rites of separation may have been attended by individuals of select social roles from multiple communities (e.g., Hopewell Mound 25, joint Burials 6 and 7), whereas others may have been attended by persons of a broader range of social roles from single or multiple communities (e.g., the Mound City Mound 13, Mica Grave). Likewise, some large funerary rites of liminality may have been attended by persons of select social roles from multiple communities (e.g., Hopewell Mound 25, Skeletons 260 and 261), whereas others may have been comprised of persons of many social roles from single or multiple communities (e.g., Hopewell Mound 25, B34, or other log tombs with many and diverse offerings). Sociologically, the diversity of Hopewellian ceremonies quickly mounts.

Large artifact accumulations found in otherwise empty cremation basins within charnel houses, or on a charnel house floor, or above the floor on a mound surface, indicate gatherings that may have employed the mortuary realm in only a general, way as a context for social action. Specifically, refining somewhat a distinction drawn by Gluckman (1937), Morris (1991), and Buikstra and Charles (1999), gatherings focused on particular dead have potential for emphasizing ties with the ancestors, lineage continuity, and the status quo in sociopolitical relations. Gatherings within a mortuary setting that do not focus on particular dead may ostensibly address the deceased in general, but afford the opportunity for expressing competition and for challenging the status quo in relations of prestige, power, and property among assembled social units—both those distinguished by kinship and those defined by other social dimensions. Likewise, cooperation among either kin-based or nonkin-based social units may be expressed, or some balance of competition and cooperation. The large deposits of Hopewellian artifacts not found with graves or in altars spatially associated with them (Table 13.3) may very well reflect the latter, competitive and/or cooperative sociopolitical purpose.

Integrating the idea of ceremonies held in the mortuary realm but not focused primarily on the deceased with the distinction between whether they involved socially homogeneous or socially diversified gatherings again suggests differing sociological theaters. Cooperative and/or competitive ritual displays among similar, select segments from different communities (e.g., shaman-like diviners from multiple communities), in the case of large, socially homogeneous gatherings, stand in contrast with cooperative and/or competitive displays between similar social segments of many kinds simultaneously, either within or among communities (e.g., community leaders versus community leaders, plus clans versus clans, plus shaman-like diviners versus shaman-like diviners). Common, between-community, cooperative and/or competitive displays in socially homogeneous gatherings are suggested by the deposit of obsidian spear points in Altar 2 of Hopewell Mound 25, the accumulation of quartz spear points in the Altar of Mound 3 at Mound City, the assemblage of cones/hemispheres in Deposit 2 of Hopewell Mound 17, and the diverse copper geometrics in the above-floor Copper Deposit of Hopewell Mound 25, for example. Rarer, either within or between-community cooperative and/or competitive displays among persons of diverse kinds of social roles and units could be indicated by the varied assemblages of artifacts in Altar 1 of Hopewell Mound 25 and the Central Altar of Turner Mound 3.

Notice that these two kinds of presumed cooperative and/or competitive displays were not necessarily undertaken on different ritual floors under different mounds. On the floor of Hopewell Mound 25, Altar 2 appears to have been the focus of a large, socially homogeneous cooperative and/or competitive display, whereas Altar 1, some distance away, seems to have been the locus of a large, socially diversified cooperative and/or competitive display. If we add to this distinction the on-the-floor (Altars 1 and 2) vs. above-the-floor (Copper Deposit) contrast, which may have had some (unknown) sociological–ritual significance, the picture of ritual variability even within a single mound arena is made complex.

Social Roles of the Honored Dead

There are 24 known individuals buried in 16 graves across Ohio (Table 13.2, Appendix 13.1) who were the recipients of large quantities of artifacts or that were paired with them. It can be asked what social roles these honored dead may have had that could have led to the large gatherings around them—other than perhaps the social role(s) represented in plenty by the redundant gifts given to the deceased at the gatherings. If one assumes that the artifacts found with the 24 individuals, other than those that were amassed in number, represented the social roles of the deceased rather than those of gift-givers, then the question can be answered. Patterning is strong and the list of fancy auxilliary artifacts associated with these deceased is short: copper breastplates (10 individuals), copper earspools (8 individuals), obsidian and/or quartz bifaces (5 individuals), copper headplates (4 individuals), trophy skulls (4 individuals), copper nostrils (2 individuals), and a frog-effigy copper cutout (1 individual). The seven social roles marked by these artifact classes consolidate to probable society-wide leaders with headplates, shaman-like practitioners of various kinds, and perhaps warriors with trophy skulls. Most of these social roles would have had much sociopolitical power (e.g., society leaders, shaman-like war or hunt diviners, warriors) or were commonly recognized, prestigious social distinctions (e.g., breastplates, earspools). The significance of the two persons with copper nostrils is unclear; however, there are only three such individuals known archaeologically from the Hopewellian world, and the pearl symbolic water barriers placed around each of them suggest their great power (Carr, Chapter 7: Chronology).

Summary and Synthesis

The various kinds of large artifact accumulations and ceremonial gatherings delineated above can be combined with some of the depositional patterns identified by Greber (1996) to give a fuller picture of Ohio Hopewell gatherings. Artifact accumulations and gatherings of gift-givers of eight kinds can be defined to this point:

(1) a gathering of a few individuals for mortuary rites of separation, marked by a small numbers of grave offerings of several kinds not likely to have all been owned by the deceased (e.g., Hopewell Mound 25, B11, B22, B281);

(2) a gathering of a few individuals for funerary rites of separation or liminality, indicated by thin, spatially restricted deposits of ash, burned animal bones, pottery fragments, broken lithics, mica scrap, and/or minor personal ornaments on charnel house floors or as sweepings in pits in this area (e.g., Greber 1996:153–156);

(3) a large gathering of socially homogeneous, role-specialized segments of multiple communities for funerary rites of separation or liminality, reflected in a grave containing large quantities of predominantly one kind of artifact (e.g., Mound City, Mound 8, B2; Tremper, Sandstone Grave);

(4) a large gathering of socially homogeneous, role-specialized segments of multiple communities for funerary rites of liminality, indicated by a large assemblage of primarily one kind of artifact, placed in or on top of a log tomb or on a primary mound (e.g., possibly Hopewell Mound 25, Skeletons 260 and 261);

(5) a large gathering of persons who had a broad range of social roles and who came from single or multiple communities for funerary rites of separation or liminality, indicated by a grave containing large numbers of diverse kinds of socially significant artifacts (e.g., Mound City, Mound 13, B1—Mica Grave);

(6) a large gathering of persons who had a broad range of social roles and who came from single or multiple communities for funerary rites of liminality, marked by large numbers of diverse kinds of socially significant artifacts placed in or on top of a log tomb or on a primary mound. (There are no really good examples of this type of gathering. Hopewell Mound 25, B3–4 and B34–35 approach the type but suggest gatherings of moderate size.);

(7) a large cooperative and/or competitive ritual display among similar, select segments from different communities (e.g., shaman-like ceremonial leaders from multiple communities) during ceremonies of world

renewal, initiation, thanksgiving, or other purposes not specifically dedicated to the dead, indicated by large artifact accumulations found (a) in otherwise empty cremation basins not specifically associated with graves within a charnel houses, (b) on a charnel house floor, or (c) above the floor on a mound surface (e.g., Hopewell Mound 25, Altar 2; Mound City Mound 3, Altar; Hopewell Mound 25, Copper Deposit, respectively); and

(8) a large, cooperative and/or competitive ritual display between similar social segments of many kinds simultaneously, either within or among communities (e.g., community leaders versus community leaders plus clans versus clans) in the course of ceremonies of world renewal, initiation, thanksgiving, or other purposes not specifically dedicated to the dead, indicated by large artifact assemblages found (a) in otherwise empty cremation basins not specifically associated with graves within a charnel house floor, (b) on a charnel house floor, or (c) above the floor on a mound surface (e.g., Hopewell Mound 25, Altar 1; Turner Mound 3, Central Altar).

Most of these eight types of gatherings necessarily pertain to large ones, which have been the focus of this first half of this chapter. A fuller account of gathering types is laid out at the end of the chapter, after gatherings of all sizes have been analyzed.

QUANTITATIVE ANALYSIS OF THE SIZES AND COMPOSITIONS OF GATHERINGS, LARGE AND SMALL

The rich contextual approaches used above to examine artifact deposits and grave assemblages have allowed a picture of the maximal sizes of ceremonial gatherings to be assembled. A variety of kinds of large ceremonial gatherings within Hopewell earthworks and mound centers has also been defined. However, these studies, being highly focused on ceremonial artifact assemblages of large size and employing counts of only single artifact types, do not give a sense of the full range of ceremonies of different sizes

and natures and their relative frequencies. These matters we now address through detailed, quantitative, multivariate analyses.

Method

The approach that we use here to estimate the sizes and social compositions of ceremonial gatherings rests most basically on the assumption that the numbers of artifacts and the numbers of kinds of artifacts within a deposit or grave reflect the number of persons who offered gifts and the number of different social roles of those gift givers, respectively, during a ceremony. Obviously, any estimates built on this foundation assumption are minimal ones: persons who did not give gifts may have participated in the ceremony, in addition to those who made offerings.

For a ceremonial deposit, which does not include the remains of a person, the assemblage of artifacts within it can be attributed entirely to gift givers. For a burial, the question of which artifacts were given by mourners and which were the property of the deceased arises. In this analysis, as above, we invert conventional mortuary theory that attributes all grave goods to the deceased and their social roles and wealth. Instead, we assume that when a grave included multiple examples of an artifact class that were normally owned one item per person, as indicated by their typical burial one per person across Ohio, all but one specimen of that class represent gifts from mourners who had the same role as the deceased, marked by that artifact class. One specimen is held back from the count of gifts assuming that it belonged to the deceased. When an artifact class typically occurred two per burial, as in the case of earspools, or four per person, in the case of bear canines, or some other unit number, then units are tallied instead of individual artifacts, for the number of gift givers and the deceased. This basic model of artifact ownership was then varied in several ways, making different sociological assumptions about role distributions and producing multiple estimates of numbers of gift givers.

Three estimates of the number of persons who gave gifts were calculated for ceremonial deposits, and three for burials. The estimates for deposits and burials are essentially the same, except that one count of items or units of items

was subtracted in the case of burials in order to accommodate possible ownership by the deceased. The estimates are derived with the following logic, illustrated here for deposits. (1) One very minimal measure of the number of persons who made offerings at a ceremony is the number of different artifact *classes* present in a deposit. This could represent the number of persons of different social roles who gifted artifacts of different kinds. We call this measure Sum A. (2) An often more generous measure of the number of gift givers to a deposit is the number of *items* of a class present that typically occurs one per person in burials, summed over all such artifact classes. Again, units of multiple items are tallied instead of individual artifacts in the case of artifact classes that typically occurred in set multiples within burials. The measure also takes into consideration to some degree artifact classes for which it is unclear how many items or how much of a material typically were buried per person (e.g., quartz spear points, buttons, galena cubes) by giving each such class a count of one. This measure of ceremony size assumes that persons who were of one kind of role and gave one kind of offering were distinct from persons who had another kind of role and gave another kind of offering. The possible bundling of multiple roles in one person is not considered, potentially leading to some overestimation of the number of gifters. At the same time, balancing this possible overestimation is the fact that the measure does not consider the actual number of persons who might be represented by an artifact class that is unknown for the quantity of it typically buried per person. We call this measure Sum B. (3) A final, often intermediate measure of the number of gift givers to a deposit is like Sum B, but is the number of items of a class present that typically occurred one per person in burials, for only that one class having the maximum number of items, rather than summed over all classes. This measure is more conservative than Sum B in that it assumes maximal role bundling, i.e., that persons who had the role represented by the greatest number of items also had, among them, all other roles represented by less numerous items. Again, units of multiple items are tallied instead of individual artifacts in the case of artifact classes that

typically occurred in multiples within burials. We called this measure Sum C.

A fourth measure of ceremony size, which is possible to calculate but clearly would be an overestimation in many instances, is the sum of all artifacts of any class. This tally was not calculated. It would have erroneously counted n specimens of an artifact class that normally was owned m items per person (e.g., beads, earspools, bear canine pendants), as well as n specimens of artifact classes for which the number of items owned per person is unknown and/or might vary significantly (e.g., quartz or obsidian projectile points, raw material specimens), as n persons rather than n/m persons.

The first three measures of ceremony size were combined in three ways to produce a Minimal minimum, Maximal minimum, and Best estimate of ceremony size. (1) The *Minimal minimum* was calculated for deposits as the minimum of Sum A or Sum C. For burials, it was calculated as the minimum of Sum A minus one or Sum C minus one, taking into account the one artifact class or artifact that might have been owned by the deceased instead of gifted. This estimate chooses the minimum of two already minimizing estimates played off against each other: the number of artifact classes present in a deposit or burial against the number of items of a class present that typically occurs one per person in burials, for only that one class having the maximum number of items. (2) The *Maximal minimum* plays off the same two minimizing estimates but maximizing the minimum. It was calculated for deposits as the maximum of Sum A or Sum C and for burials as the maximum of Sum A minus one or Sum C minus one. (3) The *Best estimate* of ceremony size was calculated for a deposit as Sum B—the number of items of a class present that typically occurred one per person in burials, tallied over all such classes, plus the number of other classes present for which the typical number or weight of items per person is unknown. For burials, the number one was subtracted from this total, to take into consideration an item or artifact class owned by the deceased. The Best measure uses each artifact class to the best of its potential for representing gift givers—either its quantity or its presence. It also assumes no role bundling, which is a more

realistic assumption than maximal role bundling, given the low association between most kinds of artifact classes among graves across Ohio. Nevertheless, the Best estimate probably still underestimates the numbers of persons who offered gifts in some instances, because it counts only the presence of artifact classes rather than the number of items of an artifact class when the typical number of items or amount of material per person is unknown or quite variable.

The Minimal minimum, Maximal minimum, and Best estimates of ceremony size were each calculated for individual burials and deposits considering all artifact classes in the provenience and the social roles they represent, as well as focusing on eight subsets of artifact classes indicating eight different general categories of social roles: shaman-like leadership, possible shaman-like leadership, nonshaman-like leadership or persons of high prestige, prestigious clan roles, prestigious personal roles, ordinary clan roles, ordinary personal roles, and unknown roles.[4] When a grave contained multiple artifact classes indicating multiple general role categories, and when estimates of numbers of gift givers for these categories were made separately, the count of one was subtracted from each of the Minimal minimum, Maximal minimum, and Best estimates for each category, in order to represent the possible role of the deceased in each category. This produced a conservative estimate of the number of gift givers of each role category and recognized our uncertainty in the social role(s) had by the deceased. When estimating the total number of gift-givers of all role categories for a burial, considering all artifact classes found with it, the count of one was subtracted from each of the Minimal minimum, Maximal minimum, and Best estimates only once, in order to represent the role of the deceased. This procedure assumes no role bundling, which is a more realistic assumption than complete role bundling.

Table 13.5 lists all of the 22 mound and/or earthwork–mound ceremonial centers, which are most of the reported excavated sites in Ohio, for which populations of ceremonial deposits and burials were studied (see also Figure 13.1). Also listed are some subsets of these centers (e.g., Mounds 25 and 23 at Hopewell) that vary in

their sociological meanings and that were studied. Appendix 13.2 lists all the artifact classes that were analyzed and the general categories of social roles that they certainly or probably represent. Appendices 13.3 and 13.4 present the three

Table 13.5. Mound Centers and Earthwork–Mound Complexes Included in This Study

Large mound centers and mound–earthwork complexes of the central and southern Scioto drainage, Chillicothe area and south

    Ater
    Hopewell, all
        Mound 25
        Mound 23
        Mound 17
        All other small mounds
    Liberty (Edwin Harness Mound)
    Mound City
    Seip (Pricer Mound)
    Tremper

Small mound centers of the central Scioto valley, Chillicothe area

    Bourneville
    Ginther
    McKenzie
    Rockhold
    Shilder
    West

Small mound centers of the central Scioto valley, Circleville area

    Circleville
    Snake Den

Small mound center of the northern Scioto valley

    Wright–Holder

Large earthwork–mound complex of the Little Miami valley, southwestern Ohio

    Turner

Small mound center of southwestern Ohio

    Boyle's Farm

Small mound centers of northeastern Ohio

    Esch
    North Benton

Small mound centers of the central Muskingum valley

    Hazlett
    Rutledge

Large earthwork–mound complex of the lower Muskingum valley

    Marietta

estimates of ceremony size for each of the 403 individuals within a maximum of 358 graves and each of the 55 ceremonial deposit that were studied. The tallies are broken down by categorized social role. The many graves that had no artifacts or only one per deceased are not included here, because they do not inform about ceremony size; they would have yielded estimates of zero gift givers. Appendix 13.3 lists the estimates for burials with one or more persons per graves by individual and for single ceremonial deposits. For graves having more than one person, the association of artifacts with one person or another in the grave is certain or reasonably so. Appendix 13.4 lists the estimates for burials with more than one persons per grave, for those graves where the association of one or more grave offerings with one person or another is unknown. An artifact placed between n persons and having an unclear association is given the value $1/n$ for each of those persons.

Graves that had more than one person in them posed the problem of whether the persons had been laid out at once, their joint artifact assemblage representing one large gathering and rite of separation, or had been laid out at different times, their individual artifact assemblages representing several smaller gatherings and rites of separation. For the analyses presented here, both scenarios are assumed and presented in the tables. The two scenarios produce very similar findings. Of the 458 ceremonial deposits of artifacts and individuals associated with artifacts considered here, approximately 53 individuals occur in multiperson graves. Only 9 graves (20 individuals) produce estimates of 11 or more gift givers assuming a single time of layout and ceremony. Thus, the ambiguity of multiperson burials has little effect on the statistics we generate and, particularly, on our estimates of the size of moderate to large gatherings. There is only one very rich multiperson grave that produces widely varying results under the two assumptions: Burial 260–261 in Hopewell Mound 25 indicates 186 gift-givers when assuming one time of layout for both persons and one ceremony, and 93 gift-givers when assuming two times of layout and two ceremonies. Other details of the analysis are endnoted.[5]

Sizes of Gatherings

The minimum numbers of persons who made offerings to the deceased or contributed to ceremonial deposits are considered here. Estimates are given (1) for all sites in total, (2) by sites of different function and sizes, (3) by time period, and (4) by geographic region.

The General Picture

Table 13.6 presents the numbers of individual burial assemblages and ceremonial deposits that represent gatherings of given minimal size ranges, using the Best estimation described above, considering all 22 sites. The vast majority of the indicated gatherings are small. Nearly two-thirds (ca. 61%) represent gatherings of minimally one to three gift-givers ($n = 200$ of 326 or 213 of 344, depending on assumptions). When graves having no or few grave goods indicating very small gatherings with no gift givers are figured in, the proportion of very small ceremonies with zero to three gift-givers increases to three-fourths (ca. 76.7%, assuming that multiple burials represent multiple ceremonies). Only eight burial assemblages or ceremonial deposits indicate gatherings of more than 90 gift-givers, and only two suggest gatherings of more than 400 gift-givers: 441 and 514, or perhaps some what higher (see Table 13.6, Footnote c). Although these are minimal estimates of gathering sizes, and one cannot know the number of persons who attended ceremonies but did not offer gifts, the total picture presented is one of very few, large gatherings that would have been attended by a whole community or multiple whole, neighboring communities. Such community-wide or multicommunity gatherings would have involved hundreds of persons.

In addition, none of the burial assemblages or ceremonial deposits represent the numbers of persons that approach the 1000 to 1600 person, maximal attendances of the historic Huron and Algonkian Feasts of the Dead (see Carr, Chapter 12, Feast of the Dead). This result agrees with estimates of ceremony size derived above from the analysis of burial population sizes.

One way to put this situation into perspective is to make the bold and unrealistic

Table 13.6. Numbers of Individual Burial Assemblages and Ceremonial Deposits That Represent Gatherings of Given Minimal Size Ranges, for All 22 Ceremonial Centers

Size of gathering	Number of individual burial assemblages and ceremonial deposits		Largest burial assemblages and ceremonial deposits	Size of gathering
	Single[a]	Multiple[b]		
>500	1	1	Hopewell Mound 25, Altar 1	514[c]
201–500	2	2	Turner, Mound 3, Central Altar	441
101–200	5	4	Mound City, Mound 8, Depository	209
51–100	2	3	Hopewell Mound 25, Sk. 260 & 261 together	186
25–50	6	6	Tremper, Lower Cache	172
11–25	24	21	Hopewell Mound 25, Copper Deposit	127
7–10	29	29	Hopewell Mound 17, Offering 1	113
4–6	57	65	Hopewell Mound 17, Offering 2	111
1–3	200	213	Hopewell Mound 25, Sk. 260 by itself	93
			Hopewell Mound 25, Sk. 261 by itself	93
Total	326	344	Turner, Mound 4, Central Altar	67
			Mound City, Mound 8, B2	58

[a]The number of gift givers represented by burial assemblages and ceremonial deposits, assuming that each multiple burial involved only a single gathering and episode of deposition.

[b]The number of gift givers represented by burial assemblages and ceremonial deposits, assuming that each multiple burial involved multiple gatherings and episodes of deposition.

[c]This estimate assumes that the number of earspools deposited in Hopewell Mound 25, Altar 1, is 500 (250 pairs). If the number of earspools in the Altar was 750 to 1000 (375 to 500 pairs), per Table 13.2, Footnote a, then the estimated size of gathering represented by this feature would be 643 to 768 persons.

assumption, for illustration, that all or most deceased persons within a charnel house or on a burial floor—like those under Hopewell Mound 25 or Seip–Pricer or Edwin Harness mound—were honored and given their gifts at once. The numbers of gift givers implied is still small compared to the sizes of the historic Feasts of the Dead. Multiplying the 98 to 176 persons within these burial areas (Table 13.1) by the median 2 or 3 gift givers per deceased produces estimates of only 196 to 528 gift givers, in contrast, to the 1000 to 1600 persons who gathered at large historic Feasts. It is true that we do not know the percentages of the 1,000 to 1,600 attendees who actually gave gifts and whether this might be comparable to the estimated number of gift givers at the largest of Ohio Hopewell ceremonies. However, we also do not know for the historic feasts the counterbalancing factor of the numbers of gifts given per gift giver on average.

Another way of putting the sizes of Ohio Hopewell gatherings into perspective relative to those of the Feasts of the Dead is provided by the sum of all gift-givers tallied for all gatherings—burial assemblages and ceremonial deposits—by site. This information is given in Table 13.7. None of the sites except Hopewell have totals of *all* gatherings at them that approach even *one* of the reported Huron or Algonkian Feasts of the Dead.

In sum, the results presented do not support the idea that intercommunity and intracommunity sociopolitically cooperative and/or competitive displays were a regular (e.g., annual) aspect of Ohio Hopewellian ceremonial life with a mortuary component. Instead, most Ohio Hopewell burial assemblages and ceremonial deposits indicate small, intimate gatherings for rites of separation or liminality. This picture concords with a reconstruction derived below: that strong, religiously and spiritually solidified alliances among and within communities made cooperative and/or competitive ceremonial displays of material goods less necessary during the middle and late Middle Woodland.

Site Function and Regional Distinctions

Table 13.8 lists by site the numbers of individual burial assemblages and ceremonial deposits that represent gatherings of particular, minimal

Table 13.7. Sum of All Gift Givers at All Gatherings (Burial Assemblages and Ceremonial Deposits) Documented in Ohio Hopewell Ceremonial Centers, by Center

	Sum of all gift-givers at all gatherings, assuming . . .	
Site	Single gatherings[a]	Multiple gatherings[b]
Large mound centers and earthwork–mound complexes		
Central and southern Scioto drainage		
Hopewell, all[c]	999	1007
Hopewell Mound 25	(580)	(588)
Hopewell Mound 17	(224)	(224)
Hopewell Mound 23	(34)	(34)
Hopewell, other small mounds	(161)	(161)
Mound City, all	531	532
Seip–Pricer mound	229	236
Tremper	193	193
Ater mound	80	81
Liberty (Edwin Harness)	Unknown	Unknown
Little Miami valley, southwestern Ohio		
Turner	662	663
Lower Muskingum valley		
Marietta	Unknown	Unknown
Small mound centers		
Northeastern Ohio		
Esch	58	58
North Benton	37	37
Central Muskingum valley		
Hazlett	8	8
Rutledge	3	3
Northern Scioto valley		
Wright–Holder	2	2
Central Scioto valley, Circleville area		
Snake Den	18	18
Circleville	1	1
Central Scioto valley, Chillicothe area		
McKenzie	17	17
Ginther	12	12
Rockhold	13	13
Bourneville	10	10
Shilder	4	4
West	2	2
Southwestern Ohio		
Boyle's Farm	0	0

[a]The number of gift givers represented by burial assemblages and ceremonial deposits, assuming that each multiple burial involved only a single gathering and episode of deposition.
[b]The number of gift givers represented by burial assemblages and ceremonial deposits, assuming that each multiple burial involved multiple gatherings and episodes of deposition.
[c]The estimates for the entire Hopewell site and Mound 25 assume that 500 earspools were deposited in Mound 25, Altar 1. See Table 13.2, Footnote a, and Table 13.6, Footnote c, for a perspective on these estimates.

Table 13.8. Numbers of Individual Burial Assemblages and Ceremonial Deposits That Represent Gatherings of Given Minimal Size Ranges, by Ceremonial Center

Site	Size of gathering[a]								
	1–3	4–6	7–10	11–25	26–50	51–100	101–200	201–500	>500
Large mound centers and earthwork–mound complexes									
Central and southern Scioto drainage									
Hopewell, All	54/58+5	20/20+5	9/9+1	8/8+1	1/1+0	0/2+0	1/0+3		0/0+1
Mound 25	27/31+2	10/10+1	6/6+0	5/5+0	1/1+0	0/2+1	1/0+1		0/0+1
Mound 17							0/0+2		
Mound 23	7/7+0	3/3+0	1/1+0						
Other small mounds	20/20+3	7/7+4	2/2+1	3/3+1					
Mound City, all	17/17+4	8/12+0	3/3+1	4/3+1	2/2+0	1/1+0		0/0+1	
Tremper		1/1+0	0/0+1				0/0+1		
Seip–Pricer mound	35/42+0	8/9+1	4/4+1	3/2+1	0/0+1				
Ater mound	18/19+1	1/1+0	2/2+0		1/1+0				
Liberty (Edwin Harness)									
Little Miami valley, southeastern Ohio									
Turner	23/24+7	5/8+1	3/3+0	1/0+1	0/0+1	0/0+1		0/0+1	
Lower Muskingum valley									
Marietta[b]									
Small Mound Centers									
Northeastern Ohio									
Esch	7/7+1	1/1+0	1/1+0	2/2+0					
North Benton	2/2+1	1/1+0	1/1+0	0/0+1					
Central Muskingum valley									
Hazlett		1/1+0							
Rutledge	1/1+1								
Northern Scioto valley									
Wright–Holder	2/2+0								
Central Scioto valley, Circleville area									
Snake Den	1/1+0		1/1+0						
Circleville	1/1+0								
Central Scioto valley, Chillicothe area									
McKenzie	3/3+0	1/1+0	0/0+1						
Ginther	0/0+5								
Rockhold	2/2+1		1/1+0						
Bourneville	3/3+0	1/1+0							
Shilder		1/1+0							
West	1/1+0								
Southwestern Ohio									
Boyles Farm	0/0+0								

[a] For each entry, the number before the "/" is the number of burial assemblages within the given size range of gatherings, assuming each multiple burial to have been only a single gathering and episode of deposition. The number after the "/" is the number of burial assemblages with the given range of gatherings, assuming each multiple burial to have been multiple gatherings and episodes of deposition. The number after the "+" is the number of ceremonial deposits within the given size range of gatherings.

[b] Inadequate information to make estimates for the site.

size ranges, using the Best estimation described above. Only four sites have estimates of minimal gathering sizes greater than 51 gift-givers. The sites are Tremper (one gathering), Mound City (two gatherings), Hopewell (five gatherings), and Turner (two gatherings). These sites also are estimated to have had one or more gatherings of more than 100 gift givers. All four sites are earthwork–mound complexes with large burial populations. In contrast, the large mound of Seip–Pricer in the Seip earthwork and the large mound of Ater have peak minimal estimates of only 29 and 35 gift-givers, respectively. Information on burial assemblages and ceremonial deposits from the Liberty earthwork is too scant to quantitatively assess the sizes of gatherings there fairly. However, the general paucity of fancy and other artifacts found within Edwin Harness and Russell Brown Mounds 1, 2, and 3 indicates smaller assemblies.

These results are agreeable with the reconstruction of Scioto Hopewell community spatial–ceremonial organization developed in Chapter 7. There, it is argued that the Hopewell site was a burial place generally reserved for persons of much prestige, whereas Seip, Liberty, and Ater served as cemeteries for a broader spectrum of society. Supporting this conclusion is the greater material richness of Hopewell, including its total mound volume, quantity and diversity of Hopewell Interaction Sphere goods, and special quality of crafting of certain artifact classes. Also supporting the postulate is Hopewell's unique, adult male-biased burial population, in contrast to the more normal age–sex distributions of Seip, Liberty, and Ater, as far as they can be determined. Finally, the predominance of extended burials over cremations at Hopewell alone, and the cross-site correlation between extended burial and prestigious social roles, indicates Hopewell's special function. Chapter 7 goes on to reconstruct that a community in the North Fork of Paint Creek where Hopewell and Ater are located, a second community in main Paint Creek where Seip resides, and a third community in the adjacent section of the Scioto valley where Liberty resides each buried their important persons disproportionately at Hopewell compared to Seip, Liberty, and Ater. In this way, Hopewell was regionally unique and

more significant. The much larger sizes of the ceremonial gatherings estimated for Hopewell compared to Seip, Liberty, and Ater are expectable given the generally greater prestige of those buried there and the greater number of persons that would have been duty-bound to them.

The large ceremony sizes estimated for Tremper and Mound City can be understood in a similar way. These sites are in general earlier than Hopewell (Greber 2003: 92; Prufer 1961a, 1964a; Ruhl 1996, Chapter 19; Ruhl and Seeman 1998; Weets et al., Chapter 14), Tremper being the oldest and Mound City somewhat younger and perhaps overlapping with the earliest uses of Hopewell (Hatch et al. 1990). On their own time planes, Tremper and Mound City each stand out as the only documented, functioning earthwork–mound complexes in the Scioto drainage, and with regard to the volume of earth moving they represent. (The Hopeton earthwork, adjacent to Mound City and coeval with it, is almost completely void of burial mounds and was probably complementary to Mound City and an integral part of its ceremonial landscape [Ruby et al., Chapter 4].) Also, Mound City is distinguished in its number and diversity of Hopewell Interaction Sphere goods compared to other large ceremonial centers like Seip, Liberty, and Ater, and Tremper is extraordinary in having been the burial place of the largest known Ohio Hopewell burial population. In Tremper, the cremations of most of about 375 people were centralized in one resting place (Communal Depository 1 [Mills 1916:277]). The diverse sources of the pipestones from which the many pipes found at Tremper (Weets et al., Chapter 14) and Mound City (Gundersen and Brown 2002) were made also imply the regional significance of these sites. In these ways, Tremper and Mound City can be argued to have been extraordinary regional centers like Hopewell. Thus, the large gatherings estimated for Tremper and Mound City, like those at Hopewell can be explained by their proposed, special region-scale functions.

The regional function of Turner compared to Fort Ancient and other earthwork–mound centers in the Little Miami river is unclear.

In contrast to the large earthwork and mound centers just discussed are 14 small

Table 13.9. Estimates of the Numbers of Gift Givers at Ceremonies at Small Mound Centers, by Region

Region	Size of gathering[a]					Number of sites
	1–3	4–6	7–10	11–25	26–50	
Northeastern Ohio	11 (5.5)	2 (1)	2 (1)	3 (1.5)		2
Central Muskingum valley	2 (1)	1 (.5)				2
Northern Scioto valley	2 (2)					1
Central Scioto valley						
Circleville area	2 (1)			1 (.5)		2
Chillicothe area	15 (2.5)	3 (.5)	2 (.3)			6
Southwestern Ohio	0 (0)					1

[a]For each cell entry, the first number is the total number of gatherings of the given size, considering all sites in the region. The second number, in parentheses, is the average number of gatherings of the given size per site in the region.

mounds or mound clusters in this study. In the broad view, these are all estimated to have had only small ceremonial gatherings of fewer than 25 gift givers and, for most of the centers, fewer than 6 gift givers (Table 13.8). This generalization holds as well for the Chillicothe area, where the great geometric earthworks concentrate, as it does elsewhere (Table 13.9). It suggests the general functional similarity of all of these small mounds and mound centers, in comparison to the large, prestigious regional centers of Hopewell, Mound City, and Tremper and the other large sites of Seip, Liberty, and Ater, regardless of region. Most logically, the small mound centers serviced local social segments below the scale of the community alone, whereas the larger sites serviced one or more communities.[6]

Changes over Time

Changes in the estimated sizes of ceremonial gatherings and their frequencies over time can be roughly sketched for the larger sites in the Chillicothe area. The periods of earliest use and the midpoints of use of Tremper, Mound City, Hopewell, Seip, and Ater form a sequence from earliest to late Hopewell by many criteria (Greber 1983, 2003; Prufer 1961a, 1964a; Ruhl 1996, Chapter 19; Ruhl and Seeman 1998; Weets et al., Chapter 14). Gathering sizes for the first three sites can be compared, given their analogous functions as unique or extraordinary regional centers (see above). Gathering sizes at the last two sites in the sequence can likewise be compared because of their analogous functions as large regional centers, though not unique and as rich materially.

The frequencies of larger ceremonial gatherings and the average size of gatherings, measured in numbers of gift-givers, increase exponentially over time from Tremper to Mound City to Hopewell (Table 13.10). It is not possible to make these comparisons for the part of the sequence bridging Hopewell to Seip, because these sites apparently differed in function. However,

Table 13.10. Numbers of Individual Burial Assemblages and Ceremonial Deposits That Represent Gatherings of Given Minimal Size Ranges, for Large Ceremonial Centers through Time

Site: "youngest" to "oldest"	Size of gathering[a]								
	1–3	4–6	7–10	11–25	26–50	51–100	101–200	201–500	>500
Ater	19/20	1/1	2/2	0/0	1/1				
Seip	35/42	9/10	5/5	4/3	1/1				
Hopewell, all	59/63	25/25	10/10	9/9	1/1	0/2	4/3		1/1
Mound City	21/21	8/12	4/4	5/4	2/2	1/1	0/0	1/1	
Tremper	0/0	0/0	0/0	2/2	0/0	0/0	1/1		

[a]For each entry, the number before the "/" is the number of burial assemblages and/or ceremonial deposits within the given size range of gatherings, assuming each multiple burial to have been only a single gathering and episode of deposition. The number after the "/" is the number of burial assemblages and/or ceremonial deposits within the given range of gatherings, assuming each multiple burial to have been multiple gatherings and episodes of deposition.

from Seip to Ater, the frequency of midsized gatherings (there are no large ones) and the average size of gatherings decreases. This pattern, which considers burial assemblages and ceremonial deposits of all sizes, parallels the rise-and-fall pattern found for large burial assemblages and deposits, alone (see Large Ceremonial Deposits and Burial Offerings, above).

Our reconstruction of the increasing sizes of ceremonial gatherings for the times of Tremper through Hopewell, which comprise much of the Middle Woodland Period, is supported by two other, independent lines of evidence. First is changes in the sizes and styles of earspools over the Middle Woodland. Earspools became larger and contrasted more in profile through time, which would have improved their visibility by persons at distances. In turn, this suggests, among other alternatives, that the ceremonies in which earspools were worn and displayed involved increasingly larger audiences, with greater wearer-to-viewer distances, through time (Ruhl, Chapter 19). Ruhl's earspool seriation does not include a decrease in the size of earspools at the end of the Middle Woodland. However, the monotonic method of stylistic seriation she used does not allow for stylistic changes that reverse themselves over time, and may well have masked this final episode. Only further empirical study will clarify this situation.

The second form of data that supports the reconstructed changes in the sizes of ritual gatherings is the increasing acreage of earthworks in the Chillicothe area and the number of internal divisions within them. Tremper is a single elliptical embankment, and Mound City a single squarish embankment. These held only 3.5 acres and 13 acres, respectively. The apparently later, two-part, square-and-circle earthworks of Hopeton, Circleville, Highbank, and Seal, according to DeBoer's (1997:232) morphological seriation of earthworks, each held more territory—40 acres. Later, the tripartite earthworks of Seip, Baum, Liberty, Works East, and Old Town each enclosed 78 acres. The latest site of Ater had no embankment around it. This evidence provides only tentative support, because radiometric verification of some of the seriation is lacking, the duration over which some earthworks were built is debated (Connolly 1996; Greber 1997, 2003;

Riordon 1998), and possible differences in site function are not considered.

Evolving Alliance Formation Strategies

The increase and decrease over time in the number of large gatherings and the average size of gatherings suggest a shift in the nature and effectiveness of alliance formation strategies within and among communities over time within the Scioto valley, as described in Chapter 7. Early attempts at alliance building appear to have been primarily economic and social, largely outside of the religious and mortuary realms, and seldom choreographed within ceremonial centers, with Tremper having been an exception to the rule. Later, cooperative and/or competitive displays nested within mortuary rituals may have been employed to create and periodically renegotiate alliances among communities and/or their segments, resulting in the large and frequent ceremonial deposits found at Mound City and in Hopewell Mounds 25 and 11 and others (Table 13.2). Yet later, during the use of the Seip–Pricer charnel house, when spiritual and religious means for alliance formation had been perfected through the burial together of portions of multiple communities within the same mounds (Carr, Chapter 7), cooperative and/or competitive displays appear to have become less necessary, and gift-giving appears to have decreased in frequency and flamboyance. The lack of very large burial assemblages and ceremonial deposits and the reduction of midsized ones at Seip–Pricer, as well as the generally less rich artifact content of Seip–Pricer, Seip–Conjoined, and Edwin Harness, may indicate this shift in alliance strategies. However, the different functions of Hopewell and Seip do not allow this change to be firmly tracked by gathering size. The decreasing frequency of midsized gatherings and the decrease in the average size of gatherings from Seip to Ater accord with the breakdown of a regional alliance documented in Chapter 7, from a three-community network to a two-community network.

This picture of change in the nature of alliances over time is supported by shifts in the nature of ceremonial deposits through time. Tables 13.2 and 13.3 indicate that large ceremonial deposits comprised of predominantly personal

items (smoking pipes of the platform kind [Gernet and Timmins 1987]) are restricted to the early Middle Woodland, at Tremper and Mound City. These deposits reflect the assembly of persons as individual agents (e.g., ritual trading partners) rather than persons as leaders or members of social units. Dyadic economic and social interactions, which would have occurred regularly outside of the ceremonial centers, are implied. In contrast, large deposits that date later in time indicate the assembly of multiple leaders or members of social groups: shaman-like leaders, leaders marked by copper celts, clan members, sodality members, and, possibly, whole communities marked by communal offerings (Table 13.3). Group-organized sociopolitical ventures with some cooperative and/or competitive displays within ceremonial centers are implied. Thus, shifts over the Middle Woodland in both the size and the nature of gatherings within the ceremonial centers point to the same shift in the nature of alliance formation strategies.

The culture-historical model of alliance development posed here helps to explain the large number of bodies (ca. 375+) estimated by Mills to have been deposited at Tremper relative to the numbers found in later charnel houses (Table 13.1), and the difference between this large estimate and our more moderate estimate of the numbers of gift givers at Tremper (n = 193). Within and/or between-community alliances in the Scioto valley at the early time of Tremper appear to have been worked out largely through the economics and social relations of *individual* commoners as agents, who were then buried together at Tremper, leading to the apparently large burial population there. Burial together in the same charnel house would have helped to solidify alliances; but without attention on group leaders, it would not have required heavy gift giving and cooperative and/or competitive displays, leading to the more moderate number of gift givers indicated by the Tremper archaeological record. Later in the Middle Woodland, when alliance negotiations apparently became funneled more so through *representative* local leaders, joint burial came to focus on these persons, producing the smaller burial populations within the charnel houses of Hopewell Mound 25, Seip–Pricer, Seip–Conjoined, and

Edwin Harness (Table 13.1), but initially with more attention on cooperative and/or competitive displays and gift-giving, at Hopewell Mound 25 than later at Seip-Pricer and Edwin Harness (Table 13.10). As can be seen, it is essential to distinguish the number of gift givers implied by a charnel house's artifactual evidence from the number of deceased buried within a charnel house when examining and interpreting alliance strategies through time.

In this reconstruction, the assembly at the Tremper charnel house is more analogous to the historic Huron and Algonkian Feasts of the Dead, which involved common persons and large numbers of persons, than the assemblies at the charnel houses of Hopewell Mound 25, Seip–Pricer, Seip–Conjoined, and Edwin Harness, which involved high proportions of social leaders and fewer persons (see below and Table 13.12). However, even the estimated body count for the Tremper charnel house is a third of the number of deceased brought to the large, historic Huron and Algonkian Feasts of the Dead (see Carr, Chapter 12; Weets et al., Chapter 14).

Social Composition of Gatherings

The social composition of gatherings of persons who made offerings to the deceased or in the form of ceremonial deposits is quantified in this subsection. Estimates are presented (1) for all sites in total, (2) by sites of different function and sizes, (3) by time period, and (4) by geographic region.

Composite categories of social roles are used to characterize the social spectra of gatherings (Appendix 13.2). The categories include shaman-like leaders, nonshaman-like leaders and other persons of high prestige, prestigious clan leaders, ordinary clan members, prestigious personal roles, and ordinary personal roles, as defined by Case and Carr (n.d.) and Carr (Chapter 7) and summarized in Note 4.

The General Picture

The gifts given during mortuary-related ceremonies in all 22 sites represent overwhelmingly leaders and similar persons of high prestige compared to persons of more ordinary roles. In addition, leaders and persons of high prestige

Table 13.11. Estimates of the Numbers of Gift Givers of Various Social Roles (Categorized), for All 22 Ceremonial Centers[a]

Social category	Nonshaman-like leaders	Shaman-like leaders	Prestigious persons	Ordinary persons	Prestigious clanpersons	Ordinary clanpersons	Total
Total number of gift givers[b]	1,389/1,403	792/799	417/423	300/305	29/29	51/59	2,977/3,018
Percentage of gift givers	46.7/46.5%	26.6/26.5%	14.0/14.0%	10.1/10.1%	.97/.96%	1.71/1.95%	100/100%
Number of gift givers, without two largest deposits[c]	589/603	656/663	404/410	281/286	19/20	39/47	1,988/2,029
Percentage of gift givers, without two largest deposits	29.6/29.7%	33.0/32.7%	20.3/20.2%	14.1/14.1%	.96/.99%	1.96/2.32%	100/100%

[a] For each entry, the number before the "/" is the number of gift givers of the social role indicated by burial assemblages and/or ceremonial deposits, assuming each multiple burial to have been only a single gathering and episode of deposition. The number after the "/" is the number of gift givers of the social role indicated by burial assemblages and/or ceremonial deposits, assuming each multiple burial to have been multiple gatherings and episodes of deposition. The same format holds for the percentages.
[b] The estimates include all grave assemblages and ceremonial deposits listed in Tables 13.8 and 13.9.
[c] The estimates includes all grave assemblages and ceremonial deposits listed in Tables 13.8 and 13.9, excepting the two largest deposits: Hopewell Mound 25, Altar 1, and Turner, Mound 3, Central Altar, which are both heavily biased toward gift givers who were nonshamanic leaders.

marked by insignia not obviously tied to cross-cultural shaman-like roles are represented somewhat more often than shaman-like leaders (Table 13.11). There is no indication that Ohio Hopewellian societies and ceremonies were run primarily by shaman-like practitioners or, inversely, by other forms of leaders such as war and peace chiefs, priests, Big Men, or a suite of clan heads and/or sodality heads.

Site Function and Regional Distinctions

Table 13.12 summarizes the social compositions of gift givers at large and small ceremonial centers in Ohio. The only two large sites that are functionally differentiated and that significantly overlap in their time plane of use, allowing comparison, are Hopewell and Seip. The comparison corroborates the idea that Hopewell was a unique regional center where predominantly persons of importance were buried—and we may now add, honored—whereas Seip serviced a broader social spectrum. For Hopewell, a high 80.7%–81.3% of gift givers were shaman-like and nonshaman-like leaders, while 18.7%–19.3% were more ordinary persons. For Seip, the percentages are 68.7% and 31.3%, respectively—nearly twice the percentage of more ordinary persons who gave gifts at Hopewell.

Small mound centers across Ohio appear to fall into two modal, functional categories, according to the social composition of gift givers (Table 13.12). At some centers, gift givers are predominantly shaman-like and nonshaman-like leaders. The sites of North Benton, Hazlett, Snake Den, Shilder, Bourneville, Rockhold, and West fall in this group. At other centers, more ordinary persons constitute most or all gift givers. The sites of Esch, Rutledge, Circleville, and McKenzie define this group. Only one site, Ginther, witnessed roughly equal numbers of important and ordinary gift-givers, so the two kinds of sites are well distinguished.

For small sites where important persons comprised most or all gift givers, there is no modal or dichotomous pattern in the proportions of shaman-like leaders compared to nonshaman-like leaders and persons of high prestige (Table 13.12).

Changes over Time in Social Composition, Alliance Strategies, and Leadership

Changes in the social composition of gift givers at ceremonial gatherings over time can be tracked for the large earthwork–mound complexes and mound centers around Chillicothe. As noted in the previous section on gathering sizes, the sites

Table 13.12. Estimates of the Numbers of Gift Givers of Various Social Roles (Categorized), for Individual Large and Small Ceremonial Centers[a]

Site	Social category				
	Nonshaman-like leaders	Shaman-like leaders	Personal roles	Clan roles	Total
Large mound centers and earthwork–mound complexes					
Central and southern Scioto drainage					
Ater mound	24 (44.4%)	7 (13.0%)	21 (38.9%)	2 (3.70%)	54 (100%)
	24 (42.8%)	7 (12.5%)	22 (39.3%)	3 (5.36%)	56 (100%)
Seip–Pricer mound	64 (43.5%)	37 (25.2%)	29 (19.7%)	17 (11.5%)	147 (100%)
	69 (43.9%)	39 (24.8%)	32 (20.4%)	17 (10.8%)	157 (100%)
Hopewell, all	341 (42.4%)	313 (38.9%)	128 (15.9%)	22 (2.74%)	804 (100%)
	345 (42.1%)	316 (38.6%)	131 (16.0%)	27 (3.30%)	819 (100%)
Mound City, all	59 (13.0%)	145 (31.9%)	245 (53.8%)	6 (1.32%)	455 (100%)
	61 (13.1%)	148 (31.9%)	248 (53.4%)	7 (1.51%)	464 (100%)
Tremper	13 (6.81)	17 (8.90%)	156 (8.38%)	5 (2.62%)	201 (100%)
	13 (6.81)	17 (8.90%)	156 (8.38%)	5 (2.62%)	191 (100%)
Little Miami valley, southwestern Ohio					
Turner	387 (63.3%)	160 (26.2%)	45 (7.36%)	19 (3.11%)	611 (100%)
	389 (62.7%)	159 (25.6%)	53 (8.55%)	19 (3.06%)	620 (100%)
Small mound centers					
Northeastern Ohio					
Esch	5 (11.9%)	6 (14.3%)	30 (71.4%)	1 (2.38%)	42 (100%)
	6 (14.0%)	6 (14.0%)	30 (69.8%)	1 (2.32%)	43 (100%)
North Benton	10 (31.2%)	10 (31.2%)	11 (34.4%)	1 (3.12%)	32 (100%)
	10 (31.2%)	10 (31.2%)	11 (34.4%)	1 (3.12%)	32 (100%)
Central Muskingum valley					
Hazlett	1 (100%)				1 (100%)
	1 (100%)				1 (100%)
Rutledge			1 (100%)		1 (100%)
			1 (100%)		1 (100%)
Northern Scioto valley					
Wright–Holder					0
Central Scioto valley, Circleville area					0
Snake Den		13 (86.7%)	2 (13.3%)		15 (100%)
		13 (86.7%)	2 (13.3%)		15 (100%)
Circleville			1 (100%)		1 (100%)
			1 (100%)		1 (100%)
Central Scioto valley, Chillicothe Area					
McKenzie	3 (25.0%)		8 (66.7%)	1 (8.33%)	12 (100%)
	3 (25.0%)		8 (66.7%)	1 (8.33%)	12 (100%)
Ginther		8 (61.5%)	5 (38.5%)		13 (100%)
		8 (61.5%)	5 (38.5%)		13 (100%)
Rockhold	5 (83.3%)	1 (16.6%)			6 (100%)
	5 (83.3%)	1 (16.6%)			6 (100%)
Bourneville	4 (80.0%)	1 (20.0%)			5 (100%)
	4 (80.0%)	1 (20.0%)			5 (100%)
Shilder		3 (100%)			3 (100%)
		3 (100%)			3 (100%)
West	2 (100%)				2 (100%)
	2 (100%)				2 (100%)
Southwestern Ohio					
Boyle's Farm					0
					0

[a]For each social role (one column), for each site (two lines), the number (and percentage) on the first line pertains to gift givers of the social role indicated by burial assemblages and/or ceremonial deposits, assuming each multiple burial to have been only a single gathering and episode of deposition. The number (and percentage) on the second line pertains to gift-givers of the social role indicated by burial assemblages and/or ceremonial deposits, assuming each multiple burial to have been multiple gatherings and episodes of deposition.

Table 13.13. Estimates of the Numbers of Gift Givers of Various Social Roles (Categorized), for Individual Large Ceremonial Centers Through Time[a]

	Ratio of social categories[b]	
Site, "youngest" to "oldest"	% Nonshaman-like and shaman-like leaders to % personal roles (prestigious and ordinary)	% Nonshaman-like leaders to % shaman-like leaders
Ater	57.4% to 38.9% = 1.48	44.4% to 13.0% = 3.42
	55.3% to 39.3% = 1.41	42.8% to 12.5% = 3.42
Seip	68.7% to 19.7% = 3.49	43.5% to 25.2% = 1.73
	68.7% to 20.4% = 3.37	43.9% to 24.8% = 1.77
Hopewell, all	81.3% to 15.9% = 5.11	42.4% to 38.9% = 1.09
	80.7% to 16.0% = 5.04	42.1% to 38.6% = 1.09
Mound City	44.9% to 53.8% = .83	13.0% to 31.9% = .41
	44.9% to 53.4% = .84	13.1% to 31.9% = .41
Tremper	15.7% to 81.7% = .19	6.81% to 8.90% = .76
	15.7% to 81.7% = .19	6.81% to 8.90% = .76

[a] For each ratio of social roles (column), for each site (two lines), the percentages and ratio on the first line pertain to gift givers of the social role indicated by burial assemblages and/or ceremonial deposits, assuming each multiple burial to have been only a single gathering and episode of deposition. The percentages and ratios on the second line pertain to gift givers of the social role indicated by burial assemblages and/or ceremonial deposits, assuming each multiple burial to have been multiple gatherings and episodes of deposition.
[b] The percentages in this table are drawn from Table 13.16, retaining all of their assumptions.

of Tremper, Mound City, and Hopewell form a sequence in their periods of earliest use and mid-points of use, and can be compared because they are similar functionally as unique, prestigious regional centers. The sites of Seip and Ater also order temporally, appear to have been functionally analogous, and can be compared.

Two time trends that are significant to Hopewell social evolution and culture history can be found in the social compositions of gift givers at ceremonies (Table 13.13). First, the proportion of shaman-like leaders and nonshaman-like leaders who gave gifts relative to individuals in personal roles who gave gifts rises from Very Early Hopewell to Middle Hopewell times, represented by Tremper, Mound City, and Hopewell. The proportion then decreases from Middle to Late Hopewell times, represented by Seip and Ater, respectively. This trend parallels the increasing and then decreasing sizes of ceremonial gatherings over time, and suggests the same interpretation made above for changing gathering size: evolving alliance strategies. Specifically, alliance building within and between communities appears to have begun with mainly economic and social means, carried out by dyads of individual agents most often in nonmortuary contexts. This

is expected theoretically (Carr, Chapter 3; 1992a; Carr and Maslowski 1995). Within mortuary-related ceremonies during this era, it is these dyads who came together and honored the dead with their gifts. This situation is evident in the high proportion of gift-givers who were ordinary people at Tremper and Mound City. Individually owned smoking pipes and other personal items were given. With time, alliance-building activities were consolidated to a considerable degree under the leaders of societies, again as expected theoretically (Braun 1986:121; Carr, Chapter 7, 1992a; Carr and Maslowski 1995), and were played out increasingly in earthwork theaters and in more complex, ritually structured ways within mortuary-related ceremonies. Leaders who spoke for their communities increasingly became the agents who presented gifts to honor the dead, and probably also to each other, in the spirit of cooperative and/or competitive display. These activities are evidenced in the increased proportion of gift givers who were shaman-like or nonshaman-like leaders at Hopewell compared to Mound City and Tremper. During subsequent, Middle Hopewell times, when the charnel houses under Seip–Pricer, Seip–Conjoined, and Edwin Harness were used, alliances were built and

maintained primarily religiously and spiritually through the burial of persons from multiple communities together in the same charnel houses and mounds (Carr, Chapter 7). This would naturally have been accompanied by a reduction in cooperative and/or competitive gift giving, which is seen in the lower frequency of large, individual burial assemblages and ceremonial deposits within these Middle Hopewell mounds (see above), yet the continued predominance of community leaders in gift giving (Table 13.13; Seip). The natural evolutionary trend in alliance development (Carr, Chapter 7, 1992a; Carr and Maslowski 1995) expressed in all of these changes then appears to have been cut short by a historical event of some kind, which led to fracturing the alliance network in the region. The number of communities who buried their dead together was reduced from three, as expressed at the Seip–Pricer and Edwin Harness mounds, to two, as represented by the Seip–Conjoined and Ater mounds (Carr, Chapter 7). Significantly, during this period, the proportion of gift givers who were shaman-like or nonshaman-like leaders compared to individuals in personal roles decreased (Table 13.13, Seip–Pricer to Ater). This suggests an uncertainty in the ability or the lesser capability of community leaders to negotiate alliances between them, and some reversion to personal, dyadic means of forming and maintaining intercommunity alliances. The two lines of evidence—alliance network expanse as expressed in the sizes of gatherings and the mechanisms of alliance formation as expressed in the social composition of gatherings—neatly coincide.

A second time trend that is significant to Hopewell social evolution and culture history can also be found in the social compositions of gift givers at ceremonies. This trend is the progressive increase through time in the proportion of nonshaman-like leaders to shaman-like leaders who gave gifts (Table 13.13). This pattern suggests a shift in the nature of community leadership: specifically the development of institutionalized community leadership roles and behaviors that complemented the more idiosyncratic ceremonial ways and leadership styles of shaman-like practitioners. This change would be expected as alliance networks formalized, intensified, and

widened regionally, and more predictable and standardized leadership behaviors became necessary for the effective communication of intentions at multicommunity ceremonies. It is unclear whether the change involved a secularization of leadership, as well. The relationship of the religious meanings of metallic plain headplates, celts, breastplates, and earspools and other artifacts indicating nonshaman-like leaders or persons of high prestige to their sociopolitical power bases is not known (Carr and Case, Chapter 5).

The significant predominance of shaman-like leaders over nonshaman-like leaders in the earlier portions of the Middle Woodland suggests the applicability of Netting's (1972) theory of the religious foundation for the rise of supralocal leadership over Sahlins's (1968, 1972) political–economic view (Carr and Case, Chapter 5; Carr 1998/1999). Netting proposed that religious identities gave local leaders a means to free themselves of their local identity and bridge to persons in other localities.

Small ceremonial centers that can be ordered in time (Ruhl, Chapter 19; Ruhl and Seeman 1998; Prufer 1961a, 1964a) vary in both the proportions of leaders/prestigious persons versus more ordinary persons who gave gifts to the deceased and in the proportion of shaman-like leaders versus nonshaman-like leaders who gave gifts (see above). However, neither of these forms of variation sequence temporally. One would not expect temporal trends in these aspects of the social composition of gift givers at small centers like those at the larger centers, because the small centers almost certainly serviced only local social segments below the scale of the community. It is unlikely that the smaller centers functioned in the formation and maintenance of intercommunity and intracommunity-wide alliances, which was the apparent basis for the trends at the larger centers.

Kinds of Ceremonial Gatherings Revisited

An encompassing picture of the wide range of social gatherings of different sizes and natures that occurred in Ohio Hopewell ceremonial centers, and the relative frequencies of those

occasions, can be drawn typologically. Here, the contextually rich study of large ceremonial artifact assemblages with which this chapter began (Tables 13.2–13.4, Appendix 13.1), and Greber's (1996) study of deposits, are refined and extended using our multivariate quantitative approach for estimating numbers of gift givers. Ceremonial assemblages of small as well as large sizes are considered. This section brings the chapter full circle.

Large Ceremonial Deposits and Burial Offerings

Tables 13.2 and 13.3 showed that graves and ceremonial deposits with very many artifacts fall into two general classes kinds: those predominated by artifact types marking one social role or a closely related set of roles for gift givers, and those having a diversity of artifact types indicating many roles for gift givers. The specialized assemblages, in turn, varied among each other in the social roles they highlighted: shaman-like war or hunt diviners, other shaman-like diviners, shaman-like philosophers, leaders of whole communities or community-wide sodalities, sodality members, clan members, other socially institutionalized roles of importance, individual prestige, and the community as a whole (Table 13.4). These kinds of gatherings and their role characteristics are verified quantitatively in Table 13.14.[7]

Estimates of numbers of gift givers who attended socially homogeneous and diversified gatherings (Table 13.14, column 6) indicate that the diversified gatherings were much larger: of the order of two to three times the largest homogeneous gatherings (514 and 441 gift givers versus 209, 186, or fewer gift givers). The large sizes of the diversified gatherings suggest their attendance by members of multiple communities, if an estimate of average community size of 133 persons (Konigsberg 1985) is accepted (see Note 1). The socially homogeneous gatherings have large numbers of persons in roles that would have been uncommon in a single community (e.g., shaman-like practitioners, society-wide leaders, sodality members of high achievement), likewise suggesting the attendance of ceremonies by persons from multiple communities. These quantitative results

provide a measure of certainty to these interpretations that was not possible by contextual analysis, alone (see above).

The quantitative results in Table 13.14, column 6, also make it possible to infer which kinds of large, socially homogeneous gatherings of gift-givers were more or less grand. The largest of such ceremonial gatherings were dominated by possible society-wide leaders marked by celts and high achievers within sodalities marked by breastplates (186 gift givers) and by individuals represented by their personal smoking pipes (209 gift givers). Pearl and shell beads also seem to have marked the first two social roles. Somewhat smaller gatherings highlighted shaman-like philosophers marked by cosmologically significant geometrics (127 gift-givers) and shamanic-like diviners indicated by cones (111 gift-givers). Much smaller (maximum 52 gift-givers) were the gatherings of shamanic-like war or hunt diviners indicated by quartz and/or obsidian points, important and rare social roles marked by crescent pendants and reel-shaped pendants, and clan or sodality members identified by bear canines.

Small Ceremonial Deposits and Burial Offerings

The social compositions of small gatherings estimated to have been attended by three or fewer gift-givers are listed in Table 13.15 for ceremonial deposits and burial assemblages, separately, from all 22 sites. For both kinds of artifact assemblages, three distinct kinds of gatherings that differ in social composition are evident: gatherings where only nonshaman-like leaders gave gifts, gatherings where only shaman-like leaders gave gifts, and gatherings where only ordinary or prestigious individuals in their personal roles made offerings. Ceremonies that mixed two of these social categories were very rare in burial settings and only somewhat more common in other non-burial-focused contexts, indicating the culturally normative nature of the three types of small gatherings. In addition, this tripartite pattern reiterates that which characterizes many of the very large ceremonial deposits and burial offerings that were produced by socially homogeneous gatherings of gift-givers. The segregation of shaman-like from nonshaman-like leaders as

Table 13.14. Numbers of Gift-Givers of Various Social Roles (Categorized) Represented by Large Burial Assemblages and Ceremonial Deposits (>15 Items), for All 22 Ceremonial Centers[a]

Provenience	Nonshaman-like leaders	Shaman-like leaders	Personal roles, prestigious & ordinary	Clan roles, prestigious & ordinary	Total size of gathering
Socially homogeneous, specialized gatherings: Communal					
Communal pipes					
Seip–Pricer, Pipe Cache					5 communities
Socially homogeneous, specialized gatherings: Personal					
Individual, platform pipes					
Mound City, Md. 8, Central Altar & Depository Bag	0	6	**202**	0	209
Tremper, Lower Cache	3	17	**147**	5	172
*Hopewell, Shetrone's Md. 17, Offering 1	5	30	**75**	0	113
Socially homogeneous, specialized gatherings: Shaman-like leadership					
Cones/hemispheres					
Hopewell, Shetrone's Md. 17, Deposit 2	13	**90**	7	1	111
Points					
*Hopewell Md. 25, Altar 2	7.5	**27**	12.5	2	52
*Mound City, Md. 3, Altar & Crematory Basin	0	**24**	4	0	31
Geometrics					
Hopewell Md. 25, Copper Deposit	11	**114**	2	1	127
Raw Materials					
*Hopewell, Shetrone's Md. 29, Moorehead Md. 17	Not role-specific				10
Mound City, Md. 7, mica crescent	0	**10**	0	0	10
*Mound City, Md. 13, B1	2	7	**10**	1	14
Mound City, Md. 23, B1	0	0	0	0	0
*Hopewell, Shetrone's Md. 29	Not role-specific				1
Mound City, Md. 5, Altar	0	**1**	0	0	2
Hopewell Md. 2, Central Cache	**1**	**1**	0	0	7
Hopewell Md. 11, Crematory Basin	1	**3**	1	0	4
Hopewell Md. 1, Central Cache	0	**4**	0	0	
Socially homogeneous, specialized gatherings: Nonshaman-like leadership, sodality achievement					
Metal breastplates, celts, earspools					
*Hopewell Md. 25, Sk. 260–261	**163**	11	0	0	186
*Hopewell Md. 25, B7	**33**	3	2	0	38
*Hopewell, Shetrone's Md. 17, Offering 1	5	30	**75**	0	113
Seip–Pricer, Ceremonial Cache	**13**	0	1	1	15

(Continued)

Table 13.14. (*continued*)

Provenience	Nonshaman-like leaders	Shaman-like leaders	Personal roles, prestigious & ordinary	Clan roles, prestigious & ordinary	Total size of gathering
Reel-shaped gorgets, crescents					
Turner, Md. 15, Cache	0	0	0	1	1
Tremper, Sandstone Grave	**9**	0	0	0	10
Pearl & shell beads (300 max per necklace)					
*Hopewell Md. 25, Altar 2	7.5	**27**	12.5	2	52
*Hopewell Md. 25, Sk. 260–261	**163**	11	0	0	186
*Mound City, Md. 13, Deposit 5	3	**13**	**6**	2	24
*Mound City, Md. 13, B1	2	**7**	**10**	1	20
*Hopewell Md. 26, Crematory Basin	**4**	0	2	0	6
*Hopewell Md. 25, B6–7	**36**	0	3	0	46
Hopewell Md. 2, B3	**3**	0	0	0	5
Hopewell Md. 25, B248 + 249	**3**	1	0	0	13
Hopewell Md. 28, Crematory Basin	**3**	0	2	0	5
*Seip–Pricer, Burned Offering	4	**14**	1	**7**	29
Rutledge Md. 1, B3	0	0	0	0	2
Hopewell Md. 26, Deposit	2	0	3	0	5
Socially diversified gatherings					
Hopewell, Md. 25, Altar 1	**463**[b]	32	12.5	3	**514**[b]
Turner, Md. 3, Central Altar	**337**	77	7	16	441
Artifacts of unclear role affiliation					
Bear canines (4 max per necklace)					
Seip–Pricer, Cremation Basin 2	?				
*Seip–Pricer, Burned Offering	4	**14**	1	**7**	29
Hopewell Md. 25, B34	**4**	0	0	**5**	14
Harness Md., Cremation	?				
Other animal teeth, claws					
Hopewell Md. 23, Sk. 207	1	0	0	0	3
Mound City, Md. 8, B3	1	0	1	1	6
Mound City, Md. 8, B2	0	**49**	2	2	58
*Mound City, Md. 2, B16	**9**	0	1	0	15
*Mound City, Md. 13, Deposit 5	3	**13**	6	2	24
Hopewell, Md. 25, B41A–C	2	1	0	0	16

[a] The number of gift-givers indicated by burial assemblages and/or ceremonial deposits assumes that each multiple burial was only a single gathering and episode of deposition. Numbers in bold indicate, for each provenience, the general category of social roles that predominates in that provenience, as evidenced by its artifact type composition.
[b] This estimate assumes that the number of earspools deposited in Hopewell Mound 25, Altar 1, is 500 (250 pairs). See Table 13.2, Footnote a, and Table 13.6, Footnote c, for a perspective on this estimate.

Table 13.15. Social Composition of Small Gatherings (≤3 Gift Givers) for All 22 Ceremonial Centers

Social role, categorized	Number of burials with the social role[a]	Number of ceremonial deposits with the social role
Homogeneous gatherings		
Nonshaman-like leaders, only	28	5
Shaman-like leaders, only	18	6
Personal roles (prestigious & ordinary) only	24	11
Mixed gatherings		
Nonshaman-like leaders > shaman-like leaders		
Nonshaman-like leaders < shaman-like leaders		1
Nonshaman-like leaders = shaman-like leaders		
Personal roles and nonshamanic leaders	2	3
Personal roles and shamanic leaders	1	3
Personal roles, nonshamanic leaders and shamanic leaders		
No evidence of gatherings	91	29

[a]The statistics for burial assemblages assume that each multiple burial was only a single gathering and episode of deposition. A strong tendency toward role-homogeneous assemblages is found despite this assumption, which could mix ceremonially unassociated grave assemblages and the social roles they indicate.

gift givers in both small and large ceremonies of most kinds and in both burial and nonburial ceremonial contexts suggests very fundamental and institutionalized differentiation of social roles and ceremonial functions. What those functions were specifically remains unclear.

In burial contexts, small gatherings that involved shaman-like or nonshaman-like leaders as gift givers were more common, two to one, than gatherings that involved ordinary or prestigious individuals in personal roles as gift givers. Gatherings focused on nonshaman-like gift givers were more common, three to two, than gatherings focused on shaman-like gift givers. In contrast, in nonburial ceremonial contexts, gatherings that highlighted shaman-like or nonshaman-like leaders as gift givers and those that highlighted individuals in their personal roles were equally frequent. Likewise, gatherings that centered on shaman-like gift givers and those that centered on nonshaman-like gift givers were equally common.

The Social Composition of Gatherings in Relation to Their Size

A picture of how the social composition of gatherings changes with their size is given in Table 13.16 for burials and ceremonial deposits separately. In both settings, change is primarily abrupt rather than continuous with gathering size. For burials and ceremonial deposits alike, the ratio of shaman-like and nonshaman-like leaders to individuals in their personal roles who gave gifts is consistently low (generally 1 to 4) for gatherings of 1 to 6 or 10 persons, then is much higher (generally 7 to 32) for larger gatherings with 7 or 11 to hundreds of people. In the latter range, the proportion of leaders to more ordinary persons generally rises with gathering size. The data thus suggest that social leaders played much more central roles in gatherings of more than 6 to 10 gift-givers and that these leadership roles continued to increase in importance as gathering sizes increased. This result is expectable considering the greater need to organize large crowds than small gatherings through leadership.

Table 13.16 also shows that for both burials and ceremonial deposits, there is little difference in the proportions of shaman-like and nonshaman-like leaders until very large gatherings of 150 to 300 gift-givers are reached. At these large gatherings, nonshaman-like leaders come to outnumber shaman-like leaders overall by a ratio of 5:1 to 15:1. This result also is expectable, given the need to control large crowds with the predictable means of institutionalized, nonshaman-like leadership in contrast

Table 13.16. Change in the Social Composition of Gatherings with Gathering Size

Total size of gathering	Ratio of . . .	
	Nonshaman-like & shaman-like leaders to personal roles	**Shaman-like leaders to nonshaman-like leaders**
Burials[a]		
1	.79	1.20
2	3.93	2.06
3	1.60	1.18
4	3.50	.88
5	1.27	.90
6	2.69	1.87
7	1.53	2.25
8–10	1.27	1.94
11–15	6.75	2.72
16–25	1.04	.12
26–50	12.00	2.08
51–100	24.50	.00
141–200	174.00	14.80
Ceremonial deposits		
1	.50	2.00
2	1.60	1.00
3	1.36	.67
4–6	1.67	1.00
7–15	7.50	.67
16–30	4.67	1.06
31–100	32.00	.00
101–200	2.95	.12
201–300	.30	.00
301–500	59.10	4.77
≥501	23.90	7.89

[a] The statistics for burial assemblages assume that each multiple burial was only a single gathering and episode of deposition. Assuming that each multiple burial involved multiple gatherings produces similar quantitative results and the same patterning.

to the often idiosyncratic means of shaman-like practitioners. The shift to a predominance of nonshaman-like leadership at gatherings has a temporal as well as functional dimension. Previously, it was shown (Table 13.13) that the ratio of nonshaman-like to shaman-like leaders who were the focus of ceremonies increased over time, as intercommunity alliance networks formalized, intensified, and widened.

A Typology of Ceremonial Gatherings

Quantification of the sizes and social compositions of ceremonial gatherings using both small and large artifact assemblages, as well as the counts of both predominant and less frequent artifact classes within each assemblage, allows the classification of gatherings approximated in the first half of this chapter to be filled out. A fine-grained typology of gatherings, with examples of the rarer, moderate to large-size gatherings, is presented in Table 13.17.

The fundamental dimensions that define the typology, and that were *suggested by the nature of the assemblages and the structure of the data, themselves, rather than imposed upon this information*, are as follows: (1) the size of the gathering—either large to moderate or small; (2) whether the artifact assemblage evidencing a gathering was directly associated with the dead in or above graves, or found in free-standing ceremonial deposits; (3) whether gift givers of diverse social roles or predominantly one or two social roles participated in the ceremonies, as indicated by the artifact classes found in a

Table 13.17. A Typology of Ohio Hopewell Ceremonial Gatherings

I. **Moderate to large cooperative and/or competitive ritual displays involving multiple communities. Not directly associated with the dead.**

    A. *Gift givers of diverse social roles. Nonshaman-like leaders emphasized over shaman-like leaders.*

        Hopewell Mound 25, Altar 1. Total: 514[a] gift givers. Social composition:[b] **463**, 32, 12.5, 3

        Turner Mound 3, Central Altar. Total: 441 gift givers. Social composition: **337**, 77, 7, 16

        Ater, B51A, B. Total: 36 gift givers. Social composition: **18**, 6, 3, 2

    B. *Gift givers of a specialized social role. Shaman-like leaders predominate.*

      1. Shaman-like war or hunt diviners predominate

        Hopewell Mound 25, Altar 2. Total: 52 gift givers. Social composition: 7.5, **27**, 12.5, 2

        Mound City, Mound 3, Altar. Total: 31 gift givers. Social composition: 0, **24**, 4, 0

        Mound City, Mound 13, Deposit 5. Total: 24 gift givers. Social composition: 3, **13**, 6, 2

      2. Shaman-like as diviner in general

        Hopewell Mound 17, Deposit 2. Total: 111 gift givers. Social composition: 13, **90**, 7, 1

        Seip–Pricer, Burned Offering. Total: 29 gift givers. Social composition: 4, **14**, 3, 7

      3. Shaman-like as philosopher/cosmologist predominate

        Hopewell Mound 25, Copper Deposit. Total: 127 gift givers. Social composition: 11, **114**, 2, 1

      4. Shaman-like practitioners of unknown roles, associated with bulk fancy raw materials

        Mound City, Mound 5, Altar. Total: unknown. 30 lb of galena in 2-oz to 3-lb pieces

        Hopewell, Mound 1. Total: unknown. 30–40 chlorite disks

      5. Shaman-like practitioners of several specializations

        Turner, Mound 4, Central Altar. Total: 67 gift givers. Social composition: 0, **64**, 2, 0

    C. *Gift givers of a specialized social role. Role of nonshaman-like leader predominates.*

        Turner, Mound 15, Cache. Total: 27 gift givers. Social composition: **25**, 0, 2, 0

        Tremper, Sandstone Grave. Total: 12 gift givers. Social composition: **9**, 0, 1, 0

    D. *Gift givers of a specialized social role. Role of the individual (prestigious?) predominates.*

        Tremper, Lower Cache. Total: 172 gift givers. Social composition: 3, 17, **147**, 5

        Hopewell Mound 17, Offering 1. Total: 113 gift givers. Social composition 5, 30, **75**, 0

        Hopewell Mound 26, Crematory Basin. Total: unknown. 5,000+ shell and bone beads.

        Hopewell Mound 28, Crematory Basin. Total: unknown. 1,800 shell or bone beads

II. **Moderate to large cooperative and/or competitive ritual displays involving multiple communities. Directly associated with the dead.**

    A. *Gift givers of diverse social roles.*

      1. Gifts in a grave. Rites of separation

        Mound City, Mound 13, B1, Mica Grave. Total: 14+ gift givers. Social composition: 2, 7, 10, 1

        Mound City, Mound 7, B9. Total: 12 gift givers. Social composition: 4, 5, 0, 0

      2. Gifts in a log tomb (which can be reopened) or on top of it or a primary mound. Rites of liminality.

        Seip–Pricer, B1. Total: 11 gift givers. Social composition: 6, 2, 1, 0

    B. *Gift givers of one or two specialized social roles and closely related roles in lesser representation.*

      1. Gifts in a grave. Rites of separation

        a. Shaman-like leaders or practitioners of a kind predominate

          Hopewell Mound 11, Crematory Basin. Total: unknown. 136 kg of obsidian debitage

          Hopewell Mound 29, M1922:91A. Total: 11 gift givers. Social composition: 0, **11**, 0, 0

          Snake Den, Mound C, Cremation. Total: 17 gift givers. Social composition: 0, **12**, 2, 0

        b. Nonshaman-like leaders predominate

          Mound City, Mound 2, B16. Total: 15 gift givers. Social composition: **9**, 0, 1, 0

        c. High achievers in a sodality (earspools or breastplates) predominate.

          Hopewell Mound 25, B7. Total: 38 gift givers. Social composition: **33**, 0, 2, 0

          Seip–Pricer, Ceremonial Cache? Total: 15 gift givers. Social composition: **13**, 0, 1, 1

          (In a normal looking grave but no human remains. Memorial?)

Table 13.17. (*continued*)

    d. Role of the individual predominates
        Mound City, Mound 8, Central Altar. Total: 209 gift givers. Social composition: 0, 6, **202**, 0
        Esch, Mound 1, B1. Total: 14 gift givers. Social composition: 2, 1, **8**, 0
        Esch, Mound 2, B13a. Total: 20 gift givers. Social composition: 1, 0, **14**, 1

  2. Gifts in log tomb (which can be reopened) or on top of it or a primary mound. Rites of liminality
    a. Society-wide leaders (celts) and high achievers in a sodality (breastplates) predominate
        Hopewell Mound 25, Sk. 260–261. Total: 186 gift givers. Social composition: **163**, 11, 0, 0
        Mound City, Mound 7, B12. Total: 32 gift givers. Social composition: **22**?, 5, 0, 0

III. Small ceremonies (1–3 gift givers) Not directly associated with the dead.
  A. Gift givers are nonshaman-like leaders but not shaman-like leaders or individuals in personal roles.
  B. Gift givers are shaman-like leaders but not nonshaman-like leaders or individuals in personal roles.
  C. Gift givers are individuals in personal roles but not shaman-like or nonshaman-like leaders.
  Classes A and B are of equal frequency. Classes A and B combined are equally as common as Class C.

IV. Small ceremonies (1–3 gift givers). Directly associated with the dead.
  A. Gift givers are nonshaman-like leaders but not shaman-like leaders or individuals in personal roles.
  B. Gift givers are shaman-like leaders but not nonshaman-like leaders or individuals in personal roles.
  C. Gift givers are individuals in personal roles but not shaman-like or nonshaman-like leaders.
  Class A is more frequent than Class B; 3:2. Classes A and B combined are more frequent than Class C;
    2:1.

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[a] This estimate assumes that the number of earspools deposited in Hopewell Mound 25, Altar 1, is 500 (250 pairs). If the number of earspools in the Altar was 750 to 1000 (375 to 500 pairs), per Table 13.2, Footnote a, then the estimated size of gathering represented by this feature would be 643 to 768 persons.

[b] Social composition statistics for gift givers are given as follows: number of nonshaman-like leaders, number of shaman-like leaders, number of prestigious or ordinary individuals in personal roles, number of clan members. The total number of gift givers cited usually is more than the sum of the number of nonshaman-like leaders, shaman-like leaders, individuals in personal roles, and clan members because some artifacts in graves and ceremonial deposits represent roles of unknown kinds, which are not tabulated here. Numbers in bold indicate, for each provenience, the general category of social roles that predominates in that provenience, as evidenced by its artifact type composition.

ceremonial assemblage; and (4) for grave assemblages, whether the artifacts were probably placed in the grave when the deceased was laid to rest, indicating a rite of separation, or whether the artifacts might have been placed in the grave later, indicating a rite of liminality. The latter possibility was indicated by burial in a log tomb in a charnel house, where the tomb's cover could have been repeatedly opened and closed. This dichotomy is the least certain. Each of these four dimensions of the typology and their culture-historical significance have been discussed in detail earlier in this chapter (see Summary and Synthesis, and Kinds of Ceremonial Gatherings Revisited).

Other dimensions of variation were not used to structure the typology. The distribution of their variants among the gathering types suggests interpretations beyond the patterning captured by the typology itself. These dimensions include: (1) the particular social roles—as opposed to the diversity of social roles—indicated by a grave assemblage or ceremonial deposit; (2) modes in gathering sizes within the large-to-moderate and small divisions; (3) site function; and (4) temporal placement.

The largest and rarest gatherings, with more than 300 gift givers (Class IA), were not directly associated with the deceased and involved gift givers of many different kinds of leadership, sodality, clan, and ordinary social roles. Nonshaman-like leaders and high achievers within sodalities were the most common attendees. The sizes of these gatherings relative to the sizes of the largest burial mound populations suggest that they involved multiple earthwork communities. Not focused on the deceased, these ceremonies might not have emphasized ancestral continuities and the status quo in social relationships but, instead, could have provided opportunities for expressing some competition between assembled social units through ostentatious

material displays and for challenging established relationships (*cf.* Buikstra and Charles 1999; Gluckman 1937; Morris 1991). Whether competition was central to the ceremonies, and the extent of competition, are unknown. Whatever the case, centrifugal social forces would have been countered by firm, intercommunity alliances based on joint burial within cemeteries (Carr, Chapter 7) and at least two kinds of intercommunity sodality organizations (Carr, Chapter 7 and below). Thus, the ceremonial expression of cooperation among social units would have been fundamental.

Intermediate to large-sized gatherings of about 27 to 183 gift-givers (Class IB) again were not focused on the deceased and were fairly rare. However, they were socially more homogeneous, having involved persons of predominantly one social role. Shaman-like roles concerned with war or hunt divination, divination in general, philosophy and cosmology, and other unknown roles were the most commonly predominant roles at these occasions; gatherings emphasizing nonshaman-like leaders of whole communities or community-wide sodalities, sodality members, clan members, certain other institutionalized roles, or individuals in their personal roles were less frequent. Most ceremonial gatherings of intermediate size, like the largest ones, must have involved representatives of multiple communities, because the numbers of leaders they involved are more than one would expect in a single community at one time. These gatherings also may have afforded opportunity for cooperative and/or competitive material displays.

Moderately sized gatherings comprised of about 11 to 38 gift-givers and focused on the deceased (most in Class II) were also infrequent. They were variable in their nature, sometimes attended by gift givers of diverse social roles, sometimes predominated by gift givers of one kind of social role. The latter, socially homogenous gatherings varied widely in the kind of roles they features: shaman-like leaders, nonshaman-like leaders, high achievers in sodalities, and individuals in personal roles. Gatherings of this fairly small kind need not, by their empirical signatures, have involved persons from multiple communities, but they could have. In addition,

these gatherings most likely centered on ancestral continuities and the status quo in social relationships, having been focused on the deceased. Both rites of separation and rites of liminality may have been the subject of these gatherings, given the varying opportunities for adding, subtracting, or rearranging grave goods afforded by different kinds of tombs and as suggested by varying placements of grave goods.

Very small gatherings of one to three gift givers (Classes III and IV) dominate the Ohio Hopewell record of ceremonial assemblies. These were sometimes centered on the deceased, sometimes not. Almost all were homogeneous in the kinds of social roles had by the gift givers who gathered. Gift givers at a given gathering were either only shaman-like leaders or only nonshaman-like leaders or only individuals in personal roles, in almost all instances. The ceremonies held at these gatherings most likely emphasized relationships with the deceased, including rites of separation and liminality, rather than cooperative and/or competitive display, given the small numbers of attendees.

CONCLUSIONS

Reconstructing a personalized view of the Ohio Hopewellian world, in which its spacious earthwork enclosures, mound groups, and isolated mounds are peopled with ceremonial gatherings of known approximate sizes, social compositions, and purposes, is central to any satisfyingly thick, descriptive prehistory of Hopewellian life. A Hopewell material landscape left empty of people produces awe but little understanding. Estimates of the magnitude and nature of Hopewell ceremonial gatherings also set a solid foundation for inferring the internal characteristics and dynamics of Hopewellian societies, their interrelationships, and their change through time.

The reconstructive work done in this chapter has produced a good number of insights into Hopewellian gatherings and their broader sociological interpretation. Answers to each of the questions asked at the beginning of this chapter have been found: the sizes of gatherings, the

social roles of those who attended, whether they were repetitive and institutionalized in nature, their variation with site function, and their change over time. These insights and answers are as follows.

(1) The great majority of ceremonial gatherings within the mortuary spaces of Ohio Hopewell mound sites and earthwork–mound complexes were small. About two-thirds of the gatherings documented here for 22 sites involved only one to three gift givers. About three-fourths of all recorded graves and ceremonial deposits, including graves with no artifacts, indicated gatherings of three persons or less.

In all of the known Ohio Hopewell world, only eight burial assemblages or ceremonial deposits indicate gatherings of 90 or more gift-givers, and only two suggest gatherings of more than 400 gift givers: 441, and 514 or perhaps somewhat higher. None of these estimates, though conservative, approach the size of the historic Huron and Algonkian Feasts of the Dead, which sometimes involved as many as 1,000 to 1,600 attendees, 1,200 given gifts, and/or the remains of 1,000 deceased persons (Carr, Chapter 12). The burial populations of the largest charnel houses under Hopewell Mound 25, Seip–Pricer mound, and Edwin Harness mound reached only 98–176 persons, although the number of deceased buried at Tremper probably was more.

The limited number of large ceremonial gatherings identified here does not support the idea that major intercommunity and intracommunity cooperative and/or competitive displays within ceremonial centers were a regular (e.g., annual) aspect of Ohio Hopewellian ceremonial life having a mortuary component. Too few remains of such large gatherings exist for this to be the case. This finding is fully compatible with the reconstruction (Carr, Chapter 7) that intercommunity alliances during the middle and latter half of the Middle Woodland were solidified religiously and spiritually through multicommunity joint burial, which would have made cooperative and/or competitive ceremonial displays less necessary.

(2) Ohio Hopewell ceremonial gatherings in mortuary settings took many forms that varied in four fundamental ways: the size of the gather-

ing, whether the gathering focused on the grave of a deceased person or resulted in a free-standing ceremonial deposit, whether gift givers were of homogeneous or diverse social roles, and, for grave-oriented ceremonies, apparently whether the gathering was for a rite of separation and/or rite of liminality.

The nature of gatherings varied systematically with their sizes. The largest gatherings, with more than about 300 gift-givers, were rare, not directly associated with the deceased, diverse in social composition, and involved persons from multiple earthwork communities. The ceremonies probably involved cooperative and/or competitive material displays that might have allowed established social relationships to be challenged to some degree, or might have emphasized cooperative ancestral or other relationships and the status quo. More moderately sized gatherings, of about 27 to 183 gift givers, were fairly rare, not focused on the deceased, homogeneous in social composition, and, in most instances, involved members of multiple earthwork communities. These ceremonies also would have been opportunities for cooperative and/or competitive displays. Smaller gatherings, of about 11 to 38 gift givers, were still relatively infrequent, focused on the deceased, either diverse or homogeneous in social composition, and may or may not have involved persons from multiple communities. Focusing on the deceased, these ceremonies likely emphasized continuities with ancestors and reinforced traditional social relationships. The very smallest of gatherings, with about one to three gift givers, were very common, centered on the deceased, homogeneous in social composition, and more probably included persons from only one community. Again, these ceremonies would likely have emphasized ancestral relations and the status quo. Both the small and the very small gatherings around the deceased likely encompassed rites of separation and liminality.

(3) Gatherings of large to intermediate sizes—both socially homogeneous and socially diverse—show little evidence of having been repeated periodically as part of a cycle or "calendar" of institutionalized types of ceremonies within a society, among neighboring societies, or across southern Ohio. Within individual

ceremonial sites and societies, almost all of the ceremonial gatherings in the large to intermediate size range are unique in their social compositions and the kinds of artifact deposits they generated. For example, at the Hopewell site, only one large ceremonial deposit or grave assemblage is found for each of the following items: obsidian spears, celts and breastplates, cones and hemispheres, copper geometrics, hornstone preforms, chlorite disks, and galena. None of these artifact accumulations at Hopewell seem to pair in any obvious manner. The same uniqueness and lack of pairing is true for most large to intermediately sized artifact accumulations within other sites. The only exceptions to this pattern are: three large deposits of mica mirrors at Mound City, two large deposits of galena there, three moderately sized deposits of bear canines at Seip-Pricer mound and Hopewell Mound 25, three moderately sized deposits of elk canines at Mound City, and two large deposits of earspools below Hopewell Mound 25. These pairs or triads of deposits may simply reflect historical continuity of situationally precipitated forms of ceremonies, not the periodic calendrical timing of ceremonies, within an individual society. Two points do not demonstrate a cycle, and three points do not without chronological information, especially in the context of the ample evidence for unique ceremonial gatherings.

For the scale of multiple societies, Greber (1996:162–165; 1997:219) postulated the existence of a multigenerational, two-part calendric cycle for pre-Middle Woodland and Middle Woodland societies across southern Ohio. Large and intermediately sized ceremonial deposits viewed across sites provide little support for Ohio Hopewellian peoples having had such a calendric cycle. The two largest ceremonial gatherings at Turner and Hopewell are somewhat analogous in their diversity and size. However, they differ significantly in the specific artifact forms they included, and were separated widely in space, number of generations, and social tradition. One possible indicator of a two-part, calendric cycle is the couple of ceremonial gatherings represented by the deposits of smoking pipes found at Tremper Mound and Mound City, Mound 8. The pipes are similar in nature, and the two sites sequence fairly closely in time and are

but a short river trip apart. However, again, two points in time do not prove a cycle; situational timing of ceremonies is an alternative possibility. Some other evidence documented by Greber (1996:162–165) for a multi-society, multigenerational, periodic ceremonial calendar is more convincing.

(4) Gatherings of different sizes and social compositions distinguish ceremonial centers of different functional classes. The sites of Hopewell, Mound City, and Tremper, which can be defined as functionally specialized regional centers based on characteristics other than their peak gathering sizes (Carr, Chapter 7, and above), and the possible regional center of Turner, were the only Ohio Hopewell ceremonial centers that had one or more large gatherings of more than 51 gift givers. They also each had one or more large gatherings of more than 100 gift givers. In contrast, the large mounds of Seip–Pricer, Edwin Harness, and Ater, which are not regionally unique in any of the ways of the first three sites, had peak gatherings of much smaller sizes— 29 and 35 gift givers for Seip–Pricer and Ater, respectively. The 14 much smaller mounds or mound clusters in this study all had peak ceremonial gatherings of fewer than 25 gift givers, and most had peak gatherings of fewer than 6 gift givers. The two small sites of Esch and North Benton, both in northeastern Ohio, stand out in having had double or more the number and/or size of gatherings that met at other small sites in other regions. The reasons for this regional development are unclear. There were a variety of other significant cultural differences between northeastern Ohio and central Scioto valley Hopewellian communities (Note 6; Field et al., Chapter 9; Carr and Turff, Chapter 18; Spence and Fryer, Chapter 20; Seeman 1996).

In social composition, the totality of gatherings documented for the regional center of Hopewell had a significantly greater percentage of shaman-like and nonshaman-like leaders who gave gifts than the gatherings documented at Seip: 80.7% to 81.3% versus 68.7%. For small mound centers, the small numbers of gift givers do not permit the accuracy of such percentages. However, the mound centers clearly

vary in whether gift givers were dominated by important shaman-like and/or nonshaman-like leaders, or by more ordinary persons. The sites of North Benton, Hazlett, Snake Den, Shilder, Bourneville, Rockhold, and West fall in the first class, while Esch, Rutledge, Circleville, and McKenzie fall in the second.

(5) Changes in the size and social composition of gatherings through time in the central Scioto valley follow a pattern that is expectable from what is known empirically about evolving alliance strategies among communities there and theoretically about alliance formation in general (Carr, Chapter 7, 1992a; Carr and Maslowski 1995). The periods of first use and the midpoints of use of the large sites of Tremper, Mound City, Hopewell, Seip, and Ater define a chronological sequence from earliest to late Hopewell by many criteria (Greber 1983, 2003; Prufer 1961a, 1964a; Ruhl 1996, Chapter 19; Ruhl and Seeman 1998). Over this sequence, the frequency of larger ceremonial gatherings and the average size of gatherings, measured in numbers of gift-givers, increased exponentially from Tremper to Mound City to Hopewell, which are functionally analogous centers, and then decreased from Seip to Ater, which are functionally analogous centers. The increase in sizes of gatherings found in the first part of this sequence is corroborated by increases over time in the acreage of ceremonial centers, in the number of divisions within ceremonial centers (DeBoer 1997), and possibly the increasing viewing distances and audience sizes implied by increases in earspool size (Ruhl, Chapter 19). Paralleling the time trend for increasing and then decreasing sizes of gatherings, the proportion of shaman-like and nonshaman-like leaders who gave gifts at gatherings relative to the proportion of more ordinary persons rose from Tremper and Mound City to Hopewell and then decreased from Seip to Ater.

The smaller gatherings with high proportions of ordinary persons early in the sequence reflect incipient attempts at alliance building through largely economic and social means between dyads of individual agents in primarily nonmortuary contexts. Within mortuary-related ceremonies, mainly these dyads honored the dead

with their gifts of smoking pipes and other personal items at Tremper and Mound City. The larger gatherings with high proportions of leaders compared to ordinary persons in the middle part of the sequence, involving Mound City and Hopewell, indicate intensified efforts at alliance building, which were consolidated for efficiency and effectiveness in the hands of leaders and which were played out within earthwork–mound complexes. Cooperative and/or competitive ceremonial displays took prominence over the earlier forms of dyadic, economic and social partnerships and exchanges as alliance-making strategies. During the period of use of the Hopewell Mound 25 charnel house and, later, the Seip–Pricer charnel house, spiritual and religious mechanisms of alliance maintenance were perfected, involving the burial of persons from multiple communities together within each other's charnel houses. Cooperative and/or competitive gift giving naturally waned, evidenced in the reduced size of the largest grave assemblages and ceremonial deposits and fewer intermediate-sized grave assemblages and ceremonial deposits. Leaders who spoke for their communities would be expected to have continued their central roles in alliance maintenance relative to more ordinary persons in a setting of joint community burial, and did, it would appear, from the high proportion of leaders compared to ordinary persons who gave gifts at this time. At the end of the sequence, a partial return to gatherings with smaller numbers of gift givers reflects the breakdown of an alliance in the central Scioto from a three-community network to a two-community network. Increased input from more ordinary persons relative to leaders at these ceremonies suggests an uncertainty in the ability of community leaders to negotiate alliances and some reversion to personal, dyadic social and economic means of building intercommunity alliances.

Over the course of this sequence, the ratio of nonshaman-like leaders to shaman-like leaders who gave gifts increased steadily. This trend indicates the development of institutionalized community leadership roles that at first bolstered then in part replaced, the more idiosyncratic ceremonial rites and leadership styles of shaman-like practitioners—a characterization of shaman that

has cross-cultural regularity. Such a standardizing of leadership positions and behaviors would be expected during times when alliance networks were intensifying, widening, and formalizing, and when the need for effective communication of intentions at multicommunity gatherings was increasing.

(6) The analogy of Ohio Hopewell mortuary rites within ceremonial centers to protohistoric and historic Huron and Algonkian Feasts of the Dead, summarized in Chapter 12 by Carr, seems to hold well in the Scioto valley for only the early center of Tremper. At Tremper, as many as 375 cremations were laid to rest together, comingled in four depository basins within a charnel house. Also, most of the 500 ceremonial artifacts found within the charnel house had been decommissioned together in a single depository, much as the human remains had been mixed. The cremations and artifacts most likely had been brought for ceremony and deposit by multiple communities, some located at quite a distance from each other, to judge by the diversity of artifact styles and chemical sourcing data (Weets et al., Chapter 14). Later Ohio Hopewell charnel houses do not evidence the mixing of cremations and in seem to have held fewer deceased.

The distinction of Tremper from later Scioto Hopewell ceremonial centers in the mixing of its human remains and in their larger number likely reflects changes in the alliance strategies used by Scioto Hopewell peoples over time. As summarized above, economic and social relations among individual agents were replaced to a considerable degree by economic, social, and political activities centralized through leaders. Early, at Tremper, social segments within a community and multiple communities integrated themselves by co-mingling the remains of many individuals who *in total* represented those segments or communities. Later, in the charnel houses of Hopewell Mound 25, Seip–Pricer, Edwin Harness, and Seip–Conjoined, intracommunity social segments and communities were integrated by gift giving among leaders, cooperative and/or competitive gift giving to the deceased by leaders, and joint burial of leaders as representatives of intracommunity groups and communities. These later alliance mechanisms produced

smaller burial populations without an emphasis on co-mingling the remains of the deceased.

(7) At no time during the Middle Woodland were Ohio Hopewell societies run entirely by shaman-like practitioners or entirely by leaders of nonshaman-like character, such as war and peace chiefs, priests, Big Men, clan heads, and/or sodality heads. There was always a mix of shaman-like and nonshaman-like kinds of leaders, and this balance shifted over time, as indicated by the artifact compositions of burial assemblages and ceremonial deposits. The predominance of shaman-like leaders earlier in the Middle Woodland suggests the applicability of Netting's (1972) theory of the religious foundation for the rise of supralocal leadership over Sahlins' (1968, 1972) political–economic view (Carr 1998/1999). Netting proposed that religious identities gave local leaders a means to free themselves of their local identity and bridge to persons in other localities.

The roles taken by Ohio Hopewell shaman-like leaders and nonshaman-like leaders were, for the most part, highly segregated from each other in ceremonies held in mortuary contexts. Leaders of the two categories seldom both gave gifts at the numerous, small ceremonial gatherings of one to three gift givers, in both small mound centers and large earthwork–mound complexes. At the few gatherings of intermediate size, the leaders of the two social categories sometimes both gave gifts, but shaman-like leaders generally outnumbered nonshaman-like leaders by large margins. At the two largest gatherings, shaman-like and nonshaman-like leaders both gave gifts, but here, nonshaman-like leaders greatly outnumbered shaman-like leaders. The two kinds of leaders appear to have played complementary roles in ceremonies of intermediate and large size.

(8) The possible operation of multicommunity sodalities in the central Scioto and Great Miami regions and the existence there of tribal organization in the broad sense encompassed by Fried (1968), Voss (1980, 1982), and Braun and Plog (1982), qualifying Service (1971), is suggested by the large, socially homogeneous gatherings of several kinds that met within a number of earthwork and mound ceremonial centers in these regions, and that left

large, compositionally uniform assemblages of ceremonial objects and status markers in burials and deposits there. The role-specialized social segments that comprised these gatherings in most instances came from different communities, and may have been responsible for different kinds of ceremonies, given their distinct social roles and associated paraphernalia. Breastplates and earspools were identified as probable sodality markers in Chapter 7. Other potential sodalities suggested here but requiring further investigation to confirm them here include societies of war or hunt diviners, other kinds of diviners, philosopher/cosmologists, and social personae marked by reel-shaped gorgets, panpipes, smoking pipes, and possibly bear and elk canines. Sodalities of these kinds recall the sacred pack organizations of historic Central Algonkians for warfare, hunting, sorcery, healing of the whole tribe in times of drought or illness, and those persons blessed by the same spirit.

The possible existence of a number of multicommunity sodalities among Scioto Hopewell peoples during the heart of the Middle Woodland calls into question an often-recited idea of Braun's (1977, 1986:123–125): that the ending of the large, flamboyant, ceremonial displays that we identify as Hopewell was caused by the rise of sodalities and tribal organization at the Middle Woodland–Late Woodland transition (see also Carr, Chapter 7).

(9) Winkelman's (1989, 1990, 1992) model of the changing nature of magicoreligious practitioners with increases in social complexity is a reasonable description of the shift that occurred from generalized shaman who performed diverse tasks during the terminal Archaic and Early Woodland in Ohio to a variety of specialized shaman-like practioners among whom the classic shamanic tasks were dispersed and segregated during the Middle Woodland. The large, socially homogeneous gatherings of each of several specialized kinds of shamanic practitioners evidenced in Ohio Hopewell grave assemblages and ceremonial deposits suggest this role segregation during the Middle Woodland. Many other forms of evidence of this role segregation are presented in Chapter 5, by Carr and Case.

(10) Our current, best understanding of the development of Scioto Hopewell social, political,

and ceremonial organization through time, considering all available data, is that multicommunity alliances negotiated by leaders, institutionalized sodalities, and specialized magicoreligious practitioners and leaders whose positions were derived through the segregation of the roles of the classic, generalized shaman, all were developing hand-in-hand in the Scioto valley during the Middle Woodland period. It is likely that different, large, homogeneous burial assemblages and ceremonial deposits reflect either leaderorchestrated alliance ceremonialism or sodality ceremonialism, as different kinds of social structures. The particular assemblages and deposits that evidence one or the other of these social structures remains to be determined. This picture of development of social complexity among Scioto Hopewellian peoples is more multifaceted than the pathways to complexity presented by current, general anthropological models of sociopolitical evolution.

In conclusion, the studies of Hopewell gatherings made here stand in the intersection of scientific, historical, and humanistic approaches to understanding. Through finding people in the archaeological record and placing them within the walls of earthwork ceremonial grounds and charnel house chambers, by richly describing their numbers, social roles, and motives when gathering—by taking the personalized and locally contextualized approach of thick prehistory—the past has been humanized. The revealed, detailed elements of Hopewellian life and their change over time open the possibility of coming to know Hopewellian peoples to a degree in their own terms, of tracing their history of ceremony, social relations, and politics, and of placing this history within the comparative context of anthropological models of several kinds. It has not been our intent here to provide any single view of Hopewell peoples and life but, rather, a complex of perspectives that reflects the many strands of their humanness, and that intrigues the many strands of our own.

NOTES

1. Konigsberg's (1985) estimate of 133 persons for the community focused on the Seip earthworks seems roughly acceptable as the *average minimum* size for the Seip community and its neighboring communities. Konigsberg assumed that all the persons buried at the Seip–Pricer mound were members of the Seip community, alone, which "fed" the Seip–Pricer cemetery in one span of time. Although this mound now appears to have been a burial ground for members of three separate communities instead of one (Carr, Chapter 7), each community seems to have apportioned their dead fairly equitably among each other's cemeteries. This would imply that the burial population at Seip reflects the average size of the three communities, rather than the specific size of the Seip earthwork community, itself. The estimate must be considered a minimal population because it appears that Seip–Pricer and other large mounds that were the burial places for the three communities are biased somewhat in their social spectrum toward more important individuals. We do not know how many persons of lesser importance were disposed of elsewhere, nor where or how they were disposed of.

2. At the same time, not all Ohio field archaeologists would share Greber's simplification of the stratigraphic sequences of some of the earthen architecture she cites as only two stages of building (e.g., Prufer 1997:314–320; Riordon 1998:81). Greber, herself, earlier assessed the Edwin Harness mound to have been built up in likely four or more stages (Greber 1979a:28), and Seip–Pricer (Greber 1979b:41) as having been formed of several distinct layers.

3. Such attendance probably was fitting. It is likely that the two skeletons, 260 and 261, were accompanied by the two headplates found in their grave. Headplates mark a leadership role that was rare, possibly community-wide in domain of power, and probably more prestigious than the more numerous leadership roles and sodality memberships marked by celts and breastplates (Carr, Chapter 7).

4. The category "shaman-like leaders" includes persons marked by equipment certainly or probably used in the cross-culturally common shaman-like tasks of war or hunt divination, other forms of divination, the keeping of mythology and cosmology, healing, processing corpses and/or guiding of souls to an afterlife, leading public ceremonies, working with facinating raw materials, and trance induction, as well as other unidentified activities. "Nonshaman-like leaders and persons of high prestige" include probable society-wide leaders marked by plain metallic headplates or celts, sodality members or high achievers marked by metallic breastplates and earspools, and other distinguished social roles indicated by copper and mica crescents, reel-shaped gorgets, large communal pipes, and effigy human "trophy" parts. "Prestigious clan leaders" and more "ordinary clan members" are distinguished by metal or mica effigy animal power parts (e.g., jaws, teeth, talons) and by power parts of bone, respectively. "Prestigious personal roles" and "ordinary personal roles" are, respectively, taken to be marked by metallic items of personal adornment (e.g., necklaces, beads, buttons, hair skewer pins, bracelets) in contrast to their nonmetallic equivalents and utilitarian objects (e.g., hammerstones, atlatl, stone celts). The definition of these social categories from their diagnostic artifact types is described more fully in Case and Carr (n.d.) and Carr (Chapter 7).

5. Other details of the analysis are as follows. (a) Quantities of an artifact class that were described subjectively in publications and field reports were assigned conservative quantitative estimates (e.g., "several" = 3, "many" = 10, "a considerable number" = 10). (b) Cremations accompanying inhumations were not considered gifts, although they might have been. They were considered separate individuals in their own right. (c) Because our estimates of numbers of gift givers depend somewhat on the number of classes of items that are present, the estimates are somewhat sensitive to lumping and splitting of artifact classes. To grapple with this problem, we tried to develop classes that tended to occur one item or some other consistent number of items per individual when present. Typically, this meant splitting morphological categories by material type (e.g., celts of copper versus iron versus cannel coal, earspools of copper versus laminated silver). Exceptions to this practice include clan and personal clothing items (e.g., mica versus copper effigy power parts, buttons, beads, and pins), which were not separated by material type. These decisions were modeled after our observation that some necklaces were made of beads of multiple kinds of materials, yet constituted only single items.

6. In a more particular view, focusing on the small mound centers alone, the region of northeastern Ohio stands somewhat apart from other areas (Tables 13.8 and 13.9). The sites of Esch and North Benton in northeastern Ohio each are estimated to have had two or three gatherings with between 9 and 20 gift givers. This is double or more the estimated frequency and/or size of gatherings at other small sites in other regions. The reasons for this regional development are unclear. Northeastern Ohio Hopewellian communities were distinguished from those in the central Scioto valley by the social roles and importance had by women compared to men (Field et al., Chapter 9), by the material styles and social role associations of Hopewellian panpipes (Turff and Carr, Chapter 18), by the distant geographic locations from which their silver was derived (Spence and Fryer, Chapter 20), and by mortuary architecture and artifact categories and material styles (Magrath 1945; Seeman 1996:306–308, 312).

7. Table 13.14 lists, for each large grave assemblage or ceremonial deposit examined, the Best estimates of the numbers of gift givers of four general categories of social roles: (1) leaders without clear shaman-like markings, (2) shaman-like leaders, (3) persons in the role of the prestigious or ordinary individual, and (4) prestigious and ordinary clan members. Grave assemblages and deposits that are dominated by one numerous artifact type (e.g., cones, quartz or obsidian points, geometrics) systematically are dominated by the general category of social role indicated by that artifact, even when all artifact types in the assemblage, indicating a variety of other roles, are tallied. In almost no case do the combined amounts of small quantities of diverse artifact types indicating some alternative general category of social roles rival the counts of the general category including the one numerous arti-

fact type. For example, Alter 2 of Hopewell Mound 25 (Table 13.3) has obsidian points and knives as its most frequent artifact class, which probably indicates shaman-like war or hunt divination, but also many other artifact classes at lower frequencies, which indicate other social roles. Nevertheless, shaman-like leaders remain the most frequent category of social role of gift giver tallied for the assemblage, being over twice as common as prestigious and ordinary individuals, 4 times more common than nonshaman-like leaders, and 13 times more common than persons marked as clan members. Only assemblages dominated by bear canines or other animal teeth and claws could not be verified quantitatively to represent specialized gatherings of a kind—in this case, clan members. For animal teeth and claws, this result reflects our inability to characterize across Ohio a typical number of teeth or claws associated with a person and, consequently, our tally of species present rather than the number of items. The table also shows that strings of pearl and/or shell beads marked nonshaman-like leaders much more frequently than other social roles, for the majority of grave assemblages and ceremonial deposits.

The data in Table 13.14 also verify the identity of ceremonial deposits with diverse artifact assemblages as the result of gatherings of gift givers of many social roles. Both shaman-like and nonshaman-like leaders are found with frequency in the two assemblages of this kind, with nonshaman-like leaders being more common. More diverse social spectra for both deposits would have been found had the numbers of recovered items of certain classes been known, and had the number of items typically found per individual across Ohio been stable and usable for tallying numbers of gift givers of various social categories.

Smoking Pipe Compositions and Styles as Evidence of the Social Affiliations of Mortuary Ritual Participants at the Tremper Site, Ohio

JAIMIN D. WEETS, CHRISTOPHER CARR, DAVID W. PENNEY, AND GARY CARRIVEAU

Hugging the western slopes of the Scioto valley, amidst the heavily dissected countryside of the Appalachian Plateau in southern Ohio, is a modest Hopewellian construction—the Tremper mound and its encircling earthwork. At first glance, Tremper seems an unlikely site for understanding the internal workings of Scioto Hopewellian societies, for it lays some 35 miles south of the concentration of large Hopewellian earthworks and cemeteries around Chillicothe, Ohio. It also has a very small enclosure—only 3.5 acres—compared to the large 40 and 78 acre earthworks around Chillicothe. However, if we are to understand "that which is Hopewell" by contextualizing it in local cultures and histories and personalizing it with human actors, Tremper has a key role to play.

In particular, Tremper is the earliest of the excavated Hopewellian cemeteries in the Scioto drainage that had large burial populations. It may have recorded the beginning of the Scioto Hopewellian tradition, in which multiple communities in a region gathered together at an earth-

work to bury their dead together, in an effort to establish and maintain alliances among them (Carr, Chapter 7; Carr et al., Chapter 13). These practices stand in contrast to previous Adena ones, in which local social groups individually built their own mounds and earthen enclosures for their own use (e.g., Clay 1987:48; Aument 1990). From Tremper onward, the Hopewellian mortuary and alliance-making tradition matured. The system shifted from one where alliances within and among communities were worked out largely through the economic and social relations of commoners as individual agents, who were then buried together, as at Tremper, to one where alliance making was focused through leaders as representatives of their communities, as at Hopewell, Seip, and Liberty. These changes in alliance-making strategies were recorded archaeologically in several ways. The total size of burial populations processed and placed within charnel buildings decreased through the Middle Woodland. The amount of co-mingling of human remains decreased. The proportion of persons

who gave gifts for placement with the deceased shifted from ordinary persons to leaders, and from shaman-like leaders to ones not obviously shamanic in their accoutrements (Carr et al., Chapter 13).

Tremper is significant culture-historically also as one of only three excavated Hopewellian ceremonial centers in the Scioto drainage that, in their own ways and times, appear to have been functionally unique and regionally specialized foci of activities of certain kinds (Carr et al., Chapter 13). The other two sites were Mound City and Hopewell, which date progressively later, although overlapping in time (Prufer 1961a:702–714, 1964a:44–52; Ruhl 1996, Chapter 19; Ruhl and Seeman 1998). Mound City and Hopewell were functionally specialized as places of burial of disproportionately high numbers of social leaders, which logically must have been drawn from multiple communities, regionally. Tremper is the only known, large Hopewellian cemetery in its early time horizon within the Scioto drainage and seems to have drawn persons from distances beyond any single community, to judge by its singular place on the Scioto landscape, the large size of its burial population, and the number of social leaders represented by artifacts that were decommissioned and placed in one of its ceremonial depositories. Reflecting the regional functional uniqueness of Tremper, Mound City, and Hopewell, they alone, in contrast to other excavated Hopewellian ceremonial centers in the Scioto valley, contained ceremonial deposits of artifacts that, by quantitative estimates, represented the largest of ritual gatherings in the region. These gatherings totaled about 200 or more different gift-givers and an unknown additional number of other participants and attendees (Carr et al., Chapter 13, Table 13.10).

This chapter, like the previous, attempts to contextualize and personalize Hopewell by revealing and analyzing the nature of the ceremonial gatherings of Scioto Hopewellian peoples. The two chapters complement each other in approach. Chapter 13 directly estimates the minimum numbers of persons who gathered at ceremonies within earthwork–mound centers and identifies the spectra of social roles of those persons. In this chapter, we inquire into the number of distinct social groups that might have cremated

and buried their dead at Tremper, the sociological identities of those groups—such as clans, phratries, divisions, or communities—and the distances from which they might have come to join in ceremony.

This chapter begins with a brief introduction to the Tremper mound and earthwork, its approximately 375 cremated persons, and a ceremonial deposit ("cache") of over 500 ritual objects, including 145 plain and effigy, stone smoking pipes, mostly of the platform kind. The chapter then describes a previous study made by two of us (Penney, Carriveau) of the chemistry and geographical sources of the pipestone used to manufacture some of the smoking pipes deposited in the Tremper mound. Eight samples of the pipestone from five finished pipes of various styles and colors, and 21 samples of natural pipestone from the nearby Feurt Hill quarry, were analyzed for their trace element chemistry by instrumental neutron activation analysis. Next, this study is refined by two of us (Weets, Carr), in order to obtain more detailed information on the likely minimum number of distinct geological sources from which pipestone was derived to make the Tremper pipes. Variation in pipe chemistry compared to that of the quarry samples, along with information on pipe stylistic diversity, indicate that pipestone from at least four sources was used to make the Tremper pipes. This result, in turn, implies that four or more social groups that used different pipestone sources, or that had different social networks through which pipes were obtained, assembled at Tremper to bury their dead and their ceremonial artifacts. The chapter proceeds with contextual analyses of certain artifacts and features at Tremper. The contextual studies corroborate the chemically based estimate of the number of social groups that gathered at the site. The studies also suggest the more specific interpretation that four different clans, which were comprised of up to 12 subgroups such as lineages, cognatic groups, or communities, and which were combined into two phratries, dual divisions, or moieties with reciprocal or asymmetrical obligations, assembled at Tremper to bury their dead together. The chapter ends with the conclusion that the burial rituals at Tremper most likely occurred sequentially as part of one extended stepwise ceremony, over weeks or

several years, similar to the protohistoric and historic Huron and Algonkian Feasts of the Dead, with several hundred to many hundreds of participants or, less likely, intermittently over generations of time with smaller gatherings of varying sizes. This reconstruction furthers understanding of the history of development of Hopewellian alliance strategies in the Scioto valley.

BACKGROUND INFORMATION AND A PREVIOUS STUDY

The Tremper site is a burial mound within a roughly elliptical to subrectangular embankment that encloses 3.5 acres (Figure 14.1). The site is located in the Scioto river valley, five miles north of the river's confluence with the Ohio. Artifacts within the mound date stylistically to the early Middle Woodland Period (Prufer 1961a:711, 1964a:49). The small area and one-part geometric form of the earthwork similarly suggest a very early date for the site, relative to DeBoer's (1991:table 3) seriation of earthworks by form and size. The shape of the burial mound has recalled a four-legged mammal of a kind to many people, although Mills (1916:275) insisted that the form was the unintended result of ancillary

structures that were appended to the main, subrectangular wooden building that lay below the mound and served to guide its shape.

Tremper was excavated in 1915 by William Mills, with the assistance of George Miehls. The mound was found to contain at its base the burned remains of a large building that functioned as a charnel house, and perhaps in other ways. The building was some 200 × 100 feet in size and was comprised of nearly 600 posts. It probably was not roofed (see below). Twigs and reeds appear to have been woven loosely among the posts, possibly providing visual screening. Within the charnel house in scattered locations were up to 12 large crematory basins. Most of the human remains that were cremated in these basins, or brought already cremated to Tremper, were distributed among four large rectangular basins or "depositories." A fifth depository was built but apparently never used. Mills quantitatively estimated the number of individuals in these depositories, from the volume and compactness of their remains, to be about 375 (Mills 1916; Otto 1984).

In addition to these finds, Mills (1916) unearthed two sizable caches of artifacts. Within the larger, "Great Cache," situated at the floor of the mound with the other aforementioned features,
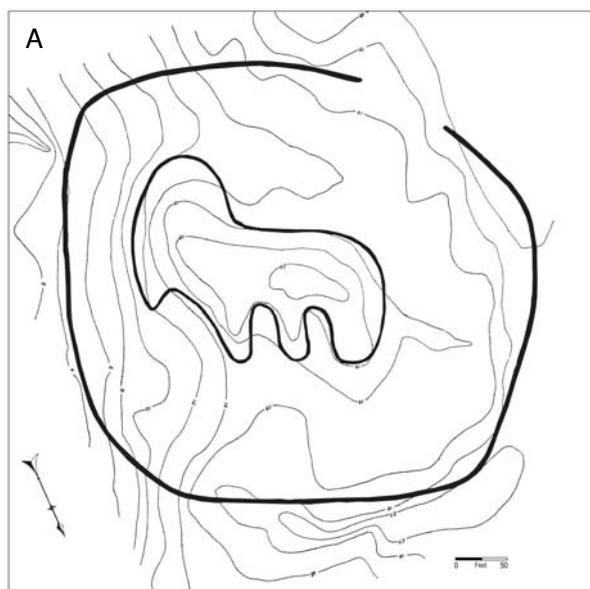
Figure 14.1. The Tremper site, Ohio. (A) Mound and embankment. (B) Floor of the charnel house (next page). Adapted from Mills (1916:269, 271, figures 2 and 3).

Key:

The Great Cache

Crematories (7 of 12)

Depositories, used (4)

Depository, unused (1)

Hearths

Graves

Posts of charnel house

Other features

B
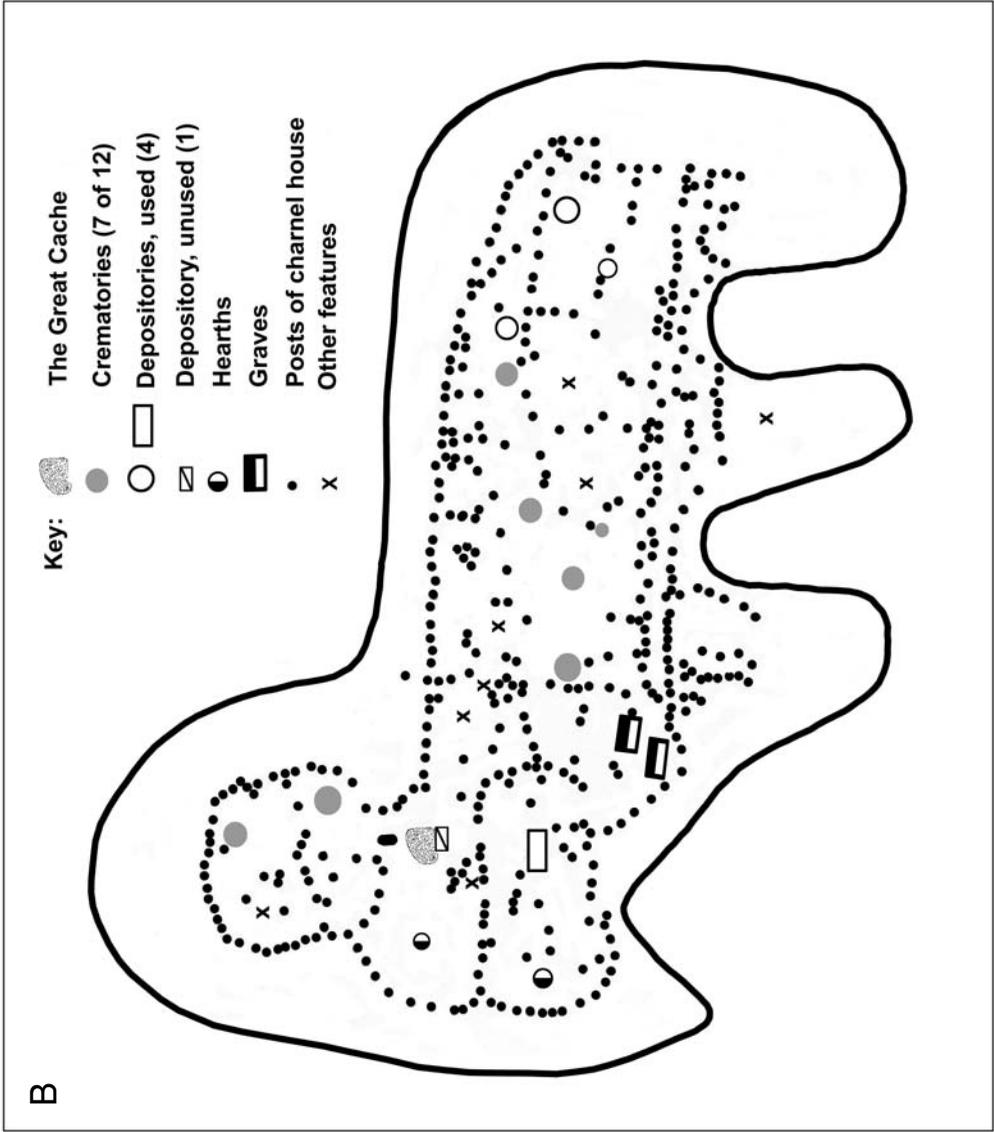
Figure 14.1. (*continued*)

were the remains of over 500 objects, most ceremonial or ornamental in nature. Among these objects were 136 platform pipes—some plain, more carved with animal effigies, and all intentionally broken. A total of 106 of these pipes were later fully restored by Mills's assistant, H. C. Shetrone; the remaining 30 were beyond repair. Sixty of the 106 restored pipes were sculpted into animal effigies; the others were plain. A second, smaller cache, located some two and a half feet above the crematory basins and the large, primary cache, contained nine intact pipes, a pair of red Ohio pipestone earspools, and a pierced slate tablet. Six of the nine pipes were plain platform pipes, two of which were unusually tall, red, "smokestack" forms; two were of the Adena tubular pipe form; and one was of a "modified" Adena tubular pipe form. The three tubular pipes were the only ones of this style found at Tremper (Mills 1916:285). Mills noted the stylistic differences represented in the pipes of this second cache in comparison to those of the first and, also, commented on their large size and fine manufacture. Mills (1916:293–363) and Otto (1984) illustrate a very large selection of the Tremper pipes, including the infrequent tubular, modified tubular, and tall "smokestack" platform styles (Mills 1916:361, 363, 353–359, respectively).

Across the Scioto to the east exists a large outcrop of Ohio pipestone, and the only documented prehistoric quarry from which Ohio pipestone was extracted and formed into native crafts—Feurt Hill. Mills (1916:289–291) knew of it and, based on visual inspection and comparative wet chemical assays of the pipes and raw pipestone, concluded that all of the 106 restored pipes from Tremper, with the exception of one limestone eagle effigy pipe, were made of the local Ohio pipestone. He also suggested that the outcrop was the source of the pipestone for the approximately 200 pipes excavated by Squier and Davis in 1846 from Mound 8 at Mound City.[1]

These conclusions of Mills were to have a lasting impact on ideas about pipe making, trade networks, and the identity of groups involved in these networks. For example, Struever and Houart (1972:67, 69–71, 74, 76) held that pipestone from south–central Ohio was quarried by inhabitants around Tremper, used by them to make the T and smokestack-style pipes that pre-

dominate there, and was traded by them along with smokestack-style pipes to the inhabitants around Mound City. In turn, the people around Mound City were thought to have specialized in the manufacture of effigy pipes made from that pipestone and traded them in return to the people around Tremper. Additionally, Ohio earthwork centers (largely Tremper) were thought to have shipped pipes (especially the smokestack variety) to Hopewellian peoples of the Illinois valley. By extension, platform pipes came to be considered candidates for Hopewellian exchange more widely over the Woodlands. Seeman (1979a:330) noted 38 sites, largely north of the confluence of the Ohio and Mississippi rivers, that had platform pipes made of Ohio pipestone and other raw materials used by Ohio Hopewell peoples. He concluded that trade of platform pipes out of Ohio was "relatively frequent" and "regular", especially to the Crab Orchard and Havana areas to the west (Seeman, p. 331). It wasn't until Penney's (1989) stylistic analysis of effigy platform pipes from Ohio, Illinois, Georgia, and Louisiana that this view was empirically and seriously cast into doubt. Mineralogical fingerprinting of Havana pipes definitively freed at least some of them of Ohio manufacture only recently (Hughes et al. 1998).

Several persons in recent years have sought, through detailed chemical analyses, to rewrite long-held assumptions about the raw material sources of artifacts in the Hopewell Interaction Sphere (Spence and Fryer, Chapter 20; Carr and Sears 1985; Goad 1978, 1979; Hughes 1995; Hatch et al. 1990; Walthall 1980, 1981; Walthall and Karson 1979). The work of Penney and Carriveau (1983, 1985), which evaluates Mills's conclusions, is no exception. Penney observed great stylistic diversity among the reassembled Tremper pipes, which might suggest their distinct origins. To investigate this possibility, chemical fingerprinting methods were harnessed. Eight samples were taken from five pipe fragments representing several colors and styles in the large and small caches at Tremper (Table 14.1). An additional 21 samples were removed from the Feurt Hill quarry. Finally, 10 samples of eight pipes from later Fort Ancient sites in the vicinity of Tremper, in Scioto and Pike counties, Ohio, dating between A.D. 1400 and A.D. 1650, were also

Table 14.1. Eight Samples Taken from Five Pipes of Several Colors and Styles in the Large and Small Caches at Tremper

Pipe clay color	Pipe style	Cache	*n*	Sample No.
Gray	Tremper style, plain/effigy[a]	Large	2	P1A, P1B
Gray	Tremper style, plain/effigy[a]	Large	1	P2
Red	Hopewell style, plain[b]	Large	1	P3
Yellow–brown	Distinctive style, effigy[c]	Large	2	P4A, P4B
Red	Tremper tall style, plain[d]	Small	2	P5A, P5B
			(*N* = 8)	

[a]Consistent with the style of effigy and plain platform pipes comprising the majority of pipes at Tremper.
[b]Plain platform pipe of a style also found at the Hopewell site.
[c]An effigy pipe of a distinctive, blocky style.
[d]A tall platform pipe associated with other pipes of the distinctive Adena tubular and Adena modified tubular pipe styles.

collected for study. The chemical compositions of all 8 samples from the five Tremper pipes, 17 of the Feurt Hill quarry samples, and 3 of the samples from three of the Fort Ancient pipes were then analyzed for 19 elements using neutron activation methods (Appendix 14.1) at the Phoenix Memorial Laboratory at the University of Michigan.[2] Concentration data on 14 of the more discriminating elements were chosen for study.[3] All of the samples, except one from the Feurt Hill quarry, were then selected for multivariate analysis of their overall chemical similarities and differences using a single-linkage, Euclidean distance clustering routine.

The results of Penney and Carriveau's neutron activation analysis are as follows.

(1) A strong, coherent chemical "fingerprint" of the Feurt Hill quarry samples was characterized.
(2) The Fort Ancient pipe fragments were found to have probably originated from the Feurt Hill quarry site.
(3) None of the Tremper Mound pipe samples were consistent with the chemical fingerprint of the Feurt Hill quarry.
(4) The two samples representing a pipe of the tall platform pipe style from the small artifact cache (Table 14.1) was found to exhibit marked chemical differences from the samples of pipes in the large cache.

Chemical studies by Sigstad (1973), which sampled two red pipes from the upper cache at Tremper and a few other Middle Woodland pipes, also found none to link to the Feurt Hill quarry. One of the Tremper pipes was sourced to the catlinite quarry in Pipestone, Minnesota, and the second pipe possibly to that quarry (Penney and Carriveau 1985), in line with more recent assays suggesting the use of Minnesota pipestone (Emerson et al. 2002).

Penney and Carriveau concluded that Feurt Hill Ohio pipestone does not appear to have been the source for pipes found throughout the Hopewell Interaction Sphere. The two researchers went on to suggest one possible source of the pipes from the small cache, after their consultation with other analysts who had performed similar studies of pipes from prehistoric and historic contexts. This source is the red catlinite quarries of distant southwestern Minnesota. Penney and Carriveau also concluded that the source for the pipe materials in the large cache "could also be quite distant from the site."

A STATISTICAL STUDY EXTENDING THE NEUTRON ACTIVATION ANALYSIS

Research was undertaken by two of us (Weets, Carr) in order to refine the quantitative work of Penney and Carriveau. Our study centered on statistically defining the number of chemically distinct pipestone sources represented by the sample of pipes. We were also interested in whether each defined pipestone source could have represented a distinct group of people involved in the caching of the objects. In particular, one might logically link different pipesone sources to different social groups, based on the degree of statistical, and possibly geographic, dispersion among the pipestone sources, even if the locations of those sources could not be known.

To explore the chemical variation in the sampled pipes and raw materials, Penney's and Carriveau's chemical data were analyzed further by multidimensional scaling analysis (MDS). Multidimensional scaling was selected over cluster analysis and factor analysis in order to investigate middle-scale relationships among subclusters and clusters, rather than the details of linkages among sample pairs or the global pattern of dispersion of the samples. A series of monotonic and linear scalings was calculated, using the SYSTAT 5.0 statistical package. All 19 elements were included in the studies, and each of these variables was standardized in order to give them equal variance and weight. Euclidean distances were used as the measure of sample dissimilarity. To better understand the chemical nature of the samples, separate analyses were performed for the three sets—the quarry samples, the Tremper pipe samples, and the Fort Ancient pipe samples—before combining them in a more comprehensive scaling.

Separate Analyses of the Feurt Hill Quarry, Tremper, and Fort Ancient Samples

The Feurt Hill quarry samples represent some 40 pounds of pipestone removed by Penney and Carriveau from four dispersed locations (A, B, C, D) on the hill. The samples were taken at and near the modern land surface, which is irregular, and varied in color from red to yellow. The degree to which pipestone color variation from location to location represents horizontal variability in the pipestone deposit or the exposure of different strata of the deposit at the different locations is unclear. No stratigraphic variation in color was seen in the shallow sampling pits that were dug into the deposit at each location.

Seventeen samples from three of these loci—five samples from locus A, six samples from locus C, and six samples from locus D (Appendix 14.1)—were analyzed by neutron activation methods. In both the linear and the monotonic two-dimensional scalings, one sample (C5) was found by us to be a distinct multivariate outlier. When included in the data, this sample tended to "pull" other quarry samples from their otherwise more agglomerated positions, and dis-

persed clusters when both the quarry and the pipe samples were scaled together. Thus, the sample was dropped from the data used in further studies, leaving 16 raw pipestone samples. The result of the multidimensional scaling analysis was the establishment of a definite chemical fingerprint for the Feurt Hill quarry.

Two-dimensional scalings of the eight Tremper pipe samples did not reveal any distinct multivariate outliers. However, they did show that the two samples from a pipe in the small cache are widely separated in their chemistry from the six samples of four pipes in the large cache. The six samples of the four pipes in the large cache were found to be approximately equally similar to each other in their chemistry.

No outliers or distinct clusters were found among the three Fort Ancient pipe samples when they alone were scaled.

Combined Analyses of the Feurt Hill Quarry, Tremper, and Fort Ancient Samples

Multidimensional scalings of the combined quarry, Tremper, and Fort Ancient samples were again made in two dimensions, using both linear and monotonic regression methods. Both methods produced similar and revealing sample dispersion, with acceptable levels of stress (linear method, stress = .137, R^2[RSQ] = .950; monotonic method, stress = .075, R^2 = .989). Figure 14.2 illustrates the plot for the linear scaling. In the plot, several patterns are clear. (1) The Feurt Hill samples form a tight cluster. (2) The Fort Ancient pipe samples form a tight cluster and relate quite closely to the Feurt Hill quarry samples. (3) The Tremper pipes from the large cache segregate from the cluster of Feurt Hill and Fort Ancient samples. (4) The pipe from the stylistically different small cache is also a distinct chemical outlier. Thus, the scaling plot shows the general patterning reported earlier by Penney and Carriveau (1983, 1985). (5) However, there are some notable differences among samples within the cluster from the large cache. This dispersion suggests the possibility that the pipes from the large cache came from multiple sources—an inference bolstered by the diverse
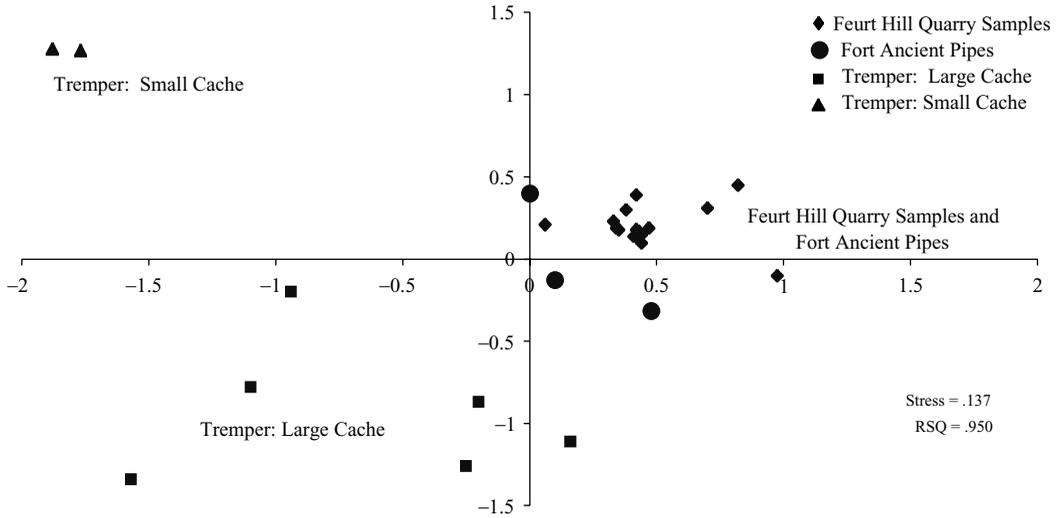
Figure 14.2. Two-dimensional scaling of 15 pipestone samples from the Feurt Hill quarry, Ohio; 10 samples of Fort Ancient period pipes from Scioto and Pike Counties, Ohio; and 8 samples of five pipes from the Tremper mound, Ohio. The scaling is based on 19 trace elements within the samples (see Note 2 and Appendix 14.1), the Euclidean distance coefficient, and a linear multidimensional scaling algorithm.

red, gray, and yellow–brown colors of the pipes and their distinctive styles. In addition, the two gray Tremper pipes, although similar in color and style, are also quite different chemically.

In order to gain insight into whether the pipe samples from the large cache might have been made of pipestone from multiple sources, the variances of the elemental compositions of the pipe samples were compared to the variances of the elemental compositions of the quarry samples. It can be argued that if the chemical variability of the pipe samples is statistically greater than the chemical variability of the samples from the one pipestone quarry investigated, then the pipes probably were made from stone from two or more sources.

To follow out this logic, 19 one-tailed, *F*-ratio tests of the equivalence of variance of two populations (Nowaczyk 1988) were made, one test for each of the 19 studied elements, comparing the large cache pipe samples to the quarry samples. The tests show (Table 14.2) that 11 of 19 elements have significantly greater variation among the pipe samples than the quarry samples at the .01 level of significance (df = 5,14) and that 12 of 19 elements have this pattern at the .05 level of significance (df = 5,14). These results suggest that the

pipe samples from the large cache likely were manufactured of pipestone from two or more sources.

In order to interpret the large chemical variability of the pipe samples for the large cache in this manner, it is necessary to rule out the possible effects of intrapipe sample variability and laboratory error. This was achieved by considering the chemical variability of pipes represented by multiple samples: the yellow–brown effigy pipe (samples 4A, 4B) and one of the gray Tremper-style pipes (samples 1A, 1B) from the large cache, and the platform pipe (samples 5A, 5B) from the small cache. Two two-dimensional scaling plots of these six samples, along with the single samples from the red Hopewell-style pipe and the second, gray Tremper-style pipe, were constructed using linear and monotonic regression methods (linear method, stress = .074, R^2 = .987; monotonic method, stress = .031, R^2 = .994). Figure 14.3 shows the linear solution, which is very similar to the monotonic one. The figure clearly shows that combined intrapipe sample variation and laboratory error is less than between-pipe variation in chemical composition. Distances between samples from the same pipes are smaller than distances between samples from different pipes in the plot.

Table 14.2. Results of *F*-Tests Comparing the Chemical Variance of Pipe Samples from the Large Cache to the Chemical Variance of Quarry Samples

Element	*F*-ratio
SM	16.055*
LU	2.250
U	1.031
AS	.323
LA	8.901*
CE	2.118
YB	15.565*
TH	.659
CR	8.682*
HF	5.924*
CS	60.033*
TB	76.640*
SC	5.368*
FE	6.071*
ZN	28.116*
TA	.461
CO	378.310*
EU	24.467*
SB	4.348**

*Significant at the .01 level; df = {5,14}, critical *F*-ratio = 4.69 (Nowaczyk 1988).
**Significant at the .05 level; df = {5,14}, critical *F*-ratio = 2.96 (Nowaczyk 1988).

This graphic result was evaluated statistically with an ANOVA test using the three pipes with two samples each. The test had a two-way design: three pipes versus 19 elements, with two replications within each cell. Three variations on this two-way ANOVA were explored. The ANOVA was first run with the raw scores from Penney and Carriveau's data, which implicitly weighted trace elements by their variances. The ANOVA results suggested that trace elements with small variances probably were "washed out" by trace elements with large variances, as expected. To overcome this problem, the chemical data were standardized within elements, equalizing their variances. A two-way ANOVA with replication was made on these numbers. The third manner in which the problem was overcome was through using a data transformation often applied by biologists and physical anthropologists. The transformation involved choosing the highest elemental concentration score for each of the six samples, then dividing it and the remainder of the scores by it. A two-way ANOVA with replication was then made on these numbers. The ANOVA tables for all three variations of the data are displayed in Table 14.3. They all depict a greater amount of variation between the three pipes than within them. Overall, these statistical tests corroborate the MDS plot (Figure 14.3) and suggest that combined intrapipe sample variation and laboratory error is less than between-pipe variation in chemical composition. Thus, intrapipe sample variation and laboratory error probably do not explain the notable elemental variability among the pipes within the large cache.
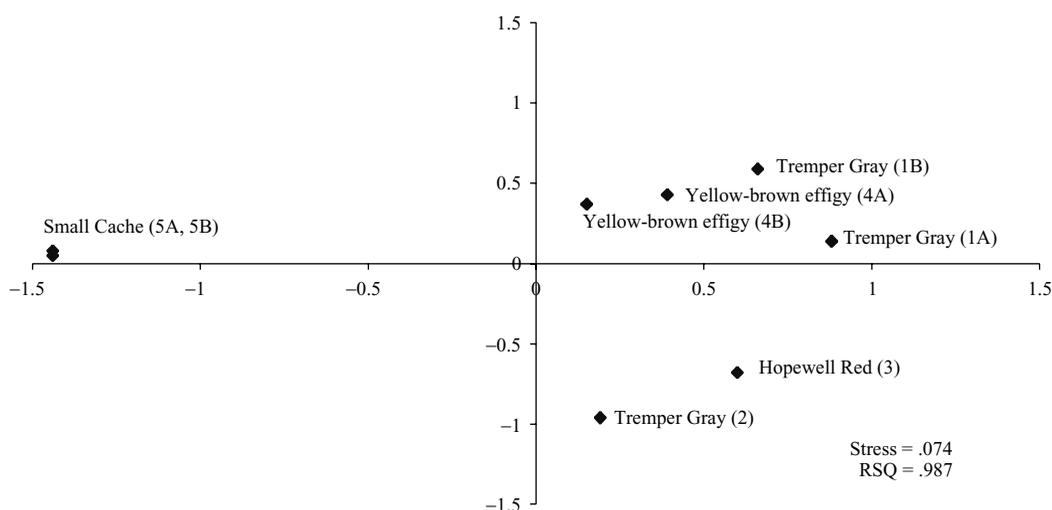
Figure 14.3. Two-dimensional scaling of eight samples of five pipes from the Tremper mound. The scaling is based on 19 trace elements within the samples (see Note 2 and Appendix 14.1), the Euclidean distance coefficient, and a linear multidimensional scaling algorithm.

Table 14.3. Results of Two-Way ANOVAs of Within-Pipe Variation versus Between-Pipe Variation for 19 Trace Elements and Two Samples of Each Pipe

Source of variation	SS	df	MS	F	P-value[a]	F crit
ANOVA with raw data (untransformed data)						
Elements	180,834.150	18	10,046.340	34.3959	4.2244E-24	1.570569
Pipes	1,484.756	2	742.378	2.5417	**.08762595**	2.398160
Interaction	50,925.221	36	1,414.589	4.8432	6.3728E-08	1.457581
Within	1,6648.537	57	292.080			
Total	24,9892.670	113				
ANOVA with data transformed to Z-scores within elements (standardized data)						
Elements	.52068	18	.028927	.1524	.99996903	1.787807
Pipes	8.42247	2	4.211234	22.1822	**7.4939E-08**	3.158846
Interaction	80.78808	36	2.244113	11.8206	6.4822E-16	1.623292
Within	10.82133	57	.189848			
Total	100.55256	113				
ANOVA with data transformed to percentages of the highest elemental concentration within elements (biological transformation of data)						
Elements	3.37611	18	.187562	6.3541	3.6786E-08	1.787807
Pipes	.38161	2	.190803	6.4640	**.00295037**	3.158846
Interaction	9.81749	36	.272708	9.2388	1.6993E-13	1.623292
Within	1.68252	57	.029518			
Total	15.25772	113				

[a]Boldface statistics show that within-pipe chemical variation (intrapipe sample variation, laboratory error) is less than between-pipe chemical variation.

Pipestone source variability is a more likely cause.

The conclusion to be drawn from these various MDS analyses and statistical tests is that the pipestone used to make the pipes in the large and small caches at Tremper come from a minimum of three sources. (Source 1) The pipestone chemistry of the one sampled pipe (samples 5A, 5B) in the small cache differs greatly from those of the four other sampled pipes in the large cache. (Sources 2, 3+) In turn, these four pipes vary much more in their chemistry than do the 16 analyzed pipestone samples from the Feurt Hill quarry, suggesting that the four pipes were made of stone from two or more diverse sources. In particular, as shown in Figure 14.3, minimally the yellow–brown effigy pipe (samples 4A, 4B) and the first example of the gray Tremper-style pipe (samples 1A, 1B) appear to have been made from pipestones that differ chemically and in source from the red Hopewell-style pipe (sample 3) and the second example of the gray Tremper-style pipe (sample 2).

Adding stylistic information on pipe morphology and color to the chemical patterning suggests a yet greater diversity of stone sources for the pipes. Gray pipes 1 and 2 of the Tremper style differ more from each other in their chemistry than does gray pipe 2 of the Tremper style from the red Hopewell-style pipe (Figure 14.3). If the Hopewell-style pipe was made of stone found in the rough vicinity of the Hopewell site, which lies about 45 miles from Tremper, or of stone brought uniquely to the Hopewell site, then it is also possible that the two gray Tremper-style pipes were made of stone from different, potentially distant sources as well. Using all this chemical and stylistic information, it is possible to argue that the pipestone used to make the pipes in the large and small caches at Tremper come from a minimum of four different sources, pertaining to (1) the tall, red, platform pipe No. 5 from the small cache, (2) the yellow–brown effigy pipe No. 4 and the Tremper style gray pipe No. 1, (3) the Tremper-style gray pipe No. 2, and (4) the red, Hopewell style pipe No. 3. The stone used to make yellow–brown pipe No. 4 and gray pipe No. 1 may have come from distinct localities, although this is harder to argue. It is unknown how many more sources might be revealed through

further neutron activation analysis of pipes beyond the five studied here.

Social Interpretation of the Neutron Activation and Quantitative Analyses

The results of the above analyses can be interpreted in social terms. The different pipestone sources used to make the analyzed pipes can be hypothesized to represent (1) the different pipestone procurement traditions of different social groups who gathered at Tremper and cached pipes, and/or (2) the different social networks or "catchments" through which finished pipes were obtained by those different social groups. If this view is correct, then the data suggest that a minimum of four social groups gathered at Tremper to destroy and deposit the remains of their pipes, or at least were represented by their pipes, which were brought by those who gathered. It is also possible that all five of the sampled pipes, which differ either chemically and/or stylistically from each other, indicate five such distinct social groups.

Finally, it is possible that the social group responsible for the small cache of pipes created this deposit significantly later than those groups who gathered to create the large cache on the mound floor. This temporal distinction is suggested by the facts that the pipes in the small cache are of several stylistically unique forms (very tall platform pipes, Adena tubular, Adena modified tubular), are all unbroken, and were deposited two and a half feet above the mound floor. Considering this temporal dimension, the number of social groups who gathered at any one time at Tremper to decommission and deposit their pipes on the floor of the mound might have been as few as three to as many as four.

In sum, it is not possible to know the exact number of social groups that assembled or that were represented by their pipes at Tremper. The small sample of pipes studied, the lack of information on the geographic location of the different sources of stone for those pipes, and the lack of data on any stratigraphy in the large cache prevent such precision. However, the possibility is good that multiple, distinct social groups, such as lineages, clans, moieties, phratries, or members of different communities, gathered at Tremper

and ritually disposed their pipes. From the large total number of pipes deposited, it must be concluded that the social groups were either large and few (e.g., phratries, moieties, communities) or smaller and more numerous (e.g., lineages, clans). This range of possible interpretations can be narrowed by considering the greater archaeological context of the pipe deposits, to which we now turn.

THE NEUTRON ACTIVATION STUDY IN COMPARISON TO OTHER ARCHAEOLOGICAL INFORMATION

The interpretation that multiple social groups, who obtained pipestone or pipes from distinct sources, gathered at Tremper is supported and can be refined in light of other aspects of the Tremper archaeological record. We begin with some very general observations and move to more specific ones. All of the ideas posed remain working hypotheses at this time.

(1) The Tremper earthwork is located on the edge of a 70-foot-high plateau, directly overlooking the Scioto valley flood plain. Its visibility from a distance, as well as its placement not far from the confluence of the Scioto and Ohio rivers, would have enhanced its potential as a gathering place for members of one or more Hopewellian communities.[4]

(2) The building within which the crematory basins, depositories, and Great Cache were located was large—approximately 100×200 feet. It could easily have held a large assembly of a hundred or so persons, particularly if they were spatially organized for ceremony respective to the building's multiple cremation basins, depositories, and semi-open rooms. Many times more persons could have assembled outside the building, but within Tremper's 3.5 acres of embankment-enclosed space. Many localized lineages or clans from one or several earthwork–mound communities conceivably could have gathered together within the building, and many more could have assembled within the earthwork walls.

(3) The cremated remains of the approximately 375 individuals housed within the

building were divided among four depositories. One depository was large and contained what we would judge to be 75% or more of the cremated remains (i.e., ca. 281 individuals), based on Mills's (1916:277–278) volumetric descriptions. It was located at the east end of the building, which also contained the Great Cache of pipes and other ceremonial items. The other three depositories were smaller and were scattered over the west end of the building. They contained approximately equivalent volumes of cremated remains (i.e., about 31 individuals each). A fifth, unused depository was located at the east end of the building, close to the Great Cache. If distinct social groups, such as clans, phratries, "divisions," or communities used different depositories to hold the remains of their dead, these features would imply that four social groups gathered at Tremper. This interpretation falls within the range of possible numbers of social groups suggested by the chemical analysis of the Tremper pipes.

(4) Identification of the kinds of social groups that assembled at Tremper can be inferred from its faunal assemblage. Within the Great Cache of artifacts, which included the pipes, were found 110 pieces of animal jaws, at least some of which were used as ornaments (Ohio Historical Society n.d.). These jaws, which have recently been studied by Heather Thew (n.d.), derive from only four animal groups: (a) bear, including black and grizzly; (b) wolf–coyote; (c) puma—also called mountain lion and cougar; and (d) bobcat. Grouping wolf and coyote together seems appropriate, since they are similar in shape, markings, and size. A wolf is only about 20% larger and has a larger nose pad than a coyote (Thew n.d.; Whitaker 1980). Separating pumas and bobcats seems appropriate, since a puma is about twice the size of a bobcat.

The kind of social segment with which these categories of animals most likely were associated at Tremper is the clan, in contrast to phratries, dual divisions, other divisions, or communities. In Chapter 8, Thomas et al. show a good correspondence between the species of animal power parts, including jaws, that are found in Hopewellian graves and ceremonial deposits across Ohio and the eponyms of clans of historic tribes in the Northeastern, Great Lakes–toric tribes in the Northeastern, Great Lakes–

Riverine, and Southeastern areas of the Eastern Woodlands. Canine and bear were consistently the most common clan eponyms found historically in these areas, and canine, bear, and feline power parts were the most common species of power parts found across Ohio Hopewell sites. The four animal categories represented by jaws at Tremper fall easily within these ethnohistoric and Ohio Hopewell patterns. In addition, historically in the Woodlands, clanpersons were sometimes marked by necklaces or pendants of the animal power parts of their clan eponyms (e.g., Callender 1978b:641)—a manner in which at least some of the Tremper specimens may have functioned.

In contrast, phratries in the historic Woodlands were sometimes named for larger-category phenomena, such as the Winnebago's Air, Land, Water, and Thunder People or the Shawnee's Herbivorous, Carnivorous, Aquatic, Scratching Animal, and Rabbit phratries. Although bear and wolf phratries did occur among the Potawatomi, their constituent clans included a broader range of species (Thomas et al., Chapter 8, Table 8.2). Dual divisions of the ethnohistoric East were almost always referenced by encompassing categories or colors: earth versus sky, black versus white, or red versus white (Thomas et al., Chapter 8, Table 8.3). Historic Northeastern Native American communities were not regularly named for animals, and those in the Southeast were associated with red or white. In sum, the four animal groups found in the Great Cache at Tremper most probably referred to clan membership.

If these four animal groups did indicate clans, conceivably they placed their dead in the four separate depositories.[5] Three clans may have been similar in size, and the fourth much larger, based on the volume of cremation remains recovered from each depository. Such demographic inequality among clans is feasible, with dynamic shifts over generations, and was common ethnohistorically in the Woodlands (Thomas et al., Chapter 8; Chagnon 1979; Trigger 1978).[6]

The information on animal jaw species and crematories does not suggest one way or another whether the members of the four hypothesized clans might have come from one or multiple earthwork–mound communities. However, the

pipe data are suggestive in this regard. The presence in the Tremper Great Cache of a style of pipe most commonly found at the Hopewell earthwork, the large chemical differences in the stone of the two gray pipes from the large cache, the chemically distinctive tall platform pipe from the small cache, and the stylistically rare Adena tubular pipes from the small cache leave open the possibility that persons from different earthwork–mound communities gathered at Tremper.[7] Also, because the majority of pipes are of one artistic style and color, it is likely that members of one community predominated in the gathering(s) at Tremper. The alternative possibility, that persons of one community built and gathered at Tremper but had previously received distinct pipes from other distant communities through exchange, must also be entertained.

(5) The deposition of nearly all of the ceremonial artifacts at Tremper within one Great Cache, in contrast to the separation of cremation remains among four depositories, is interesting. It is possible that multiple clans from one or more communities came together at Tremper and placed their dead in four separate depositories but placed their ceremonial artifacts together in the one Great Cache. This action could have symbolized and helped to cement various social, economic, political, and/or ritual–religious reciprocal or asymmetrical relationships among the clans.[8] Alternatively, it is possible that the artifacts in the Great Cache belonged to only one of the four social groups that were associated with the four depositories: the Great Cache is located at the east end of the mound and near the large depository of cremated remains, and both facilities are separated from the three smaller depositories at the west end of the mound.[9] Perhaps within the Tremper community and/or others, one clan represented by the large depository and cache was larger and was socially responsible for handling the arena of death and mortuary rites. Perhaps a Tremper community, represented by the large depository and cache, hosted a regional mortuary ceremony to which members of (three?) other communities came and buried some of their dead, as in the Huron and Algonkian Feasts of the Dead (Heidenreich 1978; Hickerson 1960; Trigger 1969). Finally, the possibility that the depositories were created in a

sequence over time must be considered, fleshing out Mills's (1922:284) belief that the large cremation depository and the Great Cache accumulated over years of time.

(6) It is possible that the four hypothetical clans—Bear, Wolf–Coyote, Puma, and Bobcat—were grouped into two phratries, dual divisions, or moieties with reciprocal or asymmetrical obligations. The bear and wolf–cougar jaw fragments identified within the Great Cache were almost completely maxillary elements (95% and 90%, respectively). In contrast, the identified puma and bobcat jaw fragments were all mandibular elements. This pattern appears to be entirely cultural in origin (Thew n.d.). The complementary maxillary and mandibular elements could have symbolized complementary social relationships among two phratries, dual divisions, or moieties.

(7) The four hypothetical clans may have been comprised of as many as 12 subgroups in total—lineages or cognatic groups, from the same one community of Tremper or from different Scioto communities.[10] This possibility is indicated by the up to 12 separate crematories at Tremper, most of which are separated from one another by rows of posts that may have served as screens. In one scenario, approximately 12 localized kinship groups from the one community of Tremper would have cremated their dead separately, at one time. Then those of the same clan would have placed the cremated remains of their dead together, in one of the four depositories. Finally, after these rites were completed, all the ceremonial equipment involved in them, and possibly from all four clans, would have been buried together in the Great Cache. An alternative scenario would see the four hypothetical clans each having resided in three different communities, defining up to 12 clan–community groups.[11] Again, these clan–community groups would have cremated their dead separately, and then those of the same clan but from multiple communities would have joined the cremation remains of their dead together in one of the four depositories. In either case, the flow of ceremony would have been from separate rituals by small groups to progressively larger rituals by more encompassing group(s). A final possibility, that the approximately 12 crematories and four depositories were created over time by smaller

numbers of social groups, must also be considered.

In all three of these case, the rituals of two differing scales and operations—those that used the up to 12 crematories versus those that used the four depositories—could have been elements of a multiple-stage mortuary program that involved rites of "liminality" and "reincorporation," as a process for helping the deceased transition to an afterlife and their survivors' transition to normal life (Turner 1969; van Gennep 1960; see also Carr, Chapter 12). The various rituals might be seen as an example of the shorter and longer ritual cycles hypothesized by Greber (1996:165, 170), although the existence of the cycles is questioned (Carr et al., Chapter 13).

(8) It is unlikely that the animal species carved on some of the pipes from Tremper, in contrast to the site's faunal assemblage, provide insight into the large-scale social segments of those who gathered there. Of the 136 platform pipes deposited in the Great Cache, 82 to 89 are animal effigies and 47 to 54 are plain (Mills 1916:289). The effigy pipes illustrate at least 31 distinct animal species, including owls (saw-whet, barred, great horned), hawks, squirrels, otters, raccoons, pumas, black bears, turtles (box, snapping), wolves, ducks, porcupine, opossum, beaver, dog, bobcat, rabbit, mink, white-tailed deer, gray fox, great blue heron, sandhill crane, crow, quail, toad, blue jay, eagle, kingfisher, and parakeet (Mills 1916:291–292; Otto 1984, 1992:5). The attention to detail that is shown on the pipes and that has allowed the identification of these animals indicates the artisans' awareness of the distinctness of these kinds of animals. Some species occur two to five times in the collection of pipes, but most are unique.

Both the large number of kinds of animals represented on the pipes and the uniqueness of many of them suggest that most, if not all, do not represent clan, phratry, or division totems (contra Otto 1984:24). The number of clans typically found within single tribes of historic Native Americans of the Great Lakes–Riverine area was 8 to 10. The average number of phratries, where they are known to have existed, was five (Thomas et al., Chapter 8; Trigger 1978). In contrast, the great diversity and uniqueness of the sculpted animals on the Tremper pipes lends support to the idea that they were personal "power animals" or "animal guardian" (Harner 1990:42–43; Otto 1992:7). Some of the effigies might also have been the power animals of shaman-like practitioners, which likewise can be diverse within a single culture (Eliade 1964:88–99; Harner 1990:42–43, 57–65). The Great Cache at Tremper does, in fact, include a variety of ritual artifacts other than smoking pipes that probably were used by shaman-like practitioners.[12] Further supporting the idea that the Tremper pipes depict personal power animals is the placement, in nearly all instances, of the animal's face facing the inhaling hole of the pipe and the smoker. This positioning has been argued, in the case of early Iroquois animal-effigy smoking pipes, to indicate the smokers' use of the pipe sculpture to help them visualize their power animal and to communicate and/or merge with it while in a smoke-facilitated trance state (Gernet and Timmins 1987).

(9) The numbers of persons who gathered at Tremper at any one time to cremate their dead is not so easily inferred. This is so because the duration over which the mortuary building below the mound was used, prior to its destruction and burial, is unknown. However, several pieces of information are relevant. (a) The building was substantial and may have been used a long time. Thus, the cremated remains within the building may have been produced over a long period of time or a short one. The nearly 600 posts that comprise the building averaged about six inches in diameter and were set into the ground about two and a half feet (Mills 1916:274). In addition, the building does not seem to have been roofed, making roof failure an unlikely cause for a shortened period of building use. The building lacked large support posts and a regular pattern of interior support posts similar to the charnel structure at the Edwin Harness Mound (Greber 1983), either of which would have indicated some kind of roof. Mills (1916:284) thought that the building was used over a long period of time, that the cremations in it had likewise accumulated over a "considerable" duration, and that the artifacts in the Great Cache had been deposited over a "number of years." The bases for Mills's time estimates for the three categories of use are unclear; nor did Mills consider the possibility

of changing use of the building over time, with cremation having occurred only at the end of the building's history, analogous to somewhat earlier to coeval Adena "charnel" buildings (Clay 1986:590). (b) The total number of cremations was estimated by Mills as 375. Each of these deceased persons may have been accompanied by one to several survivors at the gathering(s) at Tremper. The "Best" estimate of the median number of ritual attendees who actually gave gifts at Ohio Hopewell mortuary ceremonies has been calculated as two or three per deceased by Carr et al. (Chapter 13). These figures would imply a maximum aggregation of 750 to 1,125 or so individuals, if the mortuary remains at Tremper were the product of essentially one extended gathering. However, this may not have been the case, given the durability of the charnel structure. (c) Over 500 objects were found in the Great Cache of artifacts, defining the maximum number of artifact owners/depositors who might have assembled at one time at the site, with one artifact per person. (d) The largest number of artifacts of one kind in the Great Cache is the 136 pipes, which estimates the minimum number of artifact owners/depositors who might have assembled at one time at the site, assuming one pipe per person. (e) The "Best" estimate of the number of persons who gave gifts at mortuary rituals at Tremper, using the method of Carr et al. (Chapter 13), is 191. (f) The number of shaman-like and nonshaman-like sociopolitical leaders estimated to be represented by certain artifacts within the Great Cache, using the methods of Carr et al. (Chapter 13), is approximately 30. This number of leaders would imply a considerable dependent population of potential grievers, on the order of hundreds.

(10) If the cremated bodies and artifacts at Tremper were deposited there as part of one extended, stepwise mortuary ceremony, over the course of several weeks or years, rather than over generations in multiple ceremonies, then the attendance of multiple Hopewellian communities at that ceremony would be suggested by the large number of burials, the estimated large total number of gift givers, and the estimated large number of leaders represented by artifacts in the Great Cache at Tremper. The singular place of Tremper as the only large burial grounds on the Scioto

landscape during its time plane also tends to suggest the drawing together there of persons from multiple communities (Prufer 1961a:711; Prufer and McKenzie 1975).

(11) The burial population of about 375 individuals at Tremper is much larger than the burial populations from any late Adena mounds, or earlier Adena mounds, in Ohio or the Ohio drainage generally. Most Adena mounds covered just one to a few persons (e.g., Dragoo 1963:147, 151, 152, 158, 161; Greber 1991:11; Webb and Snow 1974:110–131). The largest burial populations found within Adena mounds range between about 30 and 55 individuals, with one outlier at 86 individuals. Moreover, the burial populations of most of the large mounds were amassed by accretion, over extended time, implying smaller numbers of deceased buried at any one time.[13] In contrast, the approximately 375 cremations at Tremper were placed on one floor, implying greater synchrony and the processing of many more individuals at a time.

Taken at face value, Adena mounds seem to have covered one or a few persons of import, probably from one or a few neighboring, small local social groups, to judge by the number of individuals buried (see also Aument 1990; Clay 1987:53-54; 1992:80). In contrast, Tremper appears to have serviced many local social groups from one or more "communities" of larger but unknown population sizes and a much broader geographic scale.

The much larger geographic and demographic scale of social integration that Tremper seems to represent compared to earlier Adena mounds is supported by Seeman and Branch's (n.d.) study of the geographic distributions of Adena and Hopewell mounds in the Scioto, Muskingum, and Miami valleys. Seeman and Branch found that in all three valleys, Adena mounds were fairly evenly dispersed over the landscape, and much more so than Hopewell mounds, which were tightly clustered in a few localities. This suggests to us that Adena mounds were each built and used by one or a few, small, localized social groups, whereas the clustered Hopewell mounds indicate locations on the landscape where the ceremonialism of many local group—one or more "communities"—was concentrated and integrated. Further, in the Scioto

valley, where Seeman and Branch made a more detailed study, Adena mounds were also found to be located in a great variety of geomorphological and environmental settings, supporting the observation that they were fairly evenly dispersed over the landscape, and in keeping with the interpretation that each was built and used by one or a few local groups who lived within a small area with its own environmental particulars. Finally, Adena mounds were found to have been built generally at higher elevations, away from the main water courses that otherwise could have provided easy access to these ceremonial sites by peoples from a good distance. Building and use of the sites by local groups is implied. In contrast, Hopewell mounds, including Tremper, were constructed primarily on terraces in the main valleys, where they were accessible to peoples from a wide region via river travel. Broader-scale social gatherings are implied. All of these locational contrasts between Adena and Hopewell mounds support the idea that Adena mounds usually were built and used by one or a few, small, neighboring, local social groups, whereas Tremper and other large, Hopewellian mound sites were gathering places of larger communities of people from a wider region. The Hopewellian situation is borne out empirically in multiple ways in Chapters 3, 4, 7, and 13 of this book.[14]

CONCLUSIONS

The research presented here expands knowledge about Hopewell in its particular guise at the Tremper site, within the history of Early through Middle Woodland culture change in the Scioto valley, and with broader implications for local and supralocal Hopewellian interaction. Some of the major points to be emphasized are as follows.

(1) Chemical testing of the pipes from Tremper Mound and pipestone from the nearby Feurt Hill quarry casts serious doubt on Mills's assumption that local Feurt Hill pipestone was used to make most of the pipes. This conclusion suggests that Mills's assumption of a local source for the pipes excavated by Squier and Davis from Mound 8 at Mound City should also be reconsidered, as well as more modern interpretations that

see platform pipes spread across the Hopewell Interaction Sphere as having been derived from Ohio (see also Hughes et al. 1998). Chemical testing of the Mound City pipes by neutron activation analysis, to compare with the chemical data presented here, would be particularly insightful.

(2) Chemical testing of the Tremper pipes suggests that they were manufactured from pipestone having several different sources. This diversity, in combination with pipe stylistic information and the joint burial of the pipes in the Great Cache and Upper Cache, suggest that three to five social groups gathered together at Tremper for one or more rituals. The different groups either had procured their pipestone from different, distant sources or had different, far-reaching social networks through which pipestone and/or finished pipes were obtained.

(3) Additional archaeological information on the cremation and burial facilities within the submound building at Tremper, and on animal jaws within the Great Cache, in conjunction with ethnohistorical information on clans and other social divisions in Eastern Woodland societies, suggests that four clans associated with four different animal-totemic species—bear, wolf–coyote, puma, and bobcat—assembled at the site. These groups may have placed their dead in four separate depositories, and one or more of them may have cached their ritual artifacts together in the Great Cache. The four hypothetical clans may have been comprised of up to 12 subgroups, such as lineages, cognatic groups, or communities. They also may have been combined into two phratries, dual divisions, or moieties with reciprocal or asymmetrical obligations: bear/wolf–coyote, and puma/bobcat.

(4) The maximum number of persons who assembled at Tremper at any one time cannot be estimated well. The mortuary events of cremating bodies, moving cremation remains to depositories where they were co-mingled, forming the Great Cache, burning the mortuary building, and covering it with a primary mound might have been performed as one extended, stepwise ceremony together, over weeks or several years, similar to the protohistoric and historic Huron and Algonkian Feasts of the Dead (Heidenreich 1978;

Hickerson 1960; Trigger 1969), with a large number of participants. Assuming this scenario, estimates of the number of attendees at Tremper, by various means, range from a bare minimum of 136 to a maximum of 1,175, with an assembly of the order of hundreds likely. Alternatively, the several mortuary events might have occurred separately and over generations of time, with gatherings of smaller sizes and varying social composition, perhaps ending in larger climax ceremonies in which the Great Cache of decommissioned artifacts was formed, the mortuary building was burned, and the mound was built.

(5) It is not clear whether the social groups who gathered at Tremper were affiliated with that one earthwork–mound community, or whether they came from multiple communities. The diverse pipe chemistries and styles found at Tremper raise the possibility of multicommunity participation. However, this diversity can also be explained by the exchange of pipes from afar to one community that might have built Tremper. Similarly, the numbers of deceased, the estimated total number of gift-givers, and the estimated number of leaders who gave gifts would suggest that multiple communities contributed to the remains at Tremper, if only one extended ceremony was held there. However, the possibility of multiple smaller ceremonies carried out by members of one community over a long duration is also possible.

(6) The reconstructed sequence of mortuary events at Tremper possibly represented discrete stages of a multiple-stage mortuary program that involved rites of "liminality" and "reincorporation", as a process for helping the deceased to make their way to an afterlife and their survivors to transition to normal life. Earlier rituals in the sequence, such as cremating the deceased and moving their remains to a depository, might have occurred frequently, as part of one or more shorter ritual cycles. Later rituals, including the creation of the Great Cache, burning of the mortuary building, and building of Tremper mound over it, might have been infrequent events within a longer ritual cycle, which occurred only once at Tremper.

(7) The chemical, stylistic, and archaeological–contextual data together suggest a limited number of scenarios for interpreting the ritual use of Tremper. One parsimonious possibility is the performance of a ceremony analogous to the protohistoric and historic Huron and Algonkian Feasts of the Dead, which involved multiple residential communities on a regional scale gathering together in the process of building alliances. This interpretation would explain (a) the large burial population at Tremper, (b) the large, estimated total number of gift-givers, (c) the singular place of Tremper as the only large burial grounds on the Scioto landscape during its time plane where persons from multiple communities may have been drawn together, (d) an estimated number of leaders who gave gifts that is more than what one community would require, (e) the high proportion of ordinary persons compared to Leaders represented as gift-givers, (f) the co-mingling of cremated bodies in the depositories, (g) the co-mingling of a great number of ceremonial objects, including smoking pipes, in the Large Cache, (h) the diversity of sources of pipestone used to make the pipes found at Tremper, and (i) the diversity of their styles.

This interpretation, in the variety of independent lines of evidence it explains, is a powerful one. It is also very significant to Scioto Hopewell culture history, if correct. In its view, Tremper would mark the first, or first large and archaeologically known, ceremonial gathering place in the Scioto valley where multiple communities on a regional scale assembled in order to perform mortuary rites, to bury their dead together, and thereby to establish and maintain alliances among themselves. The beginning of this practice would mark a disjunction from earlier Adena traditions in the Scioto, where burial mounds and ritual enclosures appear to have been built by one or a few adjacent, small, local residential groups to bury their own kin and/or persons of importance, to reaffirm intragroup ties, and perhaps to renew relationships with close neighbors (Clay 1987:53-54; 1992:80; see also Aument 1990). The particular manner in which alliance making was handled at Tremper—through dyads of ordinary persons as individual agents, as represented by their pipes—would later evolve into more systematic and institutionalized means, centralized through

community-wide and smaller-scale leaders (Carr et al., Chapter 13).

On the other hand, most of the nine archaeological patterns just listed for Tremper can also be explained with an alternative interpretation. In this case, one community would have held a series of cremation ceremonies over a number of generations to maintain alliances internally among its various kinship, residential, and/or other social groups, similar to the old Adena pattern. The Hopewellian pattern of multicommunity burial in an earthwork, found at Hopewell, Seip, and Liberty (Carr et al., Chapter 13), would not yet have developed. Greater residential stability at the time of Tremper, compared to earlier, would probably have been the primary factor causing the distinction between the large number of burials amassed at Tremper and the smaller numbers found in Adena mounds. In addition, for this alternative intepretation of Tremper to be true, those several groups within the one community that Tremper is thought to have served would have had to have obtained their pipestone and/or pipes through a number of different exchange networks that linked to different regions, or through procurement trips to gain pipestone from those different regions. This would be necessary to explain the chemical and stylistic diversity of the pipes at Tremper.

It is our conclusion that the first interpretation of Tremper, as a multicommunity gathering place in which rites analogous to the historic Feasts of the Dead were performed, rather than as an Adena-like ceremonial center where one or a few small local group congregated over extensive time, is more likely. No excavated Adena mound has a burial population beginning to approach the size of Tremper's, as the second interpretation of Tremper would posit—even considering those Adena mounds that evidence an accretion of burials over time. The lone position of Tremper as a large earthwork–mound ceremonial center in the Scioto valley at its time of use also invites an interpretation of regional scale gathering–especially in contrast to the fairly uniform, dispersed distribution of smaller Adena mound sites in the area. Likewise, Tremper's location within the Scioto valley, which would have afforded easy river travel to it by persons from a broad region, and the contrast of Tremper's placement from the less accessible, upland placements of Adena mounds, suggests the possibility of regional use of Tremper. Further, the alternative reconstruction requires that the one residential community that Tremper is posited to have represented had a minimum of four or five different networks for obtaining basically the same kind of resource—pipestones or finished pipes. This situation seems unlikely by comparison to the less diversified procurement systems found in other middle-range societies cross-culturally (e.g., Malinowski 1922b; Wiessner and Tumu 1998), where a distant, sacred place and/or admired people having a rare material or prestigious knowledge were as essential to spurring procurement as the material itself (Helms 1976, 1988). Even the most elaborate of Ohio Hopewellian procurement systems for obtaining valued raw materials exploited only one or two spatially distinct sources (Spence and Fryer, Chapter 20; Carr and Sears 1985; Goad 1978, 1979; Hughes 1995; Hatch et al. 1990; Walthall 1980, 1981; Walthall and Karson 1979).

Finally, our interpretation that the ceremonies performed at Tremper were analogous to the protohistoric and historic Huron and Algonkian Feasts of the Dead is reasonable in the context of other Hopewellian and earlier mortuary records in the Eastern Woodlands that likewise suggest this analog (Carr, Chapter 12, Feast of the Dead). It appears that cremation remains of many persons from several distant Hopewellian traditions were co-mingled and buried together, along with broken pottery vessels diagnostic of those traditions, at the Duck's Nest Sector of the Hopewellian Pinson Mounds in Tennessee (Mainfort 1986:31, 35, 46, 82; 1988:167–168) and at Feature 45, Mound C of the Hopewellian Helena Crossing site, Arkansas (Ford 1963:33–38; Mainfort 1988:46). Mass burial pits of cremations and bundled skeletons, with up to about 100 individuals from multiple local bands in a pit, have also been found in Late Archaic and Early Woodland cemeteries (Williams-Sidecut complex, Hickory Island No. 2, Marblehead) in the Erie basin of northern Ohio (Stothers and Abel 1993:68, 73, 75). The Tremper site falls between these other sites in time and space and is at home among them in form.

In the course of this chapter, we have attempted to contextualize Tremper and the Hopewellian practices of its makers in local culture and culture history, and to personalize the site and these practices with specific sets of actors—clans, possible phratries or divisions of a kind, communities or interaction networks, and numbers of participants in ritual. By this strategy, alternative anthropological reconstructions of what happened at Tremper, and its position and significance in the culture history of the Scioto valley, have been developed to a degree that would not otherwise have been possible.

POSTSCRIPT

Since the time of writing of this article, Emerson et al. (2002) have used nondestructive, portable infrared mineral analyzer (PIMA) spectroscopy to identify the mineralogy of 96 of the 145 platform pipes from the Tremper Mound. Pipes from both the Great Cache and Upper Cache were included in the sample. Also assayed were a pair of pipestone "napkin-ring" ear ornaments from the Upper Cache. Like the results reported here, Emerson et al. found that the pipestone used to make the pipes came from a minimum of four sources, and that red colored pipestone was derived from two different sources. Emerson et al. were able to go further and specify the locations of three of the sources: the Sterling-Rock Falls portion of the Neda Formation in northwestern Illinois on the Rock River, the Sciotoville Clay Bed in southern Ohio, of which the Feurt Hill quarry on the Scioto River and across from Tremper is one outcrop, and the Catlinite quarries in southwestern Minnesota. Artifacts from both the Great Cache and Upper Cache were found to have been made from the Sciotoville and Catlinite sources: Catlinite pipes were found in both caches, Sciotoville pipes in the Great Cache, and Sciotoville ear ornaments in the Upper Cache. The sample of pipes analyzed here was small enough to have missed ones made from the Sciotoville source. More details from Emerson and colleagues are forthcoming.

Compositional analyses of the pipestone pipes recovered from the Central Altar and Depository Bag under Mound 8 at Mound City (Mills 1922:434–441) are in progress (Gundersen and Brown 2002) and preliminarily suggest diverse sources (J. Gundersen and J. A. Brown, personal communications, 1996, 2002).

NOTES

1. Mills made this statement on the basis of pictures of the Mound City pipes in the Blackmore Museum catalog; a collection he had "never . . . had the pleasure of seeing" (Mills 1916:286).
2. The 19 elements are samarium (Sm), lutetium (Lu), uranium (U), arsenic (As), lanthanum (La), cerium (Ce), ytterbium (Yb), thorium (Th), chromium (Cr), hafnium (Hf), cesium (Cs), zinc (Zn), tantalum (Ta), terbium (Tb), cobalt (Co), scandium (Sc), europium (Eu), iron (Fe) and antimony (Sb).
3. The 14 elements used by Penney and Carriveau in their cluster analysis are no longer known.
4. The river accessibility and visibility of the Tremper earthwork, and its potential as a gathering site for multiple communities, are analogous to those of the 12-mound Chillicothe Northwest mound group, of which the Adena mound is a part (Greber 1991), and the Mound City Group (Mills 1922). All three sites probably date closely to each other and prior to the florescence of Hopewellian earthwork–mound sites.
5. In a less likely scenario, it is possible that wolf and coyote were distinguished by Hopewellian peoples at the time of Tremper and served as different clan totems. In this case, the number of totems and clans would have been five, possibly corresponding to the four depositories with cremations and the one without.

   This reconstruction fits the Tremper archaeological record less well than the one positing four clans or phratries, but remains viable. Although four depositories were filled with cremation remains, a fifth depository existed but was "unused" (Mills 1916:279). It is

unclear whether unused means unused or well-cleaned, with cremation remains from a fifth group ultimately placed elsewhere. The possibility of a demographically extinct phratry/clan symbolized by the unused depository also must be considered.

6. It is significant in this regard that the numbers of animal jaw ornaments found in the Great Cache are unequally distributed among the four species, with bear jaws having been most common. It is possible that Bear clan members predominated numerically, or in some way the Bear clan was more prestigious than other clans and more represented materially. The only cutout artifact from Tremper is a six-inch mica effigy of a bear. The shape of Tremper mound has sometimes been likened to that of a bear. It is also possible that the Bear clan had responsibility for the mortuary tasks undertaken at the gathering(s) at Tremper, and therefore was represented ceremonially and materially more often. The association of bear with death and death rites among the Scioto Hopewell is suggested by the Wray figurine from the Newark site, which shows a man in bear costume (or wrapped by a bear spirit) with an apparently severed head on his lap and arms placed in a ritual posture. In addition, among historic central Algonkians, the bear was associated with the underworld because it hibernates there (Gill and Sullivan 1992:23; Schoolcraft, cited in C. E. Brown 1939:39)—a quality that, along with winter, might easily also refer to death. The possible association of the Bear clan with death and mortuary tasks is considered in greater detail by Thomas et al. in Chapter 8.

7. How community affiliation and clan affiliation might have related to each other is uncertain in this scenario. It is possible that the different clans that gathered at Tremper came from generally different communities, in which case clans were localized. Alternatively, each clan might have come from multiple communities, in which case clans were not localized. Ethnohistorically throughout the Eastern Woodlands, clans were not localized to specific villages. This pattern also appears to have held for the Ohio Hopewell in general (Thomas et al., Chapter 8).

8. This equipment could have included ceremonial artifacts of the deceased, as well as the living.

9. However, the Great Cache and large cremation depository were located in different rooms of the building.

10. The up to 12 lineages or cognatic groups may have come from the same one community of Tremper, with their pipes having been manufactured from sometimes different, distant pipestone resources that were exploited directly by the different kinship groups, or exchanged to them. Alternatively, the kinship groups may, themselves, have come from different communities, which brought with them their pipes made of pipestone from different sources.

11. The possibility that clan segments from three different communities were responsible for the Tremper crema-tions falls in line with the interpretation (Carr, Chapter 7) that the tripartite layout of the earthworks of Frankfort, Seip, Baum, East Works, and Liberty, as well as the tripartite layout of the charnel houses under the Edwin Harness mound, Seip-Pricer mound, and Seip-Conjoined mound, symbolized three allied communities that buried their dead together. However, Carr reconstructed this alliance as having developed only in the middle to late Middle Woodland period, three or four centuries after the building and use of Tremper.

12. The ritual artifacts that probably were used by shaman-like practitioners and that were found in the Great Cache at Tremper include: boatstones of copper and stone; cones of quartz crystal, copper, and galena; a paint cup filled with red ocher; and a possible medicine bundle with bamboo tubes possibly used for sucking to extract illnesses (Mills 1916:285, 364–396).

13. The largest burial populations found within Adena mounds are only 33, 36, 44, 52, 54, and 86 individuals, respectively, at the McKees Rocks mound, Pennsylvania (Dragoo 1963:155), the Adena mound, Ohio (Greber 1991:11), the Galbreath mound (Aument 1990:117), the Sidner II mound, Ohio (Aument 1990:117), the Cresap mound, West Virginia (Dragoo 1963:71), and the Toephner mound, Ohio (Norris 1985). The burial populations of all of these mounds were formed by accretion over an extended time, except perhaps at McKees, where 32 of the individuals may have been buried at one time or close to one time.

14. Another, "softer" line of evidence that the number and geographic spread of the people who assembled at Tremper were substantially greater than in the cases of gatherings at Adena mounds is the innovation in Tremper's site layout compared to the traditional form of Adena mounds. Tremper's new layout indicates new forms of regional social organization and integration that were developing at the time and that, in part, help to distinguish the beginning of the Middle Woodland period and Hopewellian lifeways from the Early Woodland period and Adena lifeways. Specifically, Tremper was laid out horizontally, with multiple cremation basins, cremation deposits, and ceremonial activity areas spread out over one large floor at the base of the mound, whereas Adena mounds are vertically stratified, with activity surfaces and burials at multiple levels, each much more limited in scale than Tremper's floor (Greber 1991). The horizontal organization of Tremper's floor and the repetition of like ceremonial activity areas across it suggests the coming together of multiple, distinct, equivalent social groups—such as clans, sodalities, or communities—each of which can be regional in scale. In contrast, the vertical organization of Adena mounds suggests social continuity through time of one or a few small, local groups, who were emphasizing and symbolizing ancestral lines within a group, ties among local groups through time, or both.

Ceramic Vessel Compositions and Styles as Evidence of the Local and Nonlocal Social Affiliations of Ritual Participants at the Mann Site, Indiana

Bret J. Ruby and Christine M. Shriner

Hopewellian interactions encompassed a vast geographic range and engaged a socially and linguistically diverse set of participants. These interactions are evidenced by the pan-Eastern Woodlands distributions of specific raw materials, artifacts, and styles between about A.D. 1 and A.D. 400 (Seeman 1979a). Increasingly, recent research is challenging and refining the notion of a monolithic and undifferentiated "Hopewell Interaction Sphere" (Caldwell 1964; Struever and Houart 1972) to account for these interregional distributions. Detailed distributional studies and chemical analyses are adding richness, depth, and detail to our understanding of the spatial distributions and social contexts of various styles, raw materials, and finished goods. Increasingly, there is evidence that Hopewellian interactions differed in geographic scale, direction, duration, intensity, and nature. A more complex and disparate set of social relationships, motivations, and mechanisms is necessary to account for the documented variability in the distribution of Hopewellian items and ideas.

Research contributing to this more detailed understanding of Hopewellian interactions began with Seeman's (1979a, 1995) comprehensive distributional studies of finished artifacts and raw materials. Also seminal have been more focused chemical analyses aimed at tracing the source and movement of particular raw materials including copper, flint clay, galena, meteoric iron, and obsidian (Carr and Sears 1985; Goad 1979; Griffin 1965; Griffin et al. 1969; Hatch et al. 1990; Hughes 1992; Hughes et al. 1998; Prufer 1961b, 1962; Walthall et al. 1979). In addition, researchers have long used the stylistic information encoded in ceramic decoration as a means of monitoring Hopewellian interactions (e.g., Braun 1985, 1991; Griffin 1952a; Loy 1968; Prufer 1968; Snow 1998; Snow and Stephenson 1998; Toth 1988). Recently, researchers have begun to integrate mineralogical and chemical characterization of ceramic composition in these studies. These compositional data can be used to identify and discriminate between potential production loci (J. A. Brown and Stoltman 1992; Carr 1992b; Carr and Komorowski

1995; Mainfort et al. 1997; B. A. Smith 1998; Stoltman and Mainfort 2002; Stoltman and Snow 1998).

Ceramic studies that integrate analyses of style with fine-grained analyses of ceramic composition are particularly powerful tools for exploring Hopewellian interactions. Studies that focus exclusively on style are inherently limited because some aspects of style (information) can cross spatial and social boundaries independently of the material transport of ceramic vessels. The addition of detailed compositional analysis capable of tying vessels to their point of production makes it possible to discriminate between very different types of Hopewellian interactions. For example, the transport of vessels across a landscape for exchange with distant societies or for use by a traveler within the ceremonies of distant societies can be distinguished from the sharing of stylistic concepts over broad areas through intermarriage or through the learning of ritual and ritualized ceramic production, independent of vessel transport.

This study uses both compositional and stylistic analyses of ceramic vessels to explore the nature of certain Hopewellian interactions between the occupants of a prominent Middle Woodland center in the lower Ohio valley—the Mann site—and others in the Southeastern United States. The Mann site (12 Po 2) is a large Hopewellian corporate–ceremonial center and habitation complex located near the confluence of the Wabash and Ohio rivers, in extreme southwestern Indiana (Figure 15.1) (Kellar 1979; Ruby 1993, 1997a). Perhaps the most unusual attribute of the site is the unusually high frequency of ceramic vessels bearing stylistic attributes more typically found in the Southeastern United States. The Mann site ceramic assemblage contains thousands of sherds bearing complicated stamped and simple stamped surface treatments, and dozens of tetrapodal vessel supports. These attributes are exceedingly rare elsewhere in the Ohio valley and the greater Midwest, but are commonly found in some Woodland-period ceramic assemblages in the Southeast (see Anderson and Mainfort 2002; Williams and Elliott 1998). The presence of stylistically Southeastern ceramics at the Mann site stimulated our

interest in whether they were local or exotic products, and the mechanism(s) by which the vessels or their styles arrived at Mann. Similar issues have concerned Mainfort and Stoltman (Mainfort et al. 1997; Stoltman and Mainfort 2002) in their study of stylistically diverse and distantly exotic vessels found at the Pinson Mounds site in western Tennessee (see Carr, Chapter 16, for a comparison and interpretive integration of the two studies).

This study departs from the practice followed in many analyses of ceramic composition by incorporating a parallel investigation of clay-rich reference samples drawn from the local environment. Petrography, X-ray diffraction (XRD), scanning electron microscopy (SEM), and experimental firings of Mann site sherds and local clays are used to identify the raw materials and the processes involved in local ceramic production, and to differentiate local and nonlocal products. The clay/silt matrices, sand-size natural inclusions, and sand-size temper inclusions were all encompassed in characterizing the ceramics and local clays.

The results suggest that Mann site potters exploited fluviolacustrine clays, sand, and carbonate deposits available in abundance within a 10 kilometer radius of the site. Most vessels were fired between 500°C and 700°C. The study identified no strict technological differences between vessels assigned to Hopewellian, Southeastern, and Utilitarian-style series: the majority of vessels within each series were manufactured locally using similar raw materials and processes. Importantly, all of the complicated stamped sherds and one of two varieties of simple stamped sherds were identified as local products. The remaining simple stamped variety was identified as a nonlocal product, likely produced by Connestee phase potters in the Appalachian Summit area.

Multiple mechanisms of interregional interaction are required to account for the varying frequencies and diverse locations of production of the several kinds of stylistically Southeastern ceramics found at the Mann site in Indiana and at neighboring Ohio Hopewellian earthworks. Long-distance journeys to acquire esoteric knowledge and exotic artifacts, and pilgrimage,
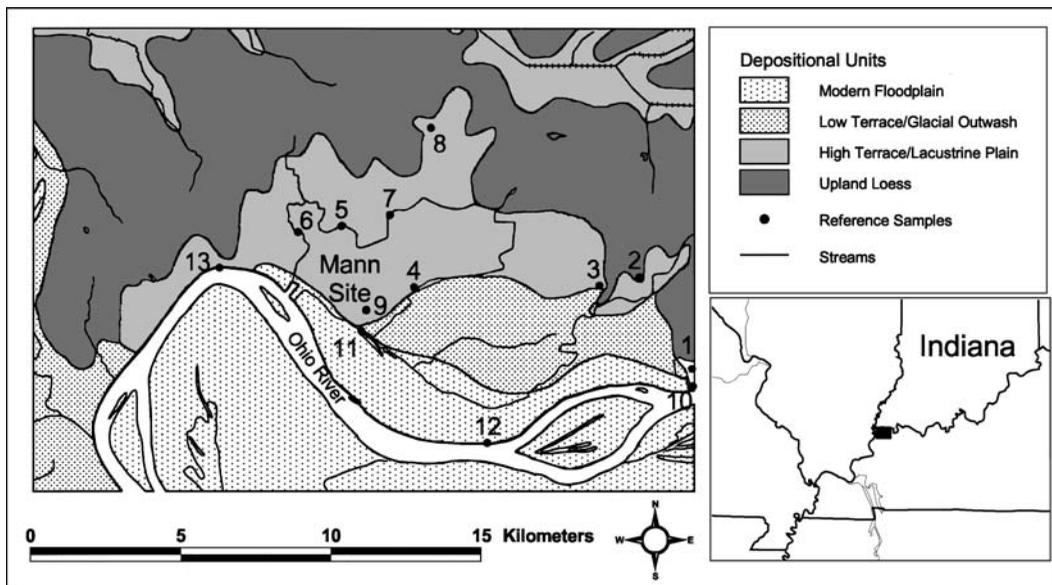
Figure 15.1. The Mann site in its local environment. Numbered dots represent the locations where reference geological samples were taken for petrographic comparison to ceramics in this study.

can account for the infrequent occurrences of Southeastern-made simple stamped ceramics in Mann and Ohio Hopewellian contexts. Utilitarian economic exchange of ceramics and their contents, and exchange of ceramics among the elite of distant peer polities, appear unlikely. The substantial numbers of complicated stamped vessels produced locally at the Mann site using Swift Creek designs can be explained by the long-distance buying of rights and knowledge required to manufacture exotic designs, or by intercommunity ceremonial gatherings combined with intermarriage and/or adoption.

This chapter begins with a description of the Mann site and its ceramic assemblage. Next, we describe the nature of the Mann ceramic sample and reference clay sample studied here, and the analytical techniques that were used. The physical, petrographic, XRD, and SEM observations obtained are then reported and interpreted in terms of the sources of production of vessels. Finally, the sourcing interpretations from Mann are placed in the wider context of the sources of production of ceramic vessels in Ohio Hopewell earthwork sites, and this broader set of geographic patterns is used to infer a necessarily

variable set of mechanisms of interregional interaction.

THE MANN SITE

The Mann site stood at the geographic and social center of the Mann phase, a late Middle Woodland-period community that inhabited the rich Wabash Lowland bottomlands along the lower Ohio and lower Wabash rivers between about A.D. 100 and A.D. 500 (Figure 15.1) (Ruby et al., Chapter 4; Keller 1979; Ruby 1993, 1997a). A number of factors contribute to the unique nature of the site, both in its local context and in the wider "Hopewellian world". The site is one of the largest Hopewellian corporate–ceremonial centers, as measured by the monumental investment of corporate labor in the construction of geometric enclosures and earthen mounds (Ruby et al., Chapter 4, Figure 4.4). Ground observations and aerial photographs taken in the 1950s have revealed a series of geometric enclosures and embankments built on a scale paralleled only by the famous Hopewellian centers of south–central Ohio. At least nine conical and loaf-shaped mounds, two of which rank among the

five largest Hopewell mounds ever constructed, attest to the relatively large amount of labor invested at the site.

The many exotic raw materials and finished artifacts found at Mann indicate that its builders were major players in interregional Hopewellian interaction. Items include copper earspools and headplates; meteoric iron; biface fragments of obsidian, crystal quartz, and Knife River chalcedony; mica mirrors; hematite plummets; galena; marine shell; and shark teeth. In total, at least 27 "Hopewell Interaction Sphere commodities" (raw materials and finished artifacts with interregional distributions [Seeman 1979a]) have been identified at the site (Ruby 1997a). A similarly rich array of Hopewellian exotica was recently reported from the Mann phase GE Mound, located just eight kilometers west of the Mann site (Seeman 1995; Tomak 1994). Only two of the 242 sites reviewed by Seeman (1979a) produced more than 26 kinds of Hopewell Interaction Sphere commodities: Hopewell and Seip in Ross County, Ohio. By this measure of complexity, the Mann and GE sites rank among the four most complex Hopewellian centers in the Eastern Woodlands, and are the only sites outside of the central Scioto area of comparable complexity.

While all of these elements of Mann phase corporate and ceremonial life suggest ready parallels to the major Ohio Hopewell centers, the intensity of domestic habitation debris at the Mann site is clearly unique. A very conservative estimate of the area of dense habitation debris and midden staining present would be 40 hectares, and the actual figure may approach 80 hectares. Test excavations at four widely spaced locations across the site have each encountered evidence of deep midden accumulations and high densities of storage and food-processing facilities. Subsistence remains from these contexts indicate an adaptation that emphasized agriculture focused on indigenous starchy and oily-seeded annuals, gathering, hunting, and fishing. Thus, the Mann site served as something more than a "vacant ceremonial center". (For a comparison to the evidence for habitation in the Scioto Hopewell centers, see the summaries by Ruby et al., Chapter 4, and Carr, Chapter 12.) Within the larger region, the Mann site stands at the center of a wider

distribution of small, dispersed households, hamlets, and short-term extractive camps (Ruby et al., Chapter 4; Kellar 1979; Ruby 1997a).

Mann Site Ceramics

It was the unique nature of the Mann site ceramic assemblage that first drew the attention of the archaeological community to the site. In the late 1930s, Glenn A. Black was shown a series of complicated stamped sherds reportedly collected in southwestern Indiana. Black was initially incredulous that these Southeastern-looking ceramics were actually found near the Wabash–Ohio confluence. Later surface collecting trips to the Mann site along with William R. Adams finally confirmed the source of these unusual sherds. Black and Adams further recognized that the complicated stamped ceramics were part of a larger ceramic assemblage that contained a variety of zoned, stamped and incised types commonly found in Midwestern Hopewellian contexts (Adams 1949; G. A. Black n.d., 1941; G. A. Black and Adams 1947).

During the 1960s and 1970s, James H. Kellar directed a series of excavations targeted at nonmound contexts at the Mann site. A series of refuse-filled pit features and plow-disturbed deposits excavated in 1966 and 1967 produced more than 25,000 ceramic fragments.[1] In a manner analogous to Prufer's treatment of Ohio Hopewell ceramics, Kellar divided the assemblage as a whole into three series: "Utilitarian", "Hopewellian", and "Southeastern" (Kellar 1979; Prufer 1968; Prufer and McKenzie 1965).

The Utilitarian Series at the Mann site is composed of undecorated plain and cordmarked vessels, and represents the bulk of the total collection (about 91%). These are relatively thin-walled (averaging about four to five millimeters), subconoidal or subglobular jars with restricted necks. Many of the cordmarked jars have smoothed necks. About half of these plain and cordmarked jars have notched lips.

The Hopewellian Series represents the largest class of decorated vessels (about 6% of the total collection). The most common decorative technique within this series is unzoned rocker stamping covering the entire vessel surface

(55.4% of the series). Trailed, fine-line, and crosshatched varieties of incised wares (20.3%), zoned stamped (14.4%), red filmed (4.9%), punctated (2.4%), and brushed (1.3%) types make up the remainder of the Hopewellian Series.

The most striking aspect of the Mann site ceramic assemblage is the high frequency of Southeastern Series types (about 3% of the total collection). As the label suggests, these types are found commonly in parts of the Southeastern United States, but with exceeding rarity in the Ohio valley. As early as 1903, William Henry Holmes recognized a distinctive ceramic tradition that was centered in the "South Appalachian" area of Georgia and South Carolina and characterized by the use of carved wooden paddles to finish vessel exteriors (Holmes 1903:130–133). Subsequent researchers continue to recognize a paddle-stamped ceramic tradition distributed throughout Georgia's Coastal Plain and lower Piedmont, northern Florida, and adjacent portions of Alabama, Tennessee, North Carolina, and South Carolina (Anderson and Mainfort 2002; Caldwell 1958; Griffin 1967; Williams and Elliot 1998). The tradition began as early as 1000 B.C. with the appearance of simple, check, and dentate stamping in Early Woodland contexts. "Swift Creek" ceramics, characterized by complicated curvilinear and rectilinear stamping, appeared between about 100, B.C. and A.D. 100, and came to dominate many Middle Woodland-period assemblages in central and southern Georgia and northern Florida (Anderson 1998; Chase 1998; B. A. Smith 1979). Outside of this core area, Swift Creek sherds occur as minority wares in Middle Woodland-period assemblages in northern Georgia, eastern Tennessee, and western North Carolina (Butler 1979; Chapman and Keel 1979; Elliott 1998; Keel 1976, n.d.; Mainfort 1986; Mainfort et al. 1997; Stoltman and Mainfort 2002). Complicated stamped variants continued to be produced throughout the Late Woodland and Mississippian periods in the Southern Appalachian area.

The Southeastern Series at the Mann site includes simple stamped, complicated stamped, and tetrapodal vessels. Most sherds in the series are *complicated stamped* (about 71%). About 94% of the complicated stamped group display curvilinear motifs; the remaining 6% have rectilinear motifs. Rein (1974) studied the design configurations of 984 of these sherds and found the curvilinear designs to be closely similar to those of Early Swift Creek Complicated Stamped, a type defined in central Georgia. In fact, three of the complex designs were found to be identical to Georgian examples. Rein found the rectilinear designs to be similar to Crooked River Complicated Stamped and St. Andrews Complicated Stamped, types defined for northwestern Florida (Willey 1949). Complicated stamped ceramics occur in domestic contexts throughout the Mann site and at least five other habitation sites within a 40 kilometer radius from Mann (Kellar 1979; F. P. Martin 1954, 1958; Ruby 1993, 1997a).

Two varieties of simple stamping are also well represented at the Mann site, comprising about 28% of the Southeastern Series. The most common variety of the simple stamped group (about 87%) has fine, shallow, and closely spaced grooves in a treatment that sometimes resembles brushing. This variety is referred to here as *fine simple stamped* (see Kellar 1979:fig. 14.2h). The remaining variety (about 13%) has wide lands and deep grooves that may have been produced using a coarsely grooved paddle or a paddle wrapped with strips of plant fiber or leather and pressed into a relatively plastic paste. This variety is referred to here as *coarse simple stamped* (see Kellar 1979:fig. 14.2i).[2] Ceramics similar to the coarse simple stamped variety became quite common in the Wabash valley during the Late Woodland period, and the examples described here may relate to this local tradition of simple stamped vessel manufacture.

Both simple stamped varieties occur in domestic contexts throughout the site. The fine simple stamped variety has also been found in association with a plow-disturbed burial in a nonmound context at the Mann site, and in association with a variety of burned and broken Hopewellian exotica redeposited in two pits within Mound 9 at the Mann site (Kellar 1979; Lacer n.d.:98, table 1; Ruby 1997a:326–333, 354).

Tetrapodal supports on plain, cordmarked, and simple stamped vessels make up the remaining approximately 1% of the Southeastern Series.

A brief look at the known distribution of complicated stamped ceramics in the Ohio valley shows the anomalous nature of the Mann site ceramic assemblage. From all investigated Ohio Hopewell sites, only 13 complicated stamped sherds have been documented: 10 from Seip and 3 from Turner.[3] All of the Ohio examples are regarded as nonlocal products based on attributes of paste and temper (Prufer 1968). Three complicated stamped sherds have been documented in northwestern Kentucky, from the Newtown phase Hansen site located directly opposite the mouth of the Scioto River[4] (Ahler 1988, 1992). Finally, five complicated stamped sherds[5] were recovered from the Twenhafel site, located in the Mississippi river flood plain near the mouth of the Big Muddy river in southwestern Illinois (Hofman 1980). In contrast, more than 1,100 complicated stamped sherds have been recovered during only four limited test excavations at the Mann site.

Simple stamping has a less restricted spatial, temporal, and quantitative distribution in the Ohio valley than does complicated stamping. Simple stamping forms a minor constituent of many Early and Middle Woodland assemblages in Ohio and Kentucky, and a major constituent of Middle and Late Woodland Allison–LaMotte assemblages in the central Wabash Valley. Given its ubiquity, much of this material was probably produced locally in the Ohio valley region. However, one simple stamped type found occasionally in Ohio Hopewell contexts—Turner Simple Stamped B—has been identified as an actual import from sources in the Appalachian Summit on the basis of both stylistic and compositional similarities (J. A. Brown 1994:186–188; Chapman and Keel 1979; Griffin 1983; Keel n.d., 1976; Prufer and McKenzie 1965; Prufer 1968).

SAMPLE COLLECTION

Reference Samples

This study adopts a ceramic petrology approach (Freestone 1991, 1995). This methodology has been successfully implemented in a number of recent ceramic analyses (Douglass and Schaller 1993; Hughes et al. 1998; Shriner 1999; Shriner and Dorais 1999). In geological research, petrology is the study of the processes involved in the formation of specific rocks and their distribution. In archeological research, ceramic petrology characterizes the variability and production potential of raw materials available in a local geologic environment in order to relate archeological ceramics to their points of production. The first stage of the analysis involves developing a comparative collection of clay-rich sediments and nonplastics that adequately represents local variability in ceramic raw materials. These reference samples are subsequently used in comparisons that relate archaeological ceramics to local raw materials.

The present study began with a sampling project aimed at locating and characterizing all potentially relevant source materials in the vicinity of the Mann site. Soil maps, topographic maps, and geological maps for the Posey County area were used (Gray et al. 1970; U.S. Department of Agriculture 1978; U.S. Geological Survey 1957). Reference samples were drawn from a variety of geological settings located within a 10 kilometer radius of the Mann site. Clay-rich sediments were collected from near-surface and stream bank exposures. Nonplastics were collected from both bedrock and secondary deposits. Fieldwork was carried out in August and December of 1993. The context and nature of each sample are described below.

The study area lies within the Wabash Lowland physiographic province—a region shaped primarily by Pleistocene and Holocene deposition and erosion, and characterized by broad meandering stream valleys flanked by two well-defined glacial outwash terraces and low, gently rolling uplands (Schneider 1966). The surface geology is dominated by four depositional units: (1) modern flood plain and stream deposits; (2) alluvial silt loams mantling a lower glacial outwash terrace; (3) glacial lake deposits mantling a higher glacial outwash terrace; and (4) windblown silt (loess) deposits mantling low sandstone and shale uplands (Straw et al. 1977:2–6). The Mann site is ideally situated to exploit each of these potential sources of ceramic raw materials (Figure 15.1).

Flood plain and stream deposits consist mostly of silt and fine sand, with minor amounts of gravel and organic material present. Better-drained, more friable, sandy loam and silt loam soils occupy flood plain ridges and levees; less well-drained silty clay loam soils occupy swales, sloughs, marshes, and oxbow lakes in the flood-plain. Coarse sandy sediments are found along active and relict stream banks and bars. Flood plain and stream deposits are about 15 meters thick along the Ohio river and 2 to 6 meters elsewhere. Flood plain and stream deposits with sufficient clay content for vessel manufacture were not observed in the study area. However, sandy beach sediments suitable for use as temper were collected from three locations (Figure 15.1, Locations 11, 12, and 13).

Glacial outwash deposits form two well-defined terraces. The lower terrace stands about three meters above the active flood plain. The lower terrace is less prone to annual or semi-annual flooding than the flood plain, but still bears significant flood risk. The upper three to six meters of this depositional unit is composed of alluvial silt loam soils. Coarser sediments occupy higher elevations on the lower terrace, whereas finer sediments occupy the intervening swales and drainage channels. Outwash deposits are generally devoid of organic remains. All of these fine-textured deposits are underlain by about 40 meters of sands, silts, and gravels. The fine-textured upper unit was sampled at two locations, high in it, along the boundary between the lower and the higher terraces (Figure 15.1, Locations 3 and 4).

A second, higher terrace stands about three meters above the lower terrace zone. The higher terrace is mantled by a broad flat expanse of soft, gray silts and clays deposited under low-energy fluvial or lacustrine conditions. These fluviolacustrine sediments were deposited when the tributary creek valleys feeding the Ohio and Wabash rivers were dammed by late Pleistocene glacial outwash deposits that accumulated in the main valleys. Fossils, particularly snails, are present in the lacustrine deposits. These soils are generally poorly drained and seasonally wet, but only very rarely flooded. Over most of the local area, the thickness of this unit is 12–30 meters.

Fluviolacustrine sediments were sampled from a deep exposure (four meters) in a channeled creek bank (Figure 15.1, Location 5). Modern soil calcite nodules formed by the mobilization of $CaCO_3$ from Pleistocene aragonitic gastropod shells above the water table were also collected at this location. Textural variants of the fluviolacustrine clays were collected from three additional locations (Figure 15.1, Locations 6–8). A final fluviolacustrine sediment sample was taken from the Mann site itself in a one-meter-deep posthole section (Figure 15.1, Location 9).

Low sandstone and shale uplands rise to about 25 meters above the high terrace. A minor limestone bedrock exposure is present near West Franklin in Posey County, Indiana. These rolling uplands are blanketed by 2 to 10 meters of Pleistocene windblown silts (loess), which likely were redeposited by periglacial windstorms from nearby fluviolacustrine sediments (Straw et al. 1977; Wayne 1966). Pleistocene loess deposits were sampled from two upland locations east of the site (Figure 15.1, Locations 1 and 2). A gray clay component was present in the sample from Location 2. Local limestone and sandstone bedrock formations suitable for tempering material were sampled from exposures near West Franklin (Figure 15.1, Location 10). Burned limestone fragments, likely representing materials used in cooking and heating activities, were also collected from the Mann site surface.

Artifact Samples

The sample of sherds selected for analysis was constrained by the following pragmatic limitations: conservationist considerations prevented the inclusion and destruction of certain unique or rare sherds, and the sample size had to be kept within manageable limits set by the labor-intensive analytical techniques to be used. Consequently, a nonrandom sample was chosen, reflecting the range rather than the proportional representation of variability present in the total assemblage. In all, 80 sherds from as many vessels were chosen, representing the range of variability in surface treatment, decoration, paste, and temper within each of the Utilitarian, Hopewellian, and Southeastern Series.

Table 15.1. Sample of Sherds Analyzed

Series	No.
Hopewellian	
Hopewell Rim	6
Red filmed	7
Unzoned rocker stamped	3
Zoned rocker stamped	7
Untyped[a]	1
Subtotal	24
Southeastern	
Complicated stamped (curvilinear)	7
Complicated stamped (rectilinear)	4
Simple stamped (fine)	5
Simple stamped (coarse)	4
Subtotal	20
Utilitarian	
Cordmarked	18
Plain[b]	18
Subtotal	36
Total	80

[a] Sherd displays an unusual thickened rim strip, cord-wrapped stick impressions and black paste.
[b] One plain sherd displays an unusual black paste.

Table 15.1 lists the style series affiliation and variations in surface treatment and decoration present in the sherd sample.

ANALYTICAL TECHNIQUES AND SAMPLE PREPARATION

Petrography

Reference Samples. The local, clay-rich sediment samples from Locations 1–9 were mixed in a commercial blender and then air-dried. They were wedged to the point of plasticity and formed into bars 26 centimeters long and 1.2 centimeters square with a Play-Doh extruder. The bricks were fired in a linear gradient furnace at a heating rate of 10°C/minute to 850°C and held at peak temperature for 30 minutes. Temperatures along the length of the bars typically ranged from 130°C to 875°C. The bars were segmented into five sections (each spanning ~ 180°C). Standard petrographic thin sections were prepared for each segment. The limestone and sandstone samples from Location 10 were thin-sectioned. Grain mounts were prepared for the sand samples from Locations 11 through 13.

The reference samples were used as a physical, textural, and mineralogical standard of reference for comparison with the artifact samples.

Petrographic mineral identification supplemented the identification of nonclay minerals in the XRD analysis.

Artifact Samples. Standard petrographic thin sections were prepared for each of the sherds. These sections were studied microscopically with polarized light in order to characterize the mineralogy and texture of the sherds. The results of this work were quantified using point-counting techniques recommended by Middleton et al. (1985:66–67) and Freestone (1991:403). A coarse (200-point) regular grid in two dimensions was established. At every grid point, the presence and type of each particle, void, or matrix were tabulated.

X-Ray Diffraction Analysis

Reference Samples. Samples of the raw reference clays from fluviolacustrine contexts (Figure 15.1, Locations 5–9) were prepared for XRD to determine their bulk mineral content. Random-oriented powder mounts were made in order to identify nonclay minerals in the deposits. Two-micron suspensions were applied to glass slides and analyzed for clay mineralogy. Additional two-micron slides were prepared in order to gather glycol-treated assays of all raw samples as well as samples heated to 325°C.

Samples from the segmented sections of the fired, clay-rich sediments (Locations 1–9) were collected for bulk XRD analysis. The fired reference clays acted as a comparative tool for estimating the firing temperature range applied during vessel manufacture. Mineralogical and structural transformations of clays occur during their firing. These changes are identifiable with XRD and depend upon the firing temperature, atmosphere, and mineralogical composition of the raw material.

Powder mounts and smear slides were analyzed on a Phillips x-ray diffractometer with CuK radiation and settings of 45 kilovolts and

20 milliamperes. A scanning rate of $2°$ 2 theta(θ)/ minute over an angular range of $2°$ through $60°$ was used.

Artifact Samples.   Grinding residues were collected from each sherd during thin-section preparation and mounted on glass slides for XRD analysis. These patterns were subsequently compared with the patterns from the fired reference samples to verify each sherd's mineralogy and determine its firing temperature.

Scanning Electron Microscope Analysis

Reference and Artifact Samples.   Samples of representative, clay-rich sediments in the Mann site area and representative artifact samples were prepared and mounted for visual examination with a scanning electron microscope (SEM). These images were useful in the comparison of clay morphology.

RESULTS

Physical Characteristics

The appearance, color, hardness, and macroscopic fabrics of 90% of the sherd sample compare favorably with those of the reference clays drawn from fluviolacustrine contexts (Figure 15.1, Locations 5 through 9). Indeed, the appearance of the fired and split linear gradient bricks and their qualitative hardness (estimated during thin sectioning) were early indications of the similarity of these reference materials to the vast majority of the ceramic artifacts.

Two bricks made of clays drawn from near-surface fluviolacustrine deposits exhibit the closest similarity to the artifact materials. These samples, drawn from zero to four meters below surface at Location 5, are the most organic-rich of the clays that were sampled. When fired, these samples exhibit dark-gray reduced cores and orange oxidation rinds along exposed surfaces, and their voids connect with the external surface. These same visual and hardness characteristics are present in 90% of the artifact sample. The remaining 10% of the artifact sample display no similarity in appearance to any of the reference clays. These unusual sherds are uniformly reduced to a dark-gray or black color, with no evidence of oxidation rinds along exposed surfaces, and are qualitatively harder than the fired reference clays.

Petrography: Mineralogy and Texture

Qualitative and quantitative petrographic analyses of artifact thin sections showed consistent texture, mineralogy, and particle size between the reference clays drawn from fluviolacustrine deposits and the matrix and inclusions of 90% of the artifacts. The remaining 10% of the artifacts are distinct from all of the reference samples in texture, mineralogy, and particle size. Statistics summarizing the point count data are presented in Table 15.2.

The fluviolacustrine reference clays consist of a matrix of clay to silt-sized particles, with occasional large diagonal voids and sand-sized particles of quartz and iron oxide. Even though these samples were mixed in a commercial blender before brick preparation, the fired bricks exhibit occasional undeformed and angular argillaceous inclusions of raw clay that were not disaggregated. As noted below, these natural inclusions are difficult to differentiate from intentional inclusions of crushed sherds (grog) or clay as temper. Consequently, in the point counts presented here, argillaceous inclusions were counted along with clay and silt as matrix. Otherwise, any appreciable quantities of sand-sized or larger particles present in the ceramics were interpreted as intentional temper inclusions.

Forty-four percent of the sherds contain no appreciable quantities of sand, rock, or mineral inclusions, and are indistinguishable from the fluviolacustrine reference clays. Ninety-five percent or more of the points counted for these sherds were identified as matrix. These sherds do contain occasional angular and subangular argillaceous inclusions that might be identified macroscopically as grog or clay temper. However, since petrographically indistinguishable argillaceous inclusions also occur in the reference clays, many of these sherds may in fact be untempered. In rare instances, sand temper was

Table 15.2. Summary of Point Counts

Particle	Series	Sherds	Min	Max	Mean	SD
Matrix (clay/silt)	Hopewellian	24	125	195	179.1	15.5
	Southeastern	20	130	195	166.7	25.4
	Utilitarian	36	130	190	166.8	16.1
	Total	80	125	206	173.9	20.8
Sand	Hopewellian	19	1	43	9.0	11.8
	Southeastern	19	1	55	17.2	18.2
	Utilitarian	33	1	37	11.5	11.4
	Total	71	1	55	12.4	13.8
Carbonate	Hopewellian	5	1	8	4.2	2.6
	Southeastern	2	7	18	12.5	7.8
	Utilitarian	14	2	32	14.5	10.6
	Total	21	1	32	12.1	9.9
Chert	Hopewellian	6	1	10	3.8	3.7
	Southeastern	5	1	3	1.4	0.9
	Utilitarian	16	1	26	3.0	6.3
	Total	27	1	26	2.9	5.1
Sandstone	Hopewellian	2	1	12	6.5	7.8
	Southeastern	0	—	—	—	—
	Utilitarian	1	11	11	—	—
	Total	3	1	12	8.0	6.1
Granite	Hopewellian	6	1	3	1.5	0.8
	Southeastern	6	1	5	2.2	1.6
	Utilitarian	17	1	11	2.4	2.8
	Total	29	1	11	2.2	2.3
Plagioclase	Hopewellian	4	1	6	2.3	2.5
	Southeastern	8	1	10	3.3	3.2
	Utilitarian	8	1	5	1.5	1.4
	Total	20	1	10	2.4	2.5
Epidote/zoisite	Hopewellian	0	—	—	—	—
	Southeastern	4	3	10	7.8	3.2
	Utilitarian	0	—	—	—	—
	Total	4	3	10	7.8	3.2
Hornblende	Hopewellian	0	—	—	—	—
	Southeastern	0	—	—	—	—
	Utilitarian	1	7	7	—	—
	Total	1	7	7	—	—
Low-T amphibole	Hopewellian	0	—	—	—	—
	Southeastern	3	3	6	4.7	1.5
	Utilitarian	1	1	1	—	—
	Total	4	1	6	3.8	2.2
Pyroxene	Hopewellian	1	1	1	—	—
	Southeastern	4	2	5	2.8	1.5
	Utilitarian	0	—	—	—	—
	Total	5	1	5	2.4	1.5
Basalt	Hopewellian	1	4	4	—	—
	Southeastern	0	—	—	—	—
	Utilitarian	0	—	—	—	—
	Total	1	4	4	—	—
Mica	Hopewellian	1	1	1	—	—
	Southeastern	0	—	—	—	—
	Utilitarian	2	1	2	1.5	—
	Total	3	1	2	1.3	0.6

Table 15.2. (*continued*)

Particle	Series	Sherds	Min	Max	Mean	SD
K-spar	Hopewellian	2	1	1	—	—
	Southeastern	0	—	—	—	—
	Utilitarian	4	1	1	—	—
	Total	6	1	1	1.0	0.0
Gneiss	Hopewellian	3	1	1	—	—
	Southeastern	1	1	1	—	—
	Utilitarian	1	1	1	—	—
	Total	5	1	1	1.0	0.0
Schist	Hopewellian	0	—	—	—	—
	Southeastern	0	—	—	—	—
	Utilitarian	1	1	1	—	—
	Total	1	1	1	—	—

observed within the argillaceous inclusions in the sherds, indicating that some of these inclusions represent intentional inclusions of grog.

Twenty-four percent of the sherds contain medium-sized crushed carbonate rock and mineral fragments in a matrix indistinguishable from the fluviolacustrine reference clays. The carbonate—iron oxide-stained dolomite—found in the sherds conforms mineralogically to reference samples collected on or near the Mann site.

Another 22% of the sherd sample contains medium-sized monocrystalline quartzose sand in a matrix fully like the fluviolacustrine reference clays. The sand corresponds in particle size and roundness to beach sand sampled along the Ohio river, south of the site (Figure 15.1, Location 11). Other rock and mineral fragments sometimes occur as trace inclusions along with sand and carbonate fragments.

The final 10% of the sherds are distinguished by an altered, micaceous, iron oxide-stained matrix with exotic sand-sized inclusions including epidote/zoisite, low-T amphibole, pyroxene, and calcic plagioclase. These minerals are characteristic of low to medium-grade metamorphic rocks and are unavailable in quantity in the local environment. Clay and sand-sized particles are present, with little or no silt and a highly variable sand particle-size distribution. Individual grains are more angular than those found in the other 90% of the sample sherds from the Mann site and the reference clays.

The exotic mineralogy of this last 10% of the sherd sample allows us to confidently conclude that this distinctive compositional group represents vessels of nonlocal manufacture. In the remainder of this paper, the approximately 90% of the sample sherds that resemble raw materials around the Mann site are termed *local* sherds. The remaining 10% of the sample sherds that are distinctive are termed *nonlocal*.

X-Ray Diffraction Analysis

XRD of the raw reference samples showed the presence of quartz, dolomite, and feldspar. The quartz was predominant, with small but equal amounts of feldspar and dolomite. These results confirmed the optical microscopy data in which quartz predominated in silt-size particles. Sand-sized inclusions of feldspar and dolomite were present in small quantities.

The two-micron-oriented, glycol-treated slides for samples from fluviolacustrine Locations 5, 7, and 9 revealed a strong 001 smectite reflection at about 5.2° 2θ shifted to about 6.0° to 6.2° 2θ in the air-dried samples. Identification of smectite was confirmed by the results of two-micron-oriented slides that were heated to 325°C for one hour. The smectite peak for the 001 reading collapsed to 10 Angstroms, creating a diffraction pattern similar to that of illite.

Illite was found in all these samples as well, along with small amounts of kaolinite. The smectite component did not appear to be mixed-layered with the illite. The shape of the 001 reflection in both glycol-treated and air-dried runs

remained sharp and did not broaden as suggested by Moore and Reynolds (1989:219).

The two-micron-oriented slide of the air-dried sample from Location 6 (another fluviola-custrine context) contained no smectite but rather a 6.2° 2θ chlorite peak, which did not expand upon glycolation and did not collapse upon heating. Illite appeared to be the predominant clay mineral, with kaolinite also present. Chlorite and kaolinite were both present, because 003 peaks for both minerals were present. In addition, the kaolinite 002 peak at 24.9° 2θ and the chlorite 004 reflection at 25.1° 2θ were both sharp.

Comparative XRD analysis between the fired reference clays and the local sherds with a petrographically comparable matrix confirmed the petrographic results: both contained illite, quartz, dolomite, and feldspar in similar proportions (Figure 15.2). Traces of an illite/smectite component were found in these reference clays and sherds fired to less than 400°C. Although three sherds had a firing temperature of between 100°C and 325°C, the temperature

range for most of the sherds could be predicted between 500°C and 700°C.

Indiana glacial lacustrine sediments have been well documented and characterized by Smith and Murray (1957) and Harrison and Murray (1964). The Posey County clays conform well to their findings. Quartz content is high, with varying amounts of feldspar, up to 35%. The carbonate minerals—calcite and dolomite—are present and can be as high as 30%. Chlorite and kaolinite are both present in the deposits but seldom in predominant percentages. Illite is the most abundant clay mineral in the glacial clays, with a mixed-layer illite–montmorillonite in some samples. The removal of calcite and dolomite by solution can transform many of these glacial sediments into suitable ceramic clays (Harrison and Murray 1964:37).

XRD analysis of the nonlocal sherds with an altered micaceous, iron oxide-stained matrix and exotic sand-sized inclusions indicated that they contained no microcline, but did contain amphibole, epidote, and a greater amount of plagioclase. These results are in line with the petrographic observations for the sherds.

Scanning Electron Microprobe

SEM images of the reference clays and representative local sherds illustrated the morphological similarities of clay minerals present in both. The thin, platy shape of smectite in the reference sample from Location 7 (Figure 15.3) is similar to that of smectite in sherd No. 24 (Figure 15.4). The SEM image of sherd No. 80 (Figure 15.5) shows the altered mica fabric characteristic of the nonlocal artifact sample.

DISCUSSION

Mineralogical and Textural Constraints on Sherd Source Region

Several lines of evidence suggest that 90% of the artifacts sampled were probably produced using resources available within a 10 kilometer radius of the Mann site. First is the match in mineral assemblage between the bulk of the sherds and the potential source materials. Both the clay reference samples and 90% of the artifact

Figure 15.2. Selected x-ray diffraction results.
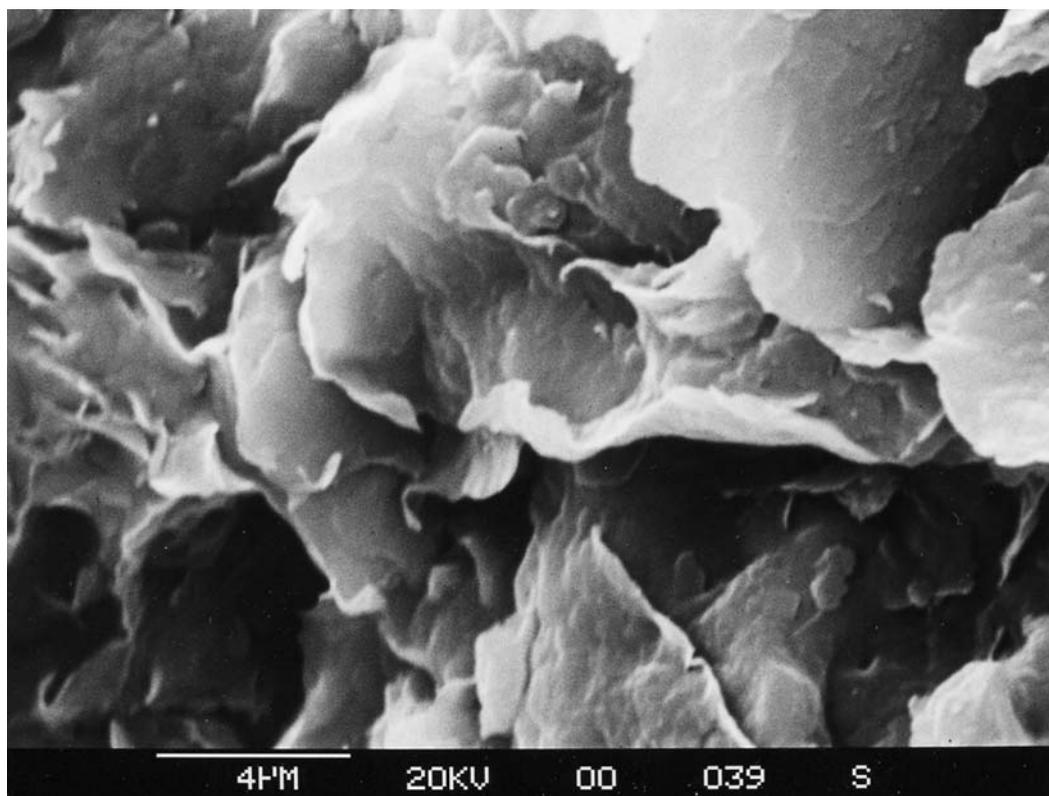
Figure 15.3. SEM image of reference sample from Location 7.

sample exhibit a fine-grained clay matrix containing sand-sized inclusions of quartz, feldspar, and dolomite.

Second, the XRD analysis of the local reference clays and local sherds confirms the petrographic results and indicates that both materials contain the nonclay minerals of quartz, feldspar, and dolomite, with quartz the predominant mineral. The clay minerals—illite, smectite, and kaolinite—are present in the raw reference clays and sherds fired at less than 400°C.

Third, identical macroscopic and microscopic textural relationships are seen in both the local sherd samples and the fired reference clays. Fired color and hardness are similar in both the reference clays and the artifacts. The reduced cores and orange oxidation rinds that were observed in the reference clays were also present in the local sherds. Likewise, petrographic textural analysis revealed that the local sherds consist of a fine clay and silt matrix. This matrix is identical to that of the fluviolacustrine reference clays.

About 10% of the total sherd sample analyzed have an exotic matrix and/or inclusions. The particular suite of exotic mineral inclusions present in most suggests that these sherds were produced outside of the Ohio valley, in an environment characterized by a low to medium-grade metamorphic geology.

Sherd Composition and Stylistic Attributes

The discussion to this point has established that sherds of local and nonlocal manufacture can be confidently identified on the basis of compositional analysis, independent of stylistic attributes. The discussion now examines how the local and nonlocal compositional groups are related to the stylistic classification of the sample based on attributes of surface treatment and decoration.

Table 15.3 presents a cross-classification of the sherd sample by both style and composition. The nonlocal sherds in Table 15.3 are
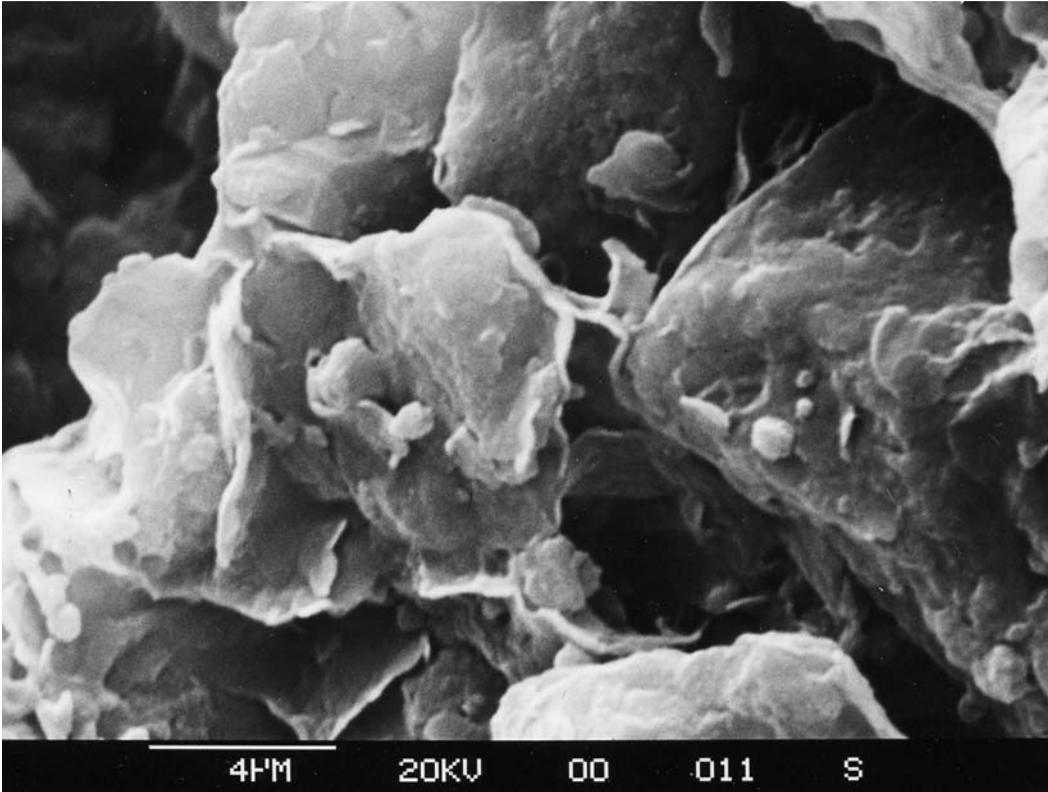
Figure 15.4. SEM image of sherd No. 24. Note the similarity to the SEM image of local reference sample shown in Figure 15.3.

distinguished by an exotic matrix and/or inclusions. Figure 15.6 shows a simple biplot representing sherd composition in terms of counts of matrix and exotic mineral inclusions: amphibole, epidote/zoisite, pyroxene, and plagioclase. Plotting symbols and labels identify style series and varieties. The table and diagram suggest some interesting conclusions concerning the point of production of vessels within each of the Hopewellian, Southeastern, and Utilitarian series.

It is clear that the vast majority of the Hopewellian and Utilitarian series vessels were locally produced (92% and 97%, respectively). Only two Hopewellian sherds and one Utilitarian Series sherd are identified as nonlocal.

One of the nonlocal Hopewellian Series sherds has a red filmed surface treatment. The paste of this sherd is not macroscopically distinct from the rest of the local sherds or reference samples, but contains an unusually high count of plagioclase. Vessels with red or black slips or washes are generally rare or absent elements in Hopewellian ceramic assemblages (see Cotkin et al. 1999 for a comprehensive review). In Illinois, red slipped or washed vessels and black negative slipped or washed vessels are very infrequent (Griffin 1952a:118). They have not been reported at all from Ohio Hopewell contexts, despite extensive technological searches and studies there (Cotkin et al. 1999). Occasional red filmed sherds have been reported from Pinson Mounds in western Tennessee and from the Ingomar site, a Middle Woodland platform mound in northern Mississippi (Mainfort 1986; Rafferty 1987). Low frequencies of red painted and black dye-resist vessels are known along the Gulf Coast of Florida in the Crystal River area of the Santa Rosa–Swift Creek region (Willey 1949:391–392). Red filming in Early and Middle Woodland-period contexts is seen most frequently in the Tchefuncte–Marksville sequence
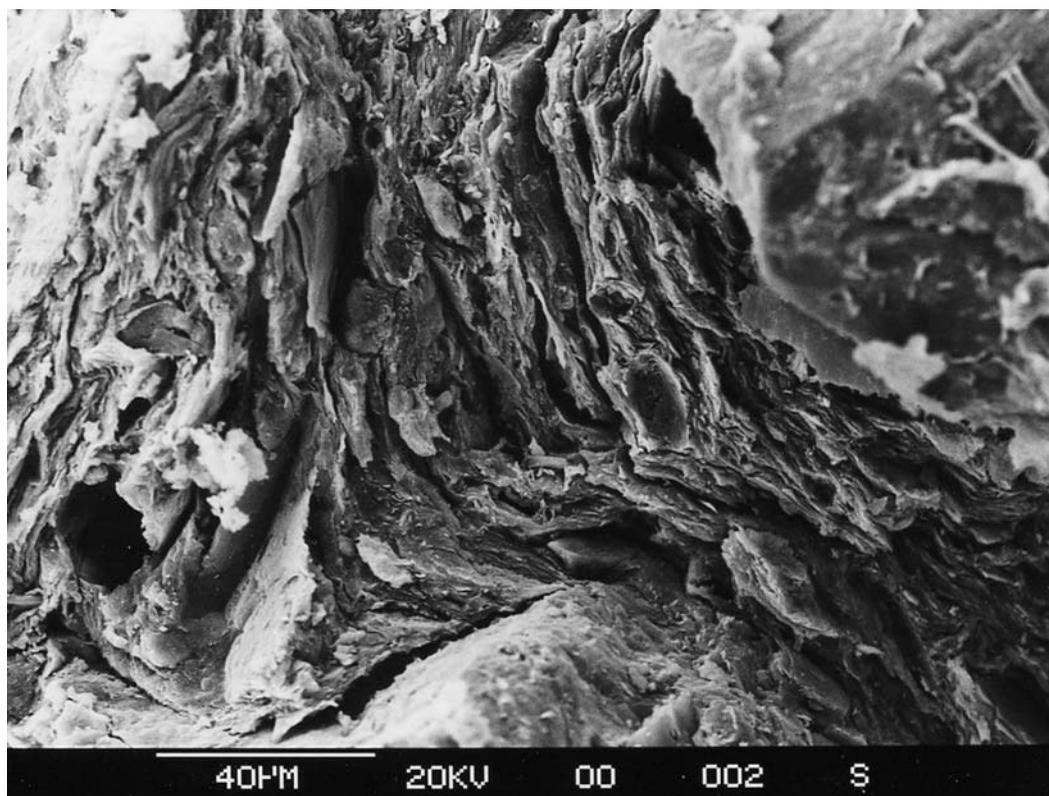
Figure 15.5. SEM image of sherd No. 80 showing nonlocal, altered mica fabric.

of the lower Mississippi valley area (Belmont and Williams 1981:23; Phillips 1970:63–64, 98–100, 164) and became much more common there in the subsequent Baytown period (Belmont and Williams 1981:26, 32; Phillips 1970:155–156). Overall, the distribution of red filming in Woodland contexts over the Eastern United States might suggest a lower Mississippi valley origin for this Mann site vessel, but the compositional analysis presented here is incapable of confirming this possibility.

The other nonlocal Hopewellian series sherd was identified as potentially exotic prior to the petrographic analysis because it displays an unusual thickened rim strip, cord-wrapped stick impressions and black paste (Table 15.1). This sherd is distinguished petrographically as the only one containing basalt. (This sherd is not distinguished as nonlocal in Figure 15.6 because basalt was not counted as an exotic inclusion.) The black paste of this sherd may suggest a common origin with other black-pasted nonlocal sherds discussed below, but the stylistic attributes appear to be unique and do not point unambiguously to any particular source region.

The single nonlocal Utilitarian Series sherd is plain surfaced and was identified as potentially exotic prior to the petrographic analysis (Table 15.1). This sherd displays the same black matrix that distinguishes almost all of the other nonlocal sherds from the local reference clays, and is further distinguished as the only sherd in the sample containing hornblende.

The Southeastern Series sherds display the most interesting compositional pattern. All of the complicated stamped and coarse simple stamped sherds are identified as local products. All of the fine simple stamped sherds are identified as nonlocal manufactures. These fine simple stamped sherds are also among the 10% of the total sample characterized by an exotic opaque iron oxide-stained matrix.

Table 15.3. Compositional Groups, Local and Nonlocal

		Compositional groups				
		Local		Nonlocal		
Series	Surface treatment	*N*	*%*	*N*	*%*	Totals
Hopewellian						
	Hopewell Rim	6	100	0	0	6
	Red filmed	6	86	1	14	7
	Unzoned rocker stamped	3	100	0	0	3
	Zoned rocker stamped	7	100	0	0	7
	Untyped[a]	0	0	1	100	1
	Total	22	92	2	8	24
Southeastern						
	Complicated stamped (curvilinear)	7	100	0	0	7
	Complicated stamped (rectilinear)	4	100	0	0	4
	Simple stamped (fine)	0	0	5	100	5
	Simple stamped (coarse)	4	100	0	0	4
	Total	15	75	5	25	20
Utilitarian						
	Cordmarked	18	100	0	0	18
	Plain[b]	17	94	1	6	18
	Total	35	97	1	3	36
Total		72	90	8	10	80

[a] Sherd displays an unusual thickened rim strip, cord-wrapped stick impressions and black paste.
[b] The single, nonlocal, plain-surfaced sherd displays an unusual black paste.

Simple stamped ceramics are widely distributed in the Southeastern United States, but only in the Blue Ridge and southern Appalachian Summit provinces of eastern Tennessee and western North Carolina does this distribution coincide with a low to medium-grade metamorphic terrain. Previous investigations in the Appalachian Summit area have suggested that sites associated with the Middle Woodland Connestee phase were in direct contact with Ohio Hopewellian populations between about A.D. 200 and A.D. 500 (Chapman 1973; Chapman and Keel 1979; Griffin 1983; Keel n.d., 1976; Prufer 1968; Prufer and McKenzie 1965). Primary evidence for this contact is the marked similarity in vessel form, decoration, surface treatment, and temper between Connestee Simple Stamped ceramics—the most common ceramic type of the phase—and the Turner Simple Stamped B ceramics occasionally found on Ohio Hopewell sites. The Appalachian Summit also served as a major source area for the sometimes prodigious quantities of mica that occur in northern Hopewell

contexts. Small numbers of prismatic bladelets fashioned from Ohio Flint Ridge flint occur in Connestee phase contexts, pointing to some bidirectionality in these interactions. Given the similarities in surface treatment and in the particular suite of exotic minerals found in fine simple stamped sherds from the Mann site to Connestee Simple Stamped ceramics, it seems likely that these vessels were manufactured by Connestee phase people in the Appalachian Summit area.

The coarse simple stamped sherds from the Mann site—identified as local products—are stylistically quite distinct from Turner Simple Stamped B/Connestee Simple Stamped. As suggested earlier, these coarse simple stamped sherds seem to be part of a local Wabash valley simple stamped tradition that continues and becomes more common during the Late Woodland period.

Turner Simple Stamped B ceramics are extremely rare in Ohio Hopewell. Only 134 sherds from eight mound and earthwork contexts have been documented (Griffin 1983; Prufer 1968).
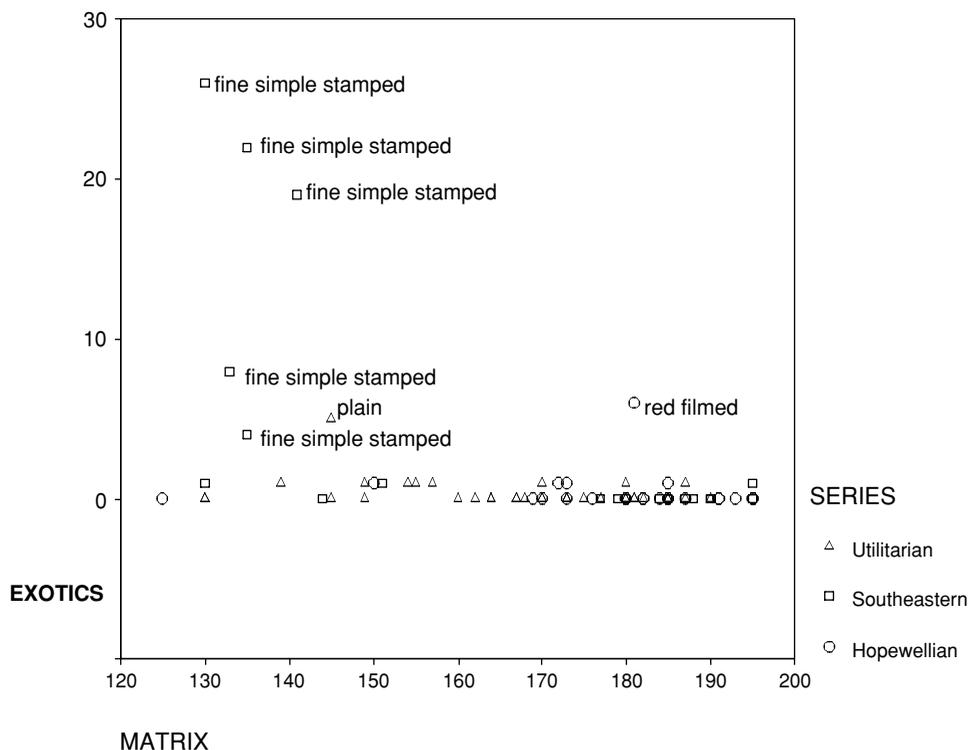
Figure 15.6. Sherd composition as a function of matrix and exotic minerals.

Thus, at least in terms of ceramic exchange, it would appear that Ohio Hopewell contacts with the Appalachian Summit area were sporadic. This also seems to be true at the Mann site, where only about 200 examples of the fine simple stamped variety have been documented from the 1966–67 excavations.

A very different pattern of Southeastern interaction is evidenced by the complicated stamped ceramics at the Mann site. Stylistically, these ceramics are most similar to Early Swift Creek ceramics, which are most common in the Georgia Piedmont and Gulf Coastal Plain.[6] In fact, three of the design motifs documented at the Mann site are identical to Georgian examples (Kellar 1979; Rein 1974). However, rather than a pattern of interaction characterized by infrequent imports of ceramic vessels, substantial numbers of vessels with Georgian designs were produced locally at the Mann site. Almost half of all decorated vessels at the Mann site have such designs. This situation suggests a very different frequency and/or mechanism of Hopewellian interaction of

Mann phase people with Piedmont/Coastal Plain peoples in Georgia than with Appalachian Summit peoples.

Finally, the frequency of complicated stamped ceramics at Mann contrasts with their extremely rare occurrences at Ohio Hopewell sites. In Ohio, complicated stamped ceramics are apparently limited to mound and earthwork contexts, are not found in domestic sites, and do not appear to be local productions. This would seem to represent a pattern of sporadic interaction involving the long-distance movement of vessels parallel to that noted for Turner Simple Stamped B.

Implications for Hopewellian Interactions

This study has identified several distinct patterns in vessel frequency, stylistic attributes, and point of production in the Mann site ceramic assemblage. Multiple mechanisms of Hopewellian

interaction are necessary to account for the varied distributions.

Several explanatory mechanisms might account for the infrequent occurrences of Southeastern-made simple stamped ceramics in Ohio Hopewell and Mann site contexts. One mechanism might involve utilitarian economic exchanges of Midwestern products for Appalachian Summit products, including vessels and vessel contents. The few examples of Ohio Flint Ridge flint found in Appalachian Summit contexts lend support to this notion in the Ohio case. However, no comparable product moving south from the Mann site and vicinity has been identified. Furthermore, given the tremendous transport costs involved, it is difficult to imagine exchange over such great distances on purely utilitarian economic grounds. Instead, it may be necessary to consider the ideological values of the goods involved.

A second possibility is that simple stamped ceramics from the Southeast were regarded as powerful symbols by northern Hopewellian practitioners, valued similarly to mica, copper, obsidian, marine shell, and many other distant valuables concentrated at Midwestern Hopewell centers. Helms (1988) argued that knowledge of distant lands and peoples acquired through long-distance journeys is important in building and validating claims to leadership. Applying this idea, Seeman (1995) proposed that individuals vying for leadership positions in Ohio valley Hopewell societies may have brought back exotic raw materials and artifacts as tangible proof of such esoteric knowledge. Seeman argued that this mechanism is consistent with the relatively low volume and largely unsystematic and unidirectional flow of distant valuables into a few major Ohio valley ritual centers (see also Carr, Chapter 16; Bernardini and Carr, Chapter 17; Turff and Carr, Chapter 18; Ruhl, Chapter 19). Long-distance journeying also fits well with the number and distribution of Southeastern-made vessels in the Ohio valley: these vessels are extremely rare and are almost exclusively found in association with ritual spaces marked by mounds and earthworks.[7]

A third reasonable mechanism might involve "pilgrimage". Individuals from the Appalachian Summit could have journeyed to major Ohio valley ritual centers, bringing vessels with them from their homeland. Tales of great earthen mounds and monumental ritual enclosures in a distant land could have been a potent attraction to those seeking esoteric knowledge and the power and prestige it confers. In Southeastern contexts, these vessels are primarily domestic or utilitarian in function. Hence, these vessels and their contents may have been brought north simply for logistical support. Alternatively, vessels and their contents may have been carried north as items for exchange or gift-giving that would have been highly valued by recipients by virtue of their exotic nature.

A fourth mechanism that might explain the rare occurrences of fine simple stamped sherds at the Mann site is the ritual exchange of vessels among elite of the Mann phase and Connestee phase as peer polities (Braun 1986; Renfrew 1986), or among formative elite of the Mann phase in emulation of established elite of the Connestee phase (Flannery 1967). However, these dynamics imply degrees of centralization of leadership that empirically seem unlikely for Middle Woodland societies in the Eastern United States (e.g., Braun 1979; Carr and Case Chapter 5; Carr et al., Chapter 13; Thomas et al., Chapter 8).

The first four mechanisms might also account for the rare occurrences of Southeastern-made complicated stamped ceramics in Ohio Hopewell contexts. However, a different set of mechanisms is necessary to account for the substantial number of complicated stamped vessels produced locally at the Mann site using Swift Creek designs. One possibility is suggested by an idea of Penney's (1988), based on specifically Eastern Woodlands and Eastern Plains ethnographic data. Penney suggested that the widespread occurrence of Hopewellian platform pipes and certain other ceremonial items might document the travels of persons who went afar to learn and buy rights to the specific knowledge required to manufacture such items and use them in ceremony. These individuals could then manufacture distant artifact styles locally out of local raw materials, potentially producing many such items. This circumstance differs from Seeman's (1995) application of Helm's (1988) ideas, in which small numbers of stylistically exotic

artifacts are brought back from distant peoples as proof of the journey and the information learned.

Following Penney, it is possible that Mann phase potters traveled to the Georgia Piedmont and Gulf Coastal Plain and actively bought the rights and knowledge to manufacture Swift Creek designs that they had observed in earlier interactions of the kinds outlined above. The technical and ritual ability and the ritual right to produce and display these exotic designs may have been a demonstration of esoteric knowledge that conferred a measure of power and prestige to persons, even in the absence of actual vessels brought back from long journeys. Additionally, individuals in the Wabash Lowland may have produced and displayed these designs as a nonverbal means to build and maintain a mutually understandable and predictable social context that would have facilitated visitations with geographically, socially, and linguistically distant persons (Seeman 1995; Wobst 1977) familiar with the Swift Creek style, at either Mann or the Georgia Piedmont/Gulf Coast.

A second possibility is that carved wooden paddles were moved north, independent of the potters who used them, through direct procurement or as exchange items or gifts. The fact that some Mann site designs have been identified as identical to Swift Creek examples (Rein 1974) lends some support to this proposal. However, these design matches do not include identifications of paddle cracks and other flaws that can conclusively establish that the same paddle was used to decorate both vessels, as has been done in other studies. (e.g., Snow 1998; Snow and Stephenson 1998; Stoltman and Snow 1998). Further, the majority of Mann site designs appear to be locally specific, suggesting that at least some paddles were carved locally. Finally, it may be reasonable to assume, following Stoltman and Snow (1998:152; see below), that paddles did not move independently of potters. Specifically, if Swift Creek designs were thought to have power and if the rights to their production were closely controlled, it is likely that paddles would have remained in the hands of legitimate producers and not been exchanged or gifted. Also, the idea that paddles were exchanged ritually from Swift Creek elite to Mann phase elite in a peer polity or emulating polity manner (see above) would not

seem to hold, for lack of evidence for centralized leadership in Hopewellian societies.

A third mechanism may account for the local production of complicated stamped vessels in the Wabash Lowland using Swift Creek designs. Swift Creek potters may have manufactured vessels while visiting or residing in the lower Wabash area. This idea was first suggested by Martin (1954), and since has been suggested to explain a number of similar cases. Using petrographic analysis in combination with detailed design comparisons, including the identification of matching paddle cracks and flaws, Stoltman and Snow (1998) concluded that Swift Creek potters and their paddles moved between sites more than 100 miles distant from one another as a part of intercommunity marriage or a settlement system based on a seasonal round. Mainfort et al. (1997) accounted for the presence of stylistically nonlocal and compositionally local vessels at the Pinson Mounds site in Tennessee by suggesting that potters from considerable social and geographical distances decorated vessels in their own regionally distinct styles while participating in ritual activities at this major Middle Woodland mound and earthwork complex (see also Stoltman and Mainfort 2002). In a similar vein, Seeman suggested that "perhaps the ultimate demonstration of distant knowledge and personal power would have been the cajoling of 'dangerous' foreigners themselves to return to a major Hopewell ritual center" (Seeman 1995:136). It may be that the Mann site hosted socially and linguistically diverse groups as participants in ritual activity. The large number of vessels with complicated stamped designs at Mann suggests that long-term relationships cemented by intercommunity marriage or adoption, not limited to the elite, may have been involved (see Hall 1997).

The last facet of the "ritual visitors" hypothesis assumes that Mann phase people could not have easily duplicated the designs of complex stamped ceramics seen on the pots of visitors, because of either the complexity of the designs or ideological limitations on who could manufacture the designs. Thus, the frequency of complicated stamped sherds at Mann is accounted for by a significant number of foreign visitors, marriages, and/or adoptions, rather than stylistic emulation by Mann phase potters of the

pots of a few Swift Creek visitors on pilgrimage to Mann.

Multiple modes of Hopewellian interaction are necessary to account for the stylistic, compositional, and frequency variability in the Mann site ceramic assemblage, as well as in the ceramic assemblages of Ohio Hopewellian centers. The ceramic evidence presented here suggests that the concept of a single, monolithic Hopewellian Interaction Sphere involving one mechanism of material distribution is no longer tenable. This same specific conclusion was reached by Seeman (1979a, 1995) for the interregional distributions of Ross Barbed spears, copper celts, panpipes, and other Hopewellian diagnostics, and by Carr and Sears (1985) for the interregional distribution of meteoric iron. The analyses of Mann ceramics reported here join a growing number of studies that document variation in the direction, intensity, and mechanisms of Hopewellian interaction and that support this specific conclusion. It is hoped that similarly fine-grained analyses will add detail to our understanding of the mechanisms and processes that underlie the extensive distributions of particular artifact styles and raw materials we label "Hopewell".

NOTES

1. All site-wide, ceramic frequencies and percentages reported here are derived from the 1966 and 1967 excavations at the Mann site, directed by James H. Kellar.

    The 25,000 sherd quantity is more than 2.5 times the number of sherds found at the McGraw site, an extensively excavated Scioto Hopewell homestead (Prufer 1965), and more than 29.1 times the number found at the extensively excavated Murphy homestead in the Licking drainage, Ohio (Dancey 1991).

2. Distinctions between varieties of simple stamped surface treatments are notoriously difficult to describe. Prufer's (1968) Turner Simple Stamped B encompasses a wide range of variation. James Brown (1994:186–188) struggled with this range of variability in his description of simple stamped ceramics from Mound City and divided the materials previously described as Turner Simple Stamped B into "fine" and "coarse" treatments. The "fine simple stamped" treatment described here for Mann site ceramics corresponds to a yet finer, scratch-like or brushed-like treatment. The sherds illustrated in Prufer's (1968) plate 40 are close matches for the treatment described here, but the sherds illustrated in plate 9d and e are not. The "coarse simple stamped" treatment described here for Mann site ceramics appears to fall entirely outside the range of Turner Simple Stamped B and should not be confused with Brown's "coarse" treatment. A detailed study bringing together large collections of simple stamped sherds from Midwestern and Southeastern contexts for first-hand comparison is sorely needed to adequately clarify these distinctions.

3. The summary counts presented by Prufer (1968:14) do not agree with the breakdown by provenience presented later in the report. The latter counts, presumably more reliable, are as follows. Seip produced 10 sherds: 8 sand tempered and 2 limestone tempered. The illustrated sherds display curvilinear surface treatments. Turner produced 3 sherds: one is grit tempered, "similar to those from Seip-2" (Prufer 1968:120), hence probably curvilinear; a second grit tempered sherd displays a "diamond and dot" motif; the third sherd is not described or illustrated. The first two kinds are present at the Mann site.

4. The Hansen site occupation dates from about A.D. 300 to about A.D. 600. One sherd is limestone tempered and displays a curvilinear design, similar to types defined elsewhere: Pickwick Complicated Stamped and Mann Complicated Stamped (Ahler 1988:374). The other two sherds are tempered with grit and granitic rock (river sediments), and display a very unusual motif comprised of "closely-spaced pairs of narrow (1 mm) raised lines that are widely separated (8.5 mm)" (Ahler 1988:341) and arranged in a cross pattern. One of these sherds is stamped on both the interior and the exterior.

5. All are limestone tempered with curvilinear decorations.

6. The heartland of the Swift Creek ceramic tradition is centered in the Coastal Plain and lower Piedmont of Georgia, and extends into immediately adjacent portions of Tennessee, North Carolina, South Carolina, Florida, and Alabama.

7. Extant ceramic collections in Ohio and the lower Wabash are significantly biased toward sites associated with mounds and earthworks. As additional domestic contexts are investigated, this apparent distribution may require revision.

Hopewellian Ritual Connections across Eastern North America

Rethinking Interregional Hopewellian "Interaction"

Christopher Carr

Fascination with Hopewellian peoples relates considerably to their movement of raw materials and, less frequently, finished artifacts over many hundreds of miles over North America. Conch shells from coastal Florida and along the Gulf of Mexico were brought as far north as Michigan and New York (Seeman 1977a:appendix B), and silver from Cobalt, Ontario, was taken as far south as Georgia and Mississippi (Spence and Fryer, Chapter 20). How did Hopewellian peoples succeed in these translocations, and equally tantalizing, who did so and why?

This chapter introduces Part IV, which addresses such questions about the movement of materials, artifacts, and styles over the Woodlands, and the kinds of cultural connections among distant peoples and places implied by these geographic linkages. Like introductory Chapters 3 and 12, this one reviews anthropological theory and ethnographic analogs that are relevant and necessary background to the chapters that follow. Also, past understandings and analyses that complement the studies of interregional Hopewellian activity presented in this book are summarized, in order to help place the latter in context and highlight their significance.

The chapter begins with the observation that Hopewellian activities at the interregional scale, which involved movements of raw materials, artifacts, styles, mortuary and other ceremonial practices, and ideas across the Eastern Woodlands, have often been interpreted as manifestations of some unitary kind of phenomenon. Examples include a trade network, a mortuary cult, a shared religion, and a network of peer polities. These and other previous, singular interpretations of interregional Hopewell are reviewed. An alternative, interpretive perspective is then offered, which sees interregional Hopewell as having been comprised instead of many distinct kinds of activities that led to varying geographic distributions of Hopewellian features of the same or different kinds. In this view, interregional Hopewell can be defined and understood only when it is resolved into its many component aspects.

The chapter goes on to introduce ten seldom or never cited possible forms of interregional activity. Many of these mechanisms are ceremonial and religious in nature, such as vision-power questing, pilgrimage to places in nature or to ceremonial centers, buying and selling of ceremonial prerogatives, and travels of rising social leaders to centers of learning to obtain esoteric, sacred knowledge and power. Other mechanisms are social, sociopolitical, or political–economic, sometimes with religious components, such as intermarriage or adoption

across cultural lines, valuables exchange among elite, and elite-orchestrated transference of religious cults. These distributive mechanisms are described in a grounded manner, in terms of social actors with personal and local motives. Ethnographic examples of each of the ten kinds of interregional activity are described to help understand their potential relevance to Hopewellian cases and to build a model of their discriminating material–archaeological correlates. Many kinds of interregional Hopewellian material patterns, expressed within chemical sourcing, distributional, and stylistic data, and coming from previous studies and those made in chapters in this book, are then systematized and sifted for their fit with the modeled forms of interregional activity. The most concrete result of this study is a listing of specific cases of particular means by which particular kinds of Hopewellian raw materials, artifacts, styles, practices, and ideas came to be spread and shared among regional traditions across the Woodlands—a deconstruction of the Hopewell Interaction Sphere into its diverse operational-level, cultural practices and historical events. The entire process of determining the archaeological correlates of particular kinds of activity, applying them to specific interregional Hopewell remains, and resolving interregional Hopewell into its many constituent kinds of practices and events is made possible by envisioning social actors with ethnologically known kinds of motives—that is, by taking the personalized, locally contextualized, and generative approach to understanding interregional Hopewell that is defined in Chapter 1.

Following this development of the interpretive framework and its application, and in light of them, the chapters in this part of the book are summarized for their particular contributions to deconstructing and reinterpreting interregional Hopewell. Seven contributions are highlighted, including: (1) the origins of Hopewellian ways in regional traditions other than the supposed Hopewellian core area, Ohio; (2) the distinct distributions of different "Hopewell Interaction Sphere" items in relation to their roles in different kinds and scales of interregional communication; (3) uniformity and variation across the Woodlands in the ideological meanings of artifact classes, (4) in the social roles in which

they were used, and (5) in their ritual uses; (6) the degree to which finished artifacts, in contrast to raw materials, were transported across the Woodlands; and (7) variation over the Woodlands in the means of transport of even singular kinds of Hopewellian materials and artifact classes.

The chapter ends with an enumeration of some of the more important, singular kinds of phenomena that Interregional Hopewell has been posited to be, a summary of the empirical evidence that firmly contradicts these inferences, and a concluding reinterpretation of what Interregional Hopewell can be said to have been. The concluding view of Interregional Hopewell is multifaceted rather than unitary, historical, personalized with motivated actors in social roles, emphasizes local context, and generates interregional Hopewell from local concerns.

PERSPECTIVES ON INTERREGIONAL HOPEWELLIAN TRAVEL, PROCUREMENT, AND INTERACTION, AND THEIR ANALYSIS

Historically, a broad range of phenomena has been equated with interregional Hopewell. Earlier in the 20th Century, interregional Hopewell was envisioned as a single culture that had spread from Ohio by conquest or diffusion (Shetrone 1931:304–306, 322), a biological stock of long-headed people (Hooton 1922; Neumann 1950, 1952; Prufer 1961a; for a summary see Buikstra 1979), a series of cultures that had developed alike from a common ancestral culture in the Southeastern United States through intercultural contacts (Seltzer 1933:6–7), and a "loose confederation" of contemporaneous, "cooperating" peoples tied together by trade, genealogy, and colonization from Ohio (Deuel 1952:255–256). Today, these interpretations are no longer held, but the range of opinions on the identity of interregional Hopewell is still very wide. Hopewell has recently been called, and is still discussed in conversation as:

- a wide network of *trade* of raw materials and exchange of ideas (Struever 1964; Struever and Houart 1972; see Griffin 1965 and Seeman 1979a for rebuttals).

- a specific *mortuary cult* (Prufer 1964b; see Caldwell 1964 and Struever 1964 for rebuttals).

- a shared *religion* (Caldwell 1964; Maxwell 1947:25).

- a *worldview* (Carr 1998, 1999b, 2000a; Carr and Case 1996; Romain 2000).

- a *Sprachbund* (Seeman 1995).

- a multiregional *artistic style* (Prufer 1968; Willey 1971).

- a *Great Tradition* of religious-based interaction and innovation (Caldwell 1964).

- a *social organization* of a complex kind interwoven with a symbol–ideological system for marking and claiming leadership and prestige (Seeman 1995).

- a network of *peer polities* involved in competitive display (Braun 1986; Dancey and Pacheco 1997a:9–10, Pacheco and Dancey n.d.).

- an *ecological adaptation* (Braun 1986; Dancey 1996a).

Historically, most of these ideas have been presented as satisfactory explanations of interregional Hopewell in and of themselves. Typically this has been done without reference to the alternatives or serious evaluation of the relative merits or complementarity of the alternatives (but see Struever 1964:88). Thus, attempts have been made to explain the entire expanse and content of interregional Hopewell by some single phenomenon.

Deconstructing Interregional Hopewell

The position taken here, and in the other chapters of this book, is that interregional Hopewell is a multidimensional and composite phenomenon, and can be understood only when it is resolved or "deconstructed"[1] into its diverse aspects and causes. There are at least two levels of deconstruction that are required. At the broadest level, it is essential to realize that the concept of interregional Hopewell, as defined here, and the related concept of the Hopewell Interaction Sphere, as found in archaeological literature,

embrace three closely intertwined subjects. These subjects are: (1) the cultural and material content shared across regions of the Woodlands, including raw materials, classes of artifacts, artifact styles, mortuary and other cultural practices, and ideas; (2) the geographic regions over which these things were shared to varying degrees; and (3) the cultural mechanisms by which these things came to be widely distributed (see Hall [1997:156] for a similar partitioning). From this viewpoint, it can be seen that the understandings of interregional Hopewell listed above are not equivalent in nature. Some are shared cultural content (e.g., religion, art style), one is a geographic distribution (i.e., a *Sprachbund*), and some are mechanisms of interaction (e.g., trade, competitive display). In this regard, certain of the above interpretations are logically and phenomenalogically alternative and complementary rather than competing. Such complementary interpretations, depending on their empirical veracity, could be integrated into a multidimensional understanding of interregional Hopewell. In fact, explanatory completeness would demand this.

A second, narrower level of deconstruction applies to each of the above-listed understandings of interregional Hopewell individually. It is necessary to entertain the possibility that the one kind of cultural content or one geographic area or one kind of distributing mechanism thought to comprise interregional Hopewell might itself be heterogeneous. Consider the subject of geographic area. Struever (1964:88) postulated the existence over the Eastern United States of an interregional logistics network, within which raw materials, stylistic concepts, and their ideological rationalizations had moved. This network over this whole area was initially implied by him to be of a single kind: "The Hopewell Interaction Sphere simply refers to relations of a still to be determined *nature*" (Struever, p. 88; emphasis added). However, through time, empirically detailed distributional studies (Seeman 1979a; Struever and Houart 1972), raw material sourcing analyses (e.g., Spence and Fryer, Chapter 20; Carr and Sears 1985; Goad 1978, 1979; Hatch et al. 1990; Walthall 1981; Walthall et al. 1979, 1980), and stylistic analyses (e.g., Seeman 1979a:379) have shown that this network was really many different networks

within which the same or different raw materials were distributed, different amounts of a raw materials were distributed, and different stylistic conventions and ideas were intercommunicated. The contrast between the Illinois–lower Mississippi valley connection and the Ohio–Tennessee–Georgia connection is a well-known example (e.g., Goad 1979:244–245; Jefferies 1979:170; Seeman 1979a:313, 385; B. A. Smith 1979:186; Toth 1979:196; Walthall et al. 1979:249–252; for summaries of these viewpoints, see Carr and Sears 1985:86). Struever and Houart (1972:74–77), themselves, came to define four geographically distinct northern Hopewellian interregional networks within which different raw materials or finished goods were thought to have been dispersed. The deconstruction of Hopewell as a geographic area is addressed in Chapters 11 and 20.

Another form of deconstruction of interregional Hopewell at the second level concerns its cultural content rather than its geographic expanse. An example is breaking apart the notion of interregional Hopewell as a complex kind of social organization that was interwoven with a symbol system that marked leadership and/or prestige and facilitated social interaction (Seeman 1995:123; Struever 1964:88). This kind of deconstruction is made at the pan-Woodlands scale in Chapter 18, by Turff and Carr, and at the smaller scale of Ohio in Chapter 9, by Field et al. In Chapter 18, one finds that widely dispersed over the East during the Middle Woodland were metal-jacketed panpipes, which might be supposed to represent some one form of important social role and its symbolic representation. However, Turff and Carr document that the role of the panpiper, which does appear to have been a key one, was instead combined fluidly with many other kinds of important social roles, including diverse shaman-like personae, one kind of community-wide leader, high achievers or members of two different prestigious sodalities, and important members of different clans. Also significant, the social roles with which that of panpiper was combined varied among regional traditions, and in a patterned way delimiting four, broader areas, each comprised of multiple traditions. (see Chapters That Follow, below, for details). These patterns imply the varying

functions of panpipes, their use in varied social and ritual contexts by persons in different roles, and, in turn, varying forms of social and ceremonial organization and leadership symbolization across the East. The patterns do not evidence a single, panregional social–symbolic system, as Seeman (1995) envisioned. They also do not accord with Caldwell's (1964) and Prufer's (1964b) ideas that interregional Hopewell represents the spread of a specific set of religious beliefs, a ceremony, or a cult, such as the Ghost Dance or Midewiwin.

In a similar way, in Chapter 9, Field et al. document that shaman-like and other leadership roles, along with their richly symbolic artifact markers, were associated with different genders in different parts of Ohio. In northeastern Ohio, key social roles were filled only by males, suggesting a patrilineal kinship system like those found in historic Algonkian societies of the northern Woodlands. In southwestern Ohio, these roles and their markers were associated instead almost completely with females, suggesting a matrilineal system like those found in historic southeastern Woodland tribes. Geographically in between, in the central Scioto valley, the balance of males and females that filled such important roles is more equitable, with some male predominance (Field et al., Chapter 9:table 9.2). These different patterns among the three Hopewellian geographic areas do not accord with the idea of a unitary kind of social organization that was interwoven with a symbol system that marked leadership and/or prestige, as Struever and Seeman proposed.[2]

The final form of deconstruction of interregional Hopewell that is wanting at the second level involves recognizing and mapping the diverse mechanisms, as opposed to a singular mechanism, by which raw materials, classes of artifacts, artifact styles, mortuary and other cultural practices, and ideas came to be widely distributed over the East. Theoretically, one would expect, from the diversity of kinds of material items shared over the Eastern Woodlands, that several different mechanisms of dispersal might have been involved. Following the logic of Carr and Neitzel (1995c:389), "Different media can vary in their scale, visibility, rarity, durability,

malleability, portability, and other qualities. In turn, these characteristics determine the contexts of artifact production and use, and affect an artifact class's potential role and articulation with society and individuals"—as well as its capacity to interrelate different societies and their members, I would now add. Thus, for example, one would want to inquire whether Hopewellian male-produced metallic symbols used in mortuary–ceremonial contexts and female-produced clay figurines used in largely domestic–ceremonial contexts interrelated Hopewellian societies in different ways, and were distributed interregionally by differerent cultural mechanisms (see Keller and Carr, Chapter 11).

Empirically, this form of deconstruction of interregional Hopewell is historically exemplified in the works of Carr and Sears (1985), Griffin (1965, 1973), and Seeman (1995). Griffin (1973) championed the idea, in contrast to Struever and Houart (1972), that not all Interaction Sphere items were traded across the midcontinent, but instead some were procured through long-distance logistical trips. In the case of obsidian, he posed that this raw material might have been obtained from Yellowstone by one or a few small canoe parties from the Hopewell earthwork community. Thus, multiple mechanisms of distribution—both trade and direct procurement—might have been involved in interregional Hopewell. Carr and Sears (1985:84–86, 89), through geographic and chemical analyses, found that meteoric iron was probably procured and distributed over the East by several means. These include the possible local collecting of meteoric iron by Copena peoples, probably regional or interregional exchange or long-distance logistical trips by Santa Rosa–Swift Creek and St. Johns peoples, almost certainly long-distance logistical trips to multiple meteorite falls by Illinois and Ohio Hopewellian groups, and possibly interregional exchange of meteoric iron from the Southeast to Ohio. Carr and Sears concluded that interregional Hopewell was a composite of diverse distributional mechanisms that were not necessarily integrated.

This view is also found in Seeman's (1995) communication perspective on Hopewell. He proposed, following a theoretical distinction drawn by Helms (1988), that interacting

Hopewellian peoples might have classified each other into three categories by their geographic, linguistic, and cultural distances: normal people, close strangers, and outsiders. Initiating and maintaining relationships and communication among peoples in these three categories can be expected, according to ethnographic analogs cited by Seeman, to involve different cultural mechanisms. Whereas normal people can speak to each other using the same language, close strangers may employ bilingualism facilitated by out-of-group foster care and education, as well as marriage exchanges, pidgins, trade jargons, and ritualized behavioral response sequences. Outsiders can use very simple "foreigner talk" to ensure safe passage or to initiate basic trade, but more in line with Hopewellian material culture is the use of nonlinguistic, artistic communication in the form of iconography, music, and/or dance. Seeman went on to notice that Ross Barbed points, copper celts, and panpipes have increasingly wider geographic distributions and explained their different expanses as the result of different means of communication among normal people, close strangers, and outsiders, respectively. Thus, interregional Hopewell was resolved into three kinds of distributive mechanisms.

Additional Mechanisms of Dispersal of Hopewell

The range of mechanisms by which Hopewellian material culture, practices, and ideas came to be spread over the East can be expanded and/or refined considerably beyond the ones just described. Additional possibilities—some of which are discussed here in Part IV of this book—include:

- *vision and power questing* by medicine persons, headmen, male initiates, or those trying to bolster their social position in a competitive milieu.

- *pilgrimage to a place of power in nature* (Gill 1982).

- the *travels of medicine persons* to heal the sick or the travels of the sick to medicine persons.

- *long-distance buying and selling* and/or *learning of ceremonial rites* by medicine persons or others (Penney 1989).

- *spirit adoption* (Hall 1987, 1997).

- *interregional intermarriage*.

- *pilgrimage to a ceremonial center* (Gill 1982).

- *valuables exchange among distant elite* (e.g., Flannery 1967).

- *travel to a center of learning* to gain esoteric knowledge (Helms 1976, 1988, 1993).

- *elite-orchestrated transference of religious cults* among tribal segments in order to facilitate supralocal exchange (Wiessner and Tumu 1999).

Significantly, these mechanisms are more specific and personalized than the generalized notions of "procurement" and "exchange", in that they reference actors within particular cultural roles and with specific motives. By considering social actors, they open the possibility of generating interregional Hopewell from local and intraregional concerns. In addition, many of these mechanisms are essentially religious in their nature and/or motives, and contrast with the economic and socioeconomic views of the Hopewell Interaction Sphere that predominated in the 1970s and 1980s (e.g., Ford 1974; Hall 1973, 1980; Seeman 1979a; Struever and Houart 1972) and that are still reiterated today (e.g., Braun 1986; Fagan 1995b:408–410, 414–417; Seeman 1995:125, 138).

In the following sections, each of the above ten mechanisms of interaction is described in actor-based terms with ethnographic analogs, and their relevance to explaining various facets of interregional Hopewell is assessed with available archaeological data. Mechanisms of interaction at the long-distance, interregional scale of the midcontinent (hundreds of miles) are the focus of discussion, except in the section on valuables exchange. In this case, local, regional, and interregional means of valuables exchange are considered and contrasted, for the purpose of suggesting those particular means that are more or less likely

to have occurred at specifically the interregional scale.

In order to systematize the logic by which any one or few of the above mechanisms of interregional interaction might be identified as the cause of a specific interregional distribution of Hopewellian raw materials or artifacts, Table 16.1 is offered. It lists some expectable material consequences of all but the last of the above mechanisms. The consequences include the raw or finished nature of the items, their function, their local or foreign raw material source and style, and their abundance. The reasons why the mechanisms have the material correlates that they do will become evident as the mechanisms are described below. The last mechanism listed above is not addressed in Table 16.1 because it is a composite of several of the first nine (see below).

Not all of the mechanisms listed in Table 16.1 are easily distinguished archaeologically; some pairs of mechanisms share many or all of their listed material correlates. However, five groups of mechanisms appear to be readily discernible. These groups are (1) vision/power questing and pilgrimage to a place in nature; (2) the travels of medicine persons or patients for healing; (3) the buying of religious prerogatives, spirit adoption, and intermarriage; and (4) pilgrimage to a ceremonial center, valuables exchange among elites, and travel to a center of learning. Contextual evidence possibly would allow finer distinctions to be drawn within those groups having multiple mechanisms.

MECHANISMS BASED ON SHAMAN-LIKE IDEOLOGY AND PRACTICES

Overview

Vision and power questing by medicine persons or others seeking spirit helpers and/or power from nature; more regular, periodic pilgrimage to places of power in nature; the travel of medicine persons or patients in the context of healing and being healed; and the travel of medicine persons or others to ceremonial practitioners to learn or buy ceremonial rites each imply shaman-like cosmologies, practices, artifacts, and/or raw materials. These suggested

Table 16.1. Material Consequences of Various Mechanisms of Interregional Interactions

| Mechanism[a] | Material consequence | | | | |
	Raw material or finished good	Function of artifact	Material source	Visible and obscure style of finished goods	Quantity
Vision/power questing (deposit back home)	Raw materials of many kinds	Shamanic quality	Nonlocal	n/a	Little to much
Pilgrimage to a place in nature (deposit back home)	Raw material of one or a few kinds	Symbolic token	Nonlocal	n/a	Much
Travels of medicine persons or patients for healing; tokens of healing	Raw material or finished good	Shamanic quality, symbolic token	Nonlocal	Nonlocal	Little
Elite valuables exchange	Raw material or finished good	Fancy, symbolic	Nonlocal	Nonlocal	Little to much
Pilgrimage to a ceremonial center (deposit at center)	Raw material or finished good	Fancy and/or utilitarian	Nonlocal or local	Nonlocal	Little to much
Travel to a center of learning (deposit back home)	Raw material or finished good	Symbolic token of esoteric knowledge	Nonlocal	Nonlocal	Little
Buying of religious prerogatives ± spread locally back home	Finished good	Ceremonial paraphernelia	Local	Nonlocal	Little ± much
Spirit adoption ± spread locally	Finished good	Fancy and/or utilitarian	Local	Nonlocal	Little ± much
Intermarriage ± spread locally	Finished good	Fancy and/or utilitarian	Local	Nonlocal	Little ± much

[a]Each of these mechanisms would produce a nodal geographic distribution of the raw material or finished good of relevance. Dotted lines group mechanisms that are least distinguishable from each other in the archaeological record.

mechanisms for how Hopewellian material culture, practices, and ideas were spread over the Eastern Woodlands are reasonable in light of the clear shamanic orientation of Hopewellian material culture and symbology (Carr and Case, Chaper 5). Specifically, shaman-like animal impersonators of several kinds are known to have practiced in Ohio Hopewellian societies from their depictions in sculptures and carvings and from elements of their costumery (see Chapter 5, Table 5.2). They were the culmination of a shaman-like tradition that had been elaborating since at least the terminal Late Archaic.[3] Shamanic paraphernalia of many kinds are found in Ohio Hopewellian burials, including turtle-shell rattles, turtle-effigy rattles, deer antler tine tinklers, mushroom effigies, and smoking pipes, all suggesting trance induction; quartz and other

crystals, a quartz disk, mica mirrors, and cones, all for divination; quartz and gem points used for war or hunt divination, spiritual warfare, and/or sending harmful power intrusions; turtle-shell and bird bone sucking tubes for healing; barracuda jaws historically used by ceremonial leaders for scratching and letting blood from participants in preparation for ceremonies; conch shells, which historically were closely associated with the distribution and use of the black drink in public ceremonies; and cosmological symbols for performing rituals that referenced the natural world (see also Carr and Case, Chapter 5, Table 5.4, for a much larger list).

Power/Vision Questing and Pilgrimage to a Sacred Place in Nature

Journeying to a place in nature that, by its geological, hydrologic, historic, or other qualities, was thought to have much power was a very common practice among historic Native Americans generally (Gill 1982:97).[4] Certain spots in nature were believed to be the home of powerful supernatural beings or, more generally, to be full with energy—for example, "where the Creator's heart beats more strongly" (Swan 1988:152). Waterfalls, springs, deep pools, caves, mountain passes, and outcrops of fascinating raw materials are common examples of the power places cited by Eastern Woodland Native Americans (e.g., Hudson 1976:130–131, 145; Bacon 1993). At such places, power was sought internally in the form of visions induced by exposure, fasting, chanting, prayer, and other means. Power was also obtained externally through the collecting of special minerals, pigments, medicinal plants, and such. The vision quests and rock-painting ventures of Ojibwa and other Algonquin persons at isolated spots on Lake Superior and other northern bodies of water (e.g., Dewdney 1970:22; Gill 1982:98–99) are classic examples and especially relevant to the Hopewell case, considering the Hopewellian acquisition of copper from this area. Journeys were taken by Eastern Woodland youths (usual males) as part of their initiation into adulthood, sometimes to obtain an animal guardian spirit; by ordinary persons seeking an animal guardian spirit to bring

them power and bolster their social position in a competitive social milieu; and by prospective medicine persons seeking tutelary animal, plant, and humanlike spirits and specific procedures to help them in many shamanic tasks (e.g., Eliade 1964; Gill 1982:97–101; Halifax 1979:87–91; Harner 1980:54, 81–83; Mails 1979:49–54, 86, 154–155, 181–185; Parker 1923:27–28; Swan 1988; Walsh 1990:53–54). A long-distance journey thus was a means of social and internal transformation for an individual. It was a "rite of passage" from one personal and social state to another, and fits well the cross-cultural norm for rites of passage to involve a territorial passage (van Gennep 1960:192). Commonly, journeys for power and visions in the Woodlands and Plains involved an element of danger, which was instrumental in the process of transformation (see above references; also Turff and Carr, Chapter 18, and Spielmann 2002:199–200 for broader, world-wide examples).

A pilgrimage to a sacred place in nature is like a vision quest in most of the above respects. However, a pilgrimage takes a person to a traditionally visited spot, and one visited by many persons, whereas a power or vision quest often does not. In addition, a pilgrimage may be made as a group venture, whereas a vision or power quest is an individual affair. In the process of multiple persons sharing the pilgrimage ritual, group identity is strengthened (Turner 1969; see also Mack 2000), bolstering the personal and social transformation of the individual.

An excellent Native American example of a pilgrimage to a power place was the trip made annually by Papago youths and men from their desert Arizona homeland to the Gulf of California, about 200 miles away, beyond their territory of ordinary activities (Gill 1982:101–105). The ocean was seen as a place of power—the source of much needed monsoon rains in the desert and also salt, which was thought powerful, gathered from deposits, and brought back home, to be distributed as substance and power among the community. The trip was difficult and dangerous, and required adherence to a number of special rules and restrictions. Pilgrims had visions along the way and collected examples of objects seen in their visions. These they kept for themselves.

Upon coming back to the community, the journeyer had to remain isolated from the rest of the community for days, because the power acquired at the ocean was too great for others to be safely near. The trip was made 10 or more times by a person, beginning at age 16 or 17, and transformed a youth of religious naiveté into a vision-guided man, and one of a group of men of vision.

The idea that Hopewell Interaction Sphere raw materials were brought back home from afar in the course of long-distance power/vision quests or pilgrimages to sacred places in nature is directly implied by the combination of the materials' distant sources and their likely spiritual qualities in the native's eye. A canoe trip to Lake Superior sources of copper from the central Scioto area in Ohio and back, as one example, would have taken many months and required considerable endurance and demonstration of power (Little 1987). As for spiritual qualities, mica, copper, silver, meteoric iron, obsidian, galena, and other Hopewell Interaction Sphere materials each either have the capacity to be transformed from light to dark or shiny to dull, and vice versa, or simultaneously exhibit a light/shiny quality and a dark/dull quality (Carr and Case, Chapter 5; 1996; Carr 1998). In addition, quartz and translucent gemstones, as well as materials like mica that can reflect one's image, imply the ability to see within, through, or beyond. In shamanic worldviews, both transformation and seeing are qualities that are equated with power (Harner 1980:28–29). Thus, many Hopewell Interaction Sphere raw materials would likely have been perceived as powerful. The combination of a long journey and a spiritually extraordinary end point logically suggests the possibility that shaman-like practitioners, initiates to adulthood, or others seeking power went on long-distance power/vision quests or pilgrimages to the potent places in which these materials were found in bulk (e.g., Obsidian Cliff, Wyoming the Brenham Fall, Kansas; Isle Royale in Lake Superior; the Keweenaw Peninsula of Michigan; Cobalt, Ontario) and that they brought back these materials as evidence of the spirits and/or power they had witnessed and acquired there. Archaeological example tokens of such successful journeys include the books of mica, large raw copper nodules,

and large galena cubes found in some Ohio sites; the large silver nuggets and relatively expansive sheets of silver found at the LeVesconte site, Ontario, and the Converse site, Michigan; and the multiple but small silver nuggets and masses from the Hopewell site, Mound 25, Burial 260–261, and from the Snake Den site, Ohio (Spence and Fryer, Chapter 20; Spence and Fryer 1990, 1996).

The image of Hopewellian vision quests resulting in the acquisition of power and powerful materials is perhaps most easily visualized for the case of obsidian from the Yellowstone region. There, dualities—which preoccupied the Hopewell—abound naturally. The obsidian veins of Obsidian Cliff are black but sparkle on and off with abundant white reflections of sunlight as one walks below the cliff. The Firehole river runs cold just feet away from warm pools, affording the possibility of sweat baths followed by cold emersion—a natural precipitate of trance states. Hot gysers also erupt just feet from the river. The colors that predominate in Hopewell art and earthen architecture, and that historically symbolized the Directions among Woodland peoples, are found closely juxtaposed in the hot pools—white carbonates, red algae, yellow algae, black basalt and algae, and blue–green waters. Good candidates for referents to beings of a Lower World abound in Yellowstone: gysers that erupt vocally and unpredictably, steam from vents, bubbling pools, and Roaring Mountain's steaming and vocal slope, just four miles from Obsidian Cliff, and occasionally heard from there. Redundant images of the axis mundi are found at Gyser Basin, where large mounds have built up around the gyser entrances, from the centers of which smoke rises and water plumes. Several animals whose power parts, effigies of them, or artistic images were a part of Hopewellian ritual paraphernalia occur at Yellowstone: bear, elk, goat, trumpeter swan, and raptors. We do not know how the Hopewell may have used the Yellowstone landscape ritually or what specific symbolism they might have attributed to its natural wonders. However, the power of the place and image of persons journeying there for spiritual power, powerful materials, visions, and initiation or transformation are

easily grasped by those who have walked in Yellowstone.

Likewise, the austerity, raw natural power, and eerie qualities of the Lake Superior basin, the magical properties of copper and silver that Hopewellian peoples obtained there, and its remote location all conform well to the picture of long journeys taken by Hopewellian people to extraordinary places for vision and power. The rugged relief, steep bluffs, dense maple–birch–hemlock forests with interwoven masses of foliage that prohibit the noonday sun, pendant mosses, and cedar swamps of the Trap range in the Keweenah peninsula and of Isle Royale are forbidding to overland travel. Lake Superior is equally dangerous for travelers, with its unpredictable dense fogs, violent windstorms, and shoreline seiches, waterspouts, and whirlpools, which historic Native Americans attributed to the Horned Serpent–Underwater Panther and other powerful underwater beings. The atmosphere of the region is unreal. The horizon is falsely luminous and colored on a clear day on the Keweenah peninsula, from the great mass of water that surrounds it. Disorienting and dynamically changing mirages and disproportionate, enlarged reflections of the terrain suspend in the air above Lake Superior or float on its waters as a result of strong differences in air and water temperatures. Massive and quickly changing cloud formations dominate the day sky. At night, streaks of orange and blue light of the aurora flash up from the horizon, sometimes to the zenith, in rapid pulses. (Foster and Whitney 1850:55–57, 81; Martin 1999:36–42, 202; Schoolcraft 1970:168–169, 178). The many unreal, transformational, powerful, and dangerous qualities of the place would have provided an ideal setting for journeys and rituals of personal and social transformation and empowerment for the Hopewellian people who traveled there.

The argument that the exotic and transformative raw materials found in Hopewellian sites evidence power/vision quests or pilgrimages is implicated in Chapter 18 by Turff and Carr. They review the detailed symbolic meanings of copper for various historic Great Lakes and Midwest–Riverine Native Americans, and distill some of copper's most probable, fundamental meanings

for Hopewellian peoples. They conclude that copper would have evoked the notion of power as related to supernatural Upper and Lower World creatures, but also the power required by humans to make a long-distance journey to a copper source and the power attained by having successfully done so. The argument is further supported in the case of copper by Bernardini and Carr (Chapter 17), who show the likelihood that copper used to make the celts found over the Midwest and Midsouth was normally obtained directly by long-distance journeying to Upper Great Lakes sources rather than indirectly by down-the-line exchange. The random geographic distribution of celts of varying sizes over the Midwest, rather than their clinal decrease in size away from the upper Great Lakes, is used by the authors to make their case. Bernardini and Carr also point out that copper celts, analogous to stone celts used to manufacture dugout canoes, would have been ideal representations of the long journeys made to acquire power in areas of copper deposits. Finally, the authors extend the long-distance journey interpretation to alligator teeth, barracuda jaws, obsidian, and meteoric iron, each of which have qualities implying power. Items of these kinds concentrate geographically in Ohio Hopewell sites and occur at very low densities or not at all between Ohio and their distant sources, suggesting that they arrived in Ohio by long-distance journeying rather than down-the-line exchange.

Geochemical sourcing, distributional data, and/or evidence of the working of exotic raw materials at a site indicate, with very high probability, the following instances of direct, long-distance acquisition rather than nodal exchange or down-the-line exchange: obsidian found in several Ohio Hopewell sites from Obsidian Cliff, Wyoming, a nearby Yellowstone source, and the Camas–Dry Creek formation in Idaho and, much less likely, obsidian found in Illinois Havana Hopewell sites from these sources (Griffin 1965; Hatch et al 1990; Hughes 2000; Hughes and Fortier 1997; Wiant 2000);[5] galena at several Ohio Hopewell sites and/or galena at a number of Tennessee Copena sites from the upper Mississippi valley source (Walthal 1981:41); galena at six Illinois Havana Hopewell sites from a central

Missouri source and at additional Havana sites from the Potosi deposit in southeastern Missouri (Walthal 1981:37); silver at the LeVesconte site in Ontario, the Converse site in Michigan, and the Tunnacunhee and Mandeville sites in Georgia, all from Cobalt, Ontario; silver at the Hopewell and Turner sites in southern Ohio from the Keweenaw peninsula of Michigan, where it occurs in the form of erratic inclusions within raw copper (Spence and Frye, Chapter 20; Spence and Fryer 1990, 1996);[6] meteoric iron at the Turner and Hopewell sites, Ohio, from the Brenham fall in Kansas (Wasson and Sedwick 1969); meteoric iron at the Havana site, Illinois from a Minnesota, a Kentucky, or an unknown source (Kimberlin and Wasson 1976); and one instance of river mussel shell at Naples–Russell Mound 8, Illinois, from southeastern Georgia (Farnsworth and Atwell 2001:74). Distant sources of other Hopewell Interaction Sphere raw materials have been documented to have been used (e.g., copper from the Keweenaw Peninsula, Isle Royale, Green Bay, and the Ducktown Appalachian ore band), but the mechanism(s) of interregional dispersal is(are) not so certain (compare Bernardini and Carr, Chapter 17; Turff and Carr, Chapter 18; Spence and Fryer, Chapter 20; Goad 1978, 1979; Griffin 1961b; Levine 1999; Seeman 1979a:292–293; Winters 1968).

Long-distance power questing and vision questing must have been given high value in Hopewellian societies. This is seen in part in the abundance of fancy, exotic raw materials found in Hopewellian cemeteries, sometimes in the form of very large ceremonial deposits of a single material (e.g., the 8,000+ disks of Dongola chert in Hopewell Mound 2, the 160 pounds of galena found in Hopewell Mound 29, and the 300 pounds of obsidian found in Hopewell Mound 11; see other examples in Carr et al., Chapter 13, Tables 13.2 and 13.3). The value placed on long-distance journeying is also seen in the flaunting of exotic materials crafted into the form of ceremonial items that probably were displayed in public events. Examples include large obsidian bifaces, large copper geometric symbols that apparently decorated costumes, a large mushroom-effigy staff sheathed with copper, deer antler headresses of copper, and large mica mirrors cut out and painted in the form of human heads wearing headgear (Carr, personal observation, Field Museum of Natural History). The high value that Hopewellian societies placed on long-distance acquisition of raw materials is also seen in the juxtaposition of materials from different, far-away places in the same deposits. For example, DeBoer (2000:36) pointed out that single bladelets of each of obsidian, Knife River flint, Upper Mercer flint, and Harrison County chert were placed in a pit in Russell Brown Mound 3, of the Libery Works, Ohio (Seeman and Soday 1980). Similarly, in Pete Klunk Mound 2 in Illinois, three marine shell cups were recovered, each a different species from different sections of the Atlantic and Gulf coasts (Perino 1968:51).

Long-Distance Travels of Medicine Persons or Patients for Healing

Native American medicine persons today and in the past, as well as shaman cross-culturally, are well known for the long distances they have traveled and, frequently so, in the course of following their spiritual calling to help individuals. Likewise, patients needing healing traditionally have traveled to distant medicine persons of reputation to be healed (e.g., Halifax 1979; Mails 1979:186–189; 1991:141, 169–176; Neihardt 1932). These travels have the potential for spreading material goods. Specifically, after healing ceremonies, many Native American medicine persons traditionally have given their patients a material remembrance of the vital and protective power(s) that had been brought back to them in place of what had ailed them—for example, a tie of tobacco, a crystal, an animal power part, imagery, and such (see references above). In the end, whether the medicine person or patient did the traveling, the given token is spread far from its original source in nature where the medicine person collected it. It is possible that certain, token-like Hopewell Interactions Sphere items, such as pieces of mica, copper, meteoric iron, and galena, were spread in small numbers from their sources in this way. Small caches of token-like materials in the graves of persons who have shamanic paraphernalia and probably were medicine persons,

or lone tokens in the graves of ordinary persons who may have been patients (Appendix 16.1), might indicate this mechanism of dispersal. The single river mussel that was carved with a shaman-like broad-beaked duck–raptor combination and was found in Naples–Russell Mound 8 in Illinois, but that originated from southeastern Georgia (Farnsworth and Atwell 2001:74), may be another example.

Long-Distance Buying and Selling, and/or Learning of Ceremonial Rites

The notion that interregional distributions of Interaction Sphere goods reflect the long-distance travels of medicine persons or others to buy rights to perform powerful ceremonies and to make the paraphernalia used in those ceremonies is an elaboration of a contribution made by Penney (1989:159–229). Penney examined Hopewellian smoking pipes, clay figurines, and bird-effigy pots spread across the Eastern Woodlands for their raw materials, stylistic details of the kind that reflect the producing artist, and more visible stylistic conventions and image content. From these data, he was able to show that objects that are remarkably similar in their stylistic conventions and image content and that were found in distant regional traditions are nevertheless clearly not examples of interregional trade[7] (see also Farnsworth 1997; Hughes et al. 1998; Wisseman et al. 2002). As an alternative explanation, Penny offered that it was the styles and images that were spread, and that this dispersion can be attributed to persons who traveled distances in order to buy or exchange prerogatives (i.e., rights) to the performance of particular ceremonies and the production of the ritual equipment required for those ceremonies. Purchase and exchange would have involved a period of tutelage in the ways of the ceremony and the manufacture of its equipment.

The parties involved might have been ritual trading partners, or less formally tied members of communities who met at interregional social and religious gatherings. The spread of medicine pipes among the historic Crow, Hidatsa, Blackfeet, Sarsi, and Gros Ventura, and the spread of the Dream Drum and Dream Drum cult among Eastern Siouan and Great Lakes Algonquin speakers are ethnographic examples involving these two kinds of parties, respectively. To the list of participants that Penney suggested can be added medicine persons who traveled distances to learn from each other—a common North American and global practice (e.g., Gill 1982:165; Harner 1980; Helms 1976:109–143; Mails 1979:156–161). The spread of the Ghost Dance from the prophet Wovoka (Jack Wilson)— a gifted healer among the Nevada Paviotso— across the Plains tribes through medicine persons and others who came to learn from him is an example (Gill 1982:164–167). Male bachelors who, as part of their initiation into manhood, journeyed to distant societies of power to purchase sacred objects and learn the rites connected with them, is another possibility, to follow the case of the *Sangai* bachelors' rites of the Enga in New Guinea (Wiessner and Tumu 1999:19; see below). There, male initiates from the most prosperous clans were identified by the tribe and sent in secret to purchase sacred objects and ceremonies from a distant society. The voyages were recorded in lengthy poems, which also described the physical transformation of the initiate into a man.

Penney's idea of long-distance buying and selling of religious prerogatives is very significant, because it provides an explicit mechanism for the spread of the "mortuary–ceremonial system," "ceremonial idea system," "cult," or "religion" that Caldwell (1964), Prufer (1964b), and Struever (1964) thought interregional Hopewell to have been. Prufer (1961a:725–726, Prufer et al. 1965:133) had suggested the less convincing idea, without ethnographic analog, that the Hopewell cult was spread by ceremonial and craft specialists who migrated interregionally (in particular, from Illinois to Ohio). The alternative mechanism of spread of religious cults documented ethnographically by Wiessner and Tumu (1999) and described below (see Big Man Orchestrated Transference of Religious Cults) would have worked well at the within-tradition scale of Hopewell, but probably would have been too cumbersome at the interregional scale of Hopewell.

SPIRIT ADOPTION AND INTERMARRIAGE

The practice of spirit adoption and its proposed application to explaining the interregional distribution of some Hopewellian practices and ideas have been presented by Hall (1987, 1997:42–47, 155–157). Spirit adoption was a historic, Great Lakes, Prairie, and Plains Native American ritual for releasing the soul of dead tribespersons and ending the period of mourning for them (e.g., Callender 1979:256). It involved the replacement of the deceased by a close relative, a fellow tribesman, a captive enemy, or a friend or prominent individual from a neighboring tribe, who took on the deceased's identity—commonly his or her name and/or clothes. If not previously a member of the tribe, the person was adopted into it. This replacement allowed the soul of the deceased (or one of his souls) to move on permanently to an afterlife and have a happy existence there. Because spirit adoption created fictive kinship relationships, it could be used to solidify alliances among individuals, villages or bands of a tribe, or neighboring tribes. In the latter case, a notable person from the foreign tribe was honored by being ceremonially made into a resurrection of a dead chief of the adopting tribe, and by becoming a chief of that nation.

Spirit adoption, with its tie to the mortuary realm, has an obvious potential for explaining the spread of Hopewellian mortuary and other practices and ideas in a down-the-line fashion, which Hall (1997:157) pointed out. His idea is strengthened by his proposal (Hall 1987) that the historically widespread Plains and Woodlands calumet pipe ceremony had its origin in spirit adoption ceremony. The calumet ceremony served to allow safe passage for travelers through potentially dangerous regions and to create alliances between potential or actual enemies. Hall's (1977:504–505; 1983:48, 52; 2000:115–116, 120) more specific ideas, that historic Plains and Woodlands Hako-type calumet ceremonialism had an analog during the Middle Woodland period in Hopewellian platform pipe ceremonialism, and that spirit adoption was a component of Hopewellian pipe ceremonialism, is not supported by archaeological evidence of several kinds (Turff and Carr, Chapter 18). However, his broader concept of spirit adoption as a fundamental ritual of social intercourse among neighboring or close parties in the Woodlands (Hall 1997:161; 1989:255–256; personal communication, 2004; see also 1987; 1997:57), and as extending back in time well before the Middle Woodland period (Hall 1987:39), remains reasonable.

Intermarriage among those neighboring villages, bands, and tribal nations in the Eastern Woodlands who might share or compete for hunting or fishing grounds, quarries, or sources of other goods was fairly common historically (e.g., Callender 1979:256). Intermarriage naturally had the potential for going hand-in-hand with spirit adoption among tribes: An adoptee might marry within the adopting tribe. Thus, intermarriage at the scale of neighboring groups could have been a significant factor in the down-the-line spread of Hopewellian practices and ideas. Distinguishing the relative contributions of intermarriage and spirit adoption to the spread of Hopewellian ways within a locale or region would be difficult.

In contrast to local and regional-scale intermarriage and spirit adoption, interregional intermarriage and spirit adoption were probably very rare historically. They are unlikely candidates for explaining much of the interregional distribution of common Hopewellian ways across the Eastern Woodlands. They may, however, very well explain certain specific cases of very striking resemblances among Hopewellian objects found in distant sites. For example, four clay figurines from Mounds A and B of the Mandeville site in Georgia resemble clay figurines from the Knight mound, Illinois, in the details of their body form, posture, clothing, and painting, but are not items of exchange because they have a micaceous temper like the local Mandeville pottery (Keller and Carr, Chapter 11; Kellar et al. 1962:344, 351). Another example is found in three pairs of copper earspools that are apparently unique over the Woodlands in having "white" metal—silver or meteoric iron—overlays in only their central depressions. These earspools are from the Esch site in northwestern Ohio (silver), Bedford Mound 4 in Illinois (silver), and Tunacunnhee in Georgia (iron) (Ruhl, Chapter 19). All of these

cases suggest the local manufacture of items by one or a few persons who came from a far-away stylistic tradition. Long-distance intermarriage and spirit adoption would be consistent with these cases; however, also possible would be the long-distance buying of ceremonial prerogatives.

Occasional long-distance intermarriage may have helped to solidify ritual ties between the Mann community in Indiana and communities in the Georgian Piedmont and/or Gulf Coastal Plain. Kellar (1979:186) noted the strong resemblance between complicated stamped vessels at the Mann site, Indiana, and early Swift Creek complicated stamped pottery in vessel shape, rim shape, and stamping. He concluded that more than trade was involved in this relationship, given the relatively high frequency of complicated stamped sherds at Mann compared to their rare occurrence in Scioto Hopewell sites. Complicated stamped sherds constitute about 2% of the ceramic assemblage from the Mann site and complicated stamping is the second most common form of ceramic decoration found at Mann (Ruby and Shriner, Chapter 15; Ruby 1997e:6). To explain this frequency of vessels of foreign style, Keller suggested a northward movement of people to Mann, perhaps by intermarriage. However, ethnographic parallels in the Woodlands for such long-distance, repeated intermarriage are wanting.

A different tack to the problem is taken by Ruby and Shriner (Chapter 15) in this book. Through petrographic, x-ray diffraction, and scanning electron microscopic analyses of pottery from the Mann site and local clays, they find that all of the Swift Creek-like complicated stamped sherds from Mann that they tested for location of production were made locally at the site, rather than imported from the Georgian Piedmont and/or Gulf Coastal Plain. On this basis, they ruled out the presence of complicated stamped pottery at Mann as due to power questing or elite valuables exchange. In addition, because complicated stamped pottery is relatively frequent at Mann, they conclude that its presence cannot be attributed to small numbers of pilgrims who might have regularly come to Mann and made their own pottery there. The pilgrimage interpretation is also not supported by the occurrence of complicated stamped pottery on a number of Mann phase habitation sites in the neighborhood of the Mann ceremonial center, rather than their restriction to the center (Ruby and Shriner, Chapter 15; Ruby 1997e:8). As an alternative explanation, Ruby and Shriner suggest that people of the Mann phase hosted regular ceremonies attended by good numbers of persons from the Georgian Piedmont and/or Gulf Coastal Plain. At the Mann site, and that this practice continued over a long time, leading to the frequency of complicated stamped pottery at Mann. The long-term stability of this tradition is attributed by Ruby and Shriner to the cementing of intercommunity relationships through some marriage and/or adoption. Note that interregional intermarriage, itself, is not thought to be responsible for the bulk of the complicated vessels at Mann. Ruby and Shriner also suggest that complicated stamped pottery at Mann might be attributable to residents at Mann having bought the rights from Southeastern groups to produce complicated stamped pottery and to enact ceremonies associated with it; pottery production and ceremonial performance might then have spread within the Mann community.

Intermarriage between the Havana and Scioto tradition peoples has been an ongoing topic in Hopewellian studies, beginning in physical anthropology and spreading to archaeology. Dixon (1923, in Buikstra 1979) saw resemblances between Illinois valley skeletons from Hopewell mounds and the skeletal series at Turner, Ohio. Neumann (1950, 1952, 1970, in Buikstra 1979) saw Illinois and Ohio Hopewellian populations as having been quite similar and derived from the same (Otamid) stock. His work was based first on a detailed, cranial–morphological typology that he developed in the style of descriptive anthropometry, in order to trace the racial history of North American Native Americans, and then on a discriminant function analysis of craniometric data. Following Neumann's conclusions and considering the similarities between the Havana and Scioto Hopewellian archaeological records and their chronological positions, Prufer (1961a:725–726, 1964a:55–59; 1964b:97; Prufer et al. 1965:133) posed that Ohio Hopewellian culture had its roots in Illinois Hopewellian culture. He specifically

thought that ceremonial and craft specialists of the Hopewell cult had migrated from Illinois to Ohio and intermarried there. Subsequent metric and nonmetric cranial analyses (Jamison 1971; Reichs 1974) of Illinois and Ohio Hopewellian skeletal populations have not firmly supported or denied the migration and intermarriage hypothesis (Buikstra 1979:228).

Frequent marriage exchange of women among Havana, Mann, and Scioto Hopewellian communities is pretty firmly refuted by stylistic studies done by Keller and Carr (Chapter 11) on clay figurines found in these areas. The authors argue that clay figurines were produced by women, based on very strong worldwide and Eastern Woodlands ethnographic associations between females and manufacture with soft, pliable materials, including clay (Driver 1969; Murdock and Provost 1973). The authors also find support for this position in the natural style of the figurines, unelaborated with the ceremonial face marking and costumery found on human images carved from hard materials, and in the production and frequent deposition of figurines in domestic rather than ceremonial sites in the Havana and Mann regions. Lack of interregional exchange of female producers of figurines, as well as a lack of exchange of figurines themselves, is indicated by marked variation among the three regional traditions in the less visible, facial stylistic attributes of their figurines, which theoretically should be sensitive to learning among close kin/artisans (Carr 1995a). Lack of interregional exchange of females and figurines is also evidenced in the idiosyncratic sharing of different stylistic attributes among different pairs of the three regions, rather than the interregional spread of the covarying bundles of stylistic traits that would be produced by artisans of frequently intermarrying societies.[8]

PILGRIMAGE TO CEREMONIAL CENTERS

Long-distance pilgrimage to a sacred ceremonial center has a cultural logic behind it closely similar to long-distance pilgrimage to a sacred place in nature. In both cases, personal and/or social transformation of the individual are the goals, traveling a distance is equated with approaching the sacred or supernatural (Helms 1976:133, 136, 176), and the pilgrimage point is a place of power. Moreover, ceremonial centers have commonly been built in places in nature that were thought to be powerful. For example, the site of Delphi, Greece, was selected to erect the famous shrine in honor of the earth goddess, Gaia, because the location was experienced as having a stronger earth-force or "plenum", thus favoring prophecy (Swan 1988:153).

Hopewellian ceremonial centers may have been places of pilgrimage not only because religious specialists and community members gathered there periodically to perform sacred rites, but also because they were located in places in nature thought powerful. For example, in Ohio, the Seip earthwork is located immediately northwest of white florescences of alum—an astringent—in the 300-foot-high black shale cliff of Copperas Mountain, along Paint Creek (Seeman and Branch n.d.), and very close to outcrops of red ocher (Romain 2000:29) that would have been useful for making paint.[9] The Glenford hilltop enclosure, within a few miles of the Newark Earthworks, is situated on a hill bearing outcrops of a rare white sandstone that today is sought out commercially for its abnormally high silica content (Romain 2001). Tremper mound was located strategically across the Scioto River from pipestone quarries in Feurt Hill (Mills 1916:265), which was use to manufacture some of the smoking pipes deposited in the mound (Weets et al., Chapter 14; Emerson et al. 2002). The Hopewell earthwork is located immediately adjacent to a series of springs, and the McKittrick earthwork is less than a half-mile from brine springs used historically to make salt (the Old Scioto Salt Lick [Romain 2000:30]). More broadly, the great concentration of earthworks at the interface of the Appalachian Plateau and the Till Plain provinces in Ross County, Ohio, may well reflect the perceptions that Ohio Hopewellian peoples had of the abrupt rising of the Appalachian Plateau above the relatively flat Till Plain in this area, and/or the closed-in versus open nature of these two provinces, respectively.[10] The Old Stone Fort hilltop enclosure in Tennessee was located between the two deep gorges of the Duck

and Little Duck rivers, and had seven major waterfalls with plunge pools and a multiple-entrance cave nearby it. The closest Middle Woodland enclosure to Old Stone Fort—Desota Falls, near Ft. Payne, Alabama—also has water falls, a plunge pool, and a multiple-entrance cave by it (Bacon 1993:246, 249, 260). Thus, the distinction between Hopewellian pilgrimages to places in nature and pilgrimages to ceremonial centers could have been largely insignificant in Hopewellian cultural logic.

Regarding archaeological correlates, pilgrims may manufacture utilitarian and ceremonial artifacts at sacred sites in their nonlocal styles out of local materials. The foreign-style specimens may be rare to frequent at the sites, depending on pilgrimage rates. Unfortunately, these same material consequences can result from long-distance intermarriage and spirit adoption, and from the long-distance buying of religious prerogatives. In these cases, foreign practices may be accepted by the local community and spread within it to varying degrees (Table 16.1). Alternatively, pilgrims may bring along their own utilitarian and ceremonial artifacts to a sacred site, for use there or for exchange with local residents, with the possibility of breakage and deposition at the sacred site. In these cases, the deposited artifacts will have been made of nonlocal materials. Pilgrimage can then be distinguished from long-distance intermarriage, spirit adoption, and the buying of religious prerogatives, but may be indistinguishable from elite valuables exchange or travel to a distant center of learning (Table 16.1).

Pilgrimage where foreign style artifacts are made of local materials is probably exemplified at the Pinson ceremonial center, Tennessee (Mainfort et al. 1997; see also Mainfort 1996:387). At Pinson are found vessels produced of local clays but in multiple nonlocal styles from distant Hopewellian traditions in the Marksville, Santa Rosa–Swift Creek, Tennessee valley, and Mobile Bay areas (Mainfort 1980, 1988b:168; Mainfort et al. 1997; but see Stoltman and Mainfort 1999 and 2002:16 for qualifications). Foreign-style vessels have been found in "virtually every tested locality" at Pinson (Mainfort 1996: 386), but are not found in surround-

ing Middle Woodland habitation or other sites (Mainfort et al. 1997:44). These data suggest a long-term pattern of pilgrimage of peoples from afar to Pinson for ceremonies, without intermarriage or spirit adoption with local residents—practices that would have spread foreign styles to local residents and their habitations. Buying of religious prerogatives by local residents in order to manufacture the foreign-style vessels is unlikely for the same logic. The multiplicity of foreign styles and their restriction to the Pinson center distinguish this example from the case of, complicated stamped pottery at the Mann site (see Spirit Adoption and Intermarriage, above). The few known examples at Pinson Mounds of foreign-style vessels that were actually produced at distance from the site (Stoltman and Mainfort 1999, 2002:16) could indicate pilgrimage, or the long-distance travel of aspiring leaders to Pinson Mounds for training under important teachers there, or symmetrical valuables exchange among elite (see below, Interregional, Asymmetric Exchange of Valuables, on Helm's model).

Pilgrimage where foreign-style artifacts made of nonlocal materials are brought to a ceremonial center by pilgrims may be represented at the Mann site, Indiana (Ruby and Shriner, Chapter 15). This mechanism can account for the rare occurrences of foreign-made, Southeastern-style, fine-spaced, simple stamped pottery vessels at Mann. The authors reason that peoples from the Appalachian Summit may have been attracted to visit the great Hopewellian ceremonial earthworks of the north, upon hearing tales of them, and may have made pilgrimages to them as rites of passage, somewhat akin to the pilgrimages or power quests that Southeasterners seem to have made to the copper-bearing power places of the upper Great Lakes (Turff and Carr, Chapter 18; see also Goad 1978, 1979). With them, the Southeasterners would have brought their simple stamped pottery. In turn, residents at Mann could have placed value on the pottery, by virtue of its foreign origin and unusual designs, and exchanged gifts for the vessels and possibly their contents. The allure of northern ceremonial earthworks generally, as envisioned in Ruby and Shriner's scenario, finds support in the continued use of some of these earthworks locally for

burial of persons in simplified mounds long after the major events of Big House use and earthwork and large mound construction were complete.[11] Alternatively, the fine, simple stamped pottery at Mann could be explained by long-distance travel to a center of learning or long-distance elite exchange, which have archaeological correlates similar to pilgrimage to a ceremonial center (Table 16.1). It is not likely that residents of Mann phase sites made pilgrimages or power quests to the Appalachian Summit and brought back simple stamped pottery from communities there, because such pottery does not occur in habitations around the Mann site, based on surface surveys (Ruby 1997e).

A case similar to that at Mann, but with its own twist, seems to be evidenced in the rare occurrences of simple stamped pottery with sand temper (Turner Simple Stamped B [Prufer 1968]) in southern Ohio. Specimens of this kind of pottery from several Ohio ceremonial centers have been identified petrographically to have come from the Appalachian highlands, especially in North Carolina and Tennessee, and from the Gulf Coastal Plain (Stoltman 2000; see also J. A. Brown 1994:186–188; Chapman 1973; Chapman and Keel 1979; Griffin 1983; Keel 1976). However, the pottery type is also known occasionally from residential sites away from ceremonial centers (Dancey 1991:63; Prufer 1968; Prufer et al. 1965:25). This situation leaves open the possibility that southern Ohioans made pilgrimages to the Southeast, not simply vice versa. Again, long-distance travel to a center of learning or long-distance elite exchange are viable, alternative interpretations.

LONG-DISTANCE EXCHANGE OF VALUABLES AMONG ELITES

The nodally concentrated distributions of certain Hopewellian fancy artifact classes and raw materials across the East suggested to Struever (1964:88, 105; Struever and Houart 1972:49) some form of exchange of goods that was tied to "selected persons who occupied status positions" (Struever 1964;105) within societies that were widely separated. The goods, themselves, were thought to "communicate" social prestige

or to be "paraphernalia used in the ritual reinforcement" of prestige (Struever and Houart 1972:49). Goad (1978:201–204, 1979:245–246) went on to characterize the presumed exchange of copper, in particular, as "reciprocal" and "hierarchical," with reciprocal exchange among unspecified persons at major "regional transaction centers" and, again, between these "pooling areas" and smaller, surrounding sites of a region. Modern anthropology, simplified, would rewrite these interpretations as the symmetric exchange of valuables and sumptuary items among the elite (chiefs, chief-priests, big men, and/or ritual leaders of a kind) of approximate "peer polities" (Renfrew 1986). One purpose of the exchange would be seen as the opportunity for elite to have materially demonstrated their power and knowledge, and their efficacy in accessing these, especially supernatural forms of power and knowledge (Earl 1997; Helms 1976; Renfrew 1986; Service 1962:147, 150). A complementary view offered by the neo-Marxist based "prestige goods economy" model (Brown et al. 1990; Clark and Blake 1994; Earl 1982; Frankenstein and Rowlands 1978; Friedman and Rowlands 1977; Hayden 1995; Meillassoux 1978) would suggest that "individual aggrandizing" or "competitive accumulating" emerging elite co-opted the production and circulation of material valuables necessary for social payments of debt, damages, bride-price, ceremonial functions, and other forms of social reproduction; used the valuables to create debts and obligate others in their society to them; and augmented their power by building alliances with other elite of the region through the exchange of the valuables with them, or what has been called a "network strategy" for political action (Blanton et al. 1996; Feinman 1995, 2000).

This section begins by summarizing current archaeological evidence of the kinds of Hopewellian items, and specific examples of them, that actually were and were not physically moved long distances among Hopewellian traditions. Thus, candidates for elite valuables exchange are identified, although other cultural means of movement of the items must also be entertained. The section proceeds to describe several different ethnologically known forms of valuables exchange—among elite, aspiring elite,

or commoners—at three distinct geographic scales, thereby widening the simplified idea of "elite valuables exchange" to a spectrum of behaviors, which should be distinguished anthropologically and archaeologically. Finally, for each of the several defined kinds of valuables exchange, instances of Hopewellian movements of goods that probably or possibly represent the form of exchange are identified.

Archaeological Evidence for the Long-Distance Movement of Valuables among Hopewellian Regional Traditions

Two empirical questions have historically been fundamental to the topic of the movement of Hopewellian Interaction Sphere goods among regions. First is whether finished artifact classes, or only ideas related to their styles, were transfered among regions. Second is whether raw materials were moved among regions through some kind of network or, instead, procured directly from their sources by each region separately.

Struever (1964:88) initially held the position that "primarily raw materials . . . not finished goods" had moved through an interregional network. This he concluded from the "considerable local reinterpretation of diagnostic Hopewell artifact forms." Eight years later, Struever modified his position, holding that a wide variety of both raw material and artifact forms had moved through the network (Struever and Houart 1972:48, 74), including such artifacts as copper earspools, celts, and breastplates, pipes, figurines, and Hopewell ware. Within this paradigm, the results of sourcing studies of copper (Goad 1978, 1979) and galena (Walthall 1981; Walthall et al. 1979) were interpreted to reflect interregional "exchange" and "trade" rather than direct procurement by several regions. For example, Goad (1978:201–204, 1979:245) interpreted the nodal distribution of copper in large sites across the East as evidence for reciprocal exchange among regional centers, as described above. She adopted Struever and Houart's (1972) terms of "regional transaction center" and "local transaction center." Goad left the specific mechanism of center-to-center exchange undefined, although she ruled

out long-distance traders and other options that she thought unlikely. She did not entertain the possibility of direct acquisition of copper from its sources independently by persons from different sites. In contrast to the above authors, Griffin (1965, 1971:242, 1973, 1979:278) consistently saw little evidence of interregional-scale exchange of either raw materials or finished artifacts, but did envision local-scale exchange of Hopewell diagnostics. The distant sources of many Hopewellian raw materials, along with their massive deposition in restricted numbers of sites, were taken by Griffin (1971:242) to indicate their direct "acquisition" and "local ceremonial consumption" and exchange. This view was reiterated by Griffin's student, Braun (1986:121).[12]

A cautious approach to the issues of artifact or stylistic exchange, and of exchange or direct procurement of raw materials, requires that each kind of item be assessed for itself, and that the potential for different modes of distribution in different parts of the Eastern Woodlands for the same kind of item be recognized. The unique geographic distributions of different raw material and artifact classes across the East (Seeman 1979a, 1995; Struever and Houart 1972), as well as the geographically differentiated distributional patterns documented for each of meteoric iron (Carr and Sears 1985) and copper (Goad 1979) across the East, affirm this methodology.

A number of kinds of Hopewellian valuables that have been thought possibly to have been moved interregionally can be taken off the list of candidates, based on recent studies. In this book, clay figurines in northern Hopewellian societies, earspools from Ohio and the Southeast, and metal-jacketed panpipes across the entire East are analyzed in detail stylistically for indications of whether they were moved across regions (Keller and Carr, Chapter 11; Turff and Carr, Chapter 18; and Ruhl, Chapter 19, respectively). Local production, use, and burial, without interregional movement, is concluded for all three classes of artifacts. Likewise, stylistic analyses of bird-effigy Hopewell ware vessels, platform pipes, and again, clay figurines over the East, by Penney (1989), do not indicate their interregional transport. Griffin (1971:238) did not

see any stylistic evidence of Illinois Hopewell ceramics having been moved to Ohio at any time during the Middle Woodland. Source analyses of Hopewell ware pottery from Illinois, Indiana, and Ohio (Ruby and Shriner, Chapter 15; Fie 2000; Stoltman 2000) indicate little or no long-distance movement of these items. None of 21 Hopewell ware vessels and 20 Baehr vessels from six habitation and mortuary sites in the lower Illinois valley analyzed by Fie (2000:462– 466) were found to have been made outside of the area, and only 6 had circulated within that region. Only 2 (8%) of 24 Hopewell wares from the Mann site analyzed by Ruby and Shriner (Chapter 15) were made of nonlocal clays and rock temper (Ruby and Shriner, Chapter 15). None of 42 Hopewell Series wares from seven southern Ohio sites studied petrographically by Stoltman (2000) had paste compositions or temper types that would indicate foreign manufacture. Illinois Havana Hopewellian platform pipes, commonly thought to have been made from Ohio flint clays and moved long distance into Illinois, are now known from mineralogical analyses to have been made of northwestern Illinois berthiorine-rich flint clays within the Illinois Havana stylistic region (Farnsworth 1997; Hughes et al. 1998; Wisseman et al. 2002). Copper celts from Northern and Midsouthern Hopewellian traditions do not have the size differences over space that one would expect for the interregional exchange of either raw copper or celts through a network of ceremonial centers (Bernardini and Carr, Chapter 17). The absence of alligator teeth and barracuda jaws, and the sparsity of obsidian, between their sources and their deposits in Ohio mortuary sites make their exchange through an interregional network of centers also unlikely (Bernardini and Carr, Chapter 17; Griffin 1965).

The most convincing cases for the movement of valuable artifacts and/or raw materials among regional traditions—which may or may not have constituted elite exchange—are those for which some information on interregional variation in item density is available, and that entail associations among several kinds of foreign items. Galena is one such case. Galena cubes in Ohio Hopewellian mounds and more southerly sites source almost completely to the upper Mississippi valley (Walthall 1981:37, 41). Galena is found at the highest density in the Ohio Hopewellian sites and at lower density nodes as one moves south, to Copena sites in the Tennessee valley, and then to Mandeville (Santa Rosa–Swift Creek tradition) and Mc-Quorquodale (Miller tradition) closer to the Gulf (Walthall et al. 1979). In contrast, galena from Havana sites, which fall geographically between the Ohio sites and the upper Mississippi valley source, were obtained from other, closer sources (southeastern and central Missouri). These patterns suggested to Walthall et al. (1979:249, fig. 31.2) that Ohio Hopewellian peoples probably obtained galena by direct procurement from the upper Mississippi valley, rather than through exchange with Havana communities, and that from Ohio, galena was exchanged southward among centers, in decreasing amounts. The possibility that Copena peoples exchanged galena to persons at Mandeville and McQuorquodale, rather than the latter two having directly procured galena from the upper Mississippi valley, is bolstered by the association of galena with Copena-like stone celts and a greenstone spade in one cremation at Mandeville and with a Copena-like greenstone celt on the surface of the primary mound comprising McQuorquodale. A similar but somewhat weaker case can be made for movement of meteoric iron northward from/through the Copena region to the Seip earthwork community in Ohio.[13] Although these instances of the interregional movement of valuables among regional centers are good candidates for elite valuables exchange, the alternatives of pilgrimage to a ceremonial center and travel to a center of learning cannot be ruled out (Table 16.1).

Perhaps the strongest case for interregional valuables exchange among Hopewellian elite is the burial of a complete articulated skeleton of a roseate spoonbill duck with the skeleton of an adult male and a child in a subfloor crypt of Gibson Mound 3 (Burials 17, 18) of the lower Illinois valley (Buikstra 1976:31). The duck had to have been brought alive to Illinois from a Gulf Coast location. The spoonbill currently lives year-round along only the Florida, Louisiana, Texas, and Mexico Gulf coasts and has a somewhat broader spring-through-summer breeding

range along the entire Gulf Coast and inland only about 50 miles (National Geographic Society 1983:56). Cross-culturally, exotic, live animals are not uncommon gifts among leaders of polities (Renfrew and Bahn 1991b:311), and the spoonbill would have had the requisite symbolic value for Middle Woodland leaders in the Southeast and Midwest, if historic thought on the animal is relevant. Specifically, the spoonbill is an aquatic, filter-feeding bird that, because of these characteristics, is considered in contemporary Creek thought (Dan Penton, personal communication, 1996) to be an anomalous (powerful) animal—a transformer that connects the Upper and Lower Worlds. Thus, it is a pointed symbol of cosmological beliefs. The spoonbill also has brilliant pink feathers unlike any bird native to the Midwest. As in the cases of galena and meteoric iron, the alternative explanations of pilgrimage to a ceremonial center and travel to a center of learning cannot be eliminated.

Interregional movements of fancy decorated ceramic vessels other than bird effigy Hopewell ware were apparently rare over the Woodlands. Such vessels might or might not have been considered "valuables" by Hopewellian peoples, although their contents, if any, might have been. Two rocker-stamped vessels from the Connestee phase Icehouse Bottom site in eastern Tennessee (Chapman 1973; Chapman and Keel 1979) have been sourced petrographically to southern Ohio (Stoltman 1999), and thirty-five simple-stamped, Connestee-like vessels from several mound sites in southern Ohio (Shetrone and Greenman 1931), have vice versa been sourced petrographically to the vicinity of Icehouse Bottom (Stoltman 1999, 2000). Likewise, rare, finely spaced, simple-stamped, Connestee-like vessels from the Mann site, Indiana, appear to have been manufactured in the Appalachian Summit (Ruby and Shriner, Chapter 15; see also above, Pilgrimage to Ceremonial Centers). Only 134 Connestee-like simple stamped sherds are known from eight Ohio mound sites, and only about 200 such sherds have been found at the Mann site (Ruby and Shriner, Chapter 15). At the Pinson mound site in western Tennessee, at least some foreign-style vessels buried there were manufactured in the regions of origin of their styles rather than locally (Stoltman and Mainfort 1999, 2002:16; compare with above, Pilgrimage to Ceremonial Centers). All of these cases of interregional movement of vessels could indicate the exchange of valuables among elites, but also pilgrimage to a ceremonial center or travel to a center of learning.

For the great majority of foreign Hopewellian raw materials, it is unknown whether they were moved across regions by direct procurement, exchange, or other means. Likewise, for most foreign Hopewellian finished materials, it is unclear whether they were moved interregionally by exchange or one of the alternative mechanisms listed in Table 16.1.

Multiple Scales of Valuables Exchange

If long-distance exchange of valuables among the elite of Hopewellian societies did occur, its nature is best understood in the larger framework of valuables exchange among elite or others at three distinct geographic scales: local, regional, and interregional or, in Helm's (1988) terms, areas of "normal people," "close strangers," and "foreigners" (see also Seeman 1995). Valuables exchange at these different scales can vary in the social roles of the persons involved (e.g., elite, ordinary persons), in the nature of the relationships among them (e.g., equal or unequal in prestige), and in purpose (e.g., to secure subsistence needs, to increase one's prestige). Exchange activities at the three scales are not necessarily mutually exclusive, and it is likely that the material–distributional correlates of the Hopewell Interaction Sphere are the composite result of several of such kinds of activities.

In the multiscalar framework of exchange to be described, the terms local, regional, and interregional exchange are used here to describe cultural processes that approximately sort out by geographic scale, but not sharply.[14] The sizes of the geographic areas over which distinct processes manifest overlap, cross-culturally. As approximate points of reference in the Hopewellian world, *local* is used here to describe communities that were situated within a single river valley or very close river valleys and that would have been very similar culturally—"normal people." Examples include communities in the lower and

central Scioto valley, the lower and central Little and Great Miami valleys, the lower and central Illinois valley, and the middle Tennessee valley. River distances are about 50 miles or less. The term *regional* is applied here to communities of the order of 50 to a couple hundred miles apart, who would be "close strangers." Some adjacent Hopewellian traditions, such as the Scioto and Mann phase Hopewell, the Mann phase and lower Illinois valley Havana Hopewell, and the Copena and Porter Hopewell, could have been connected by regional exchange processes. The term *interregional* is used for communities that were separated by larger distances and would have considered themselves "foreigners," such as those in the Havana and Scioto areas, the Scioto and Copena areas, or more distant traditions.

Local, Symmetric Exchange of Valuables

Exchange of valuables at the local level is addressed in Hall's (1973, 1980) model of Hopewellian interaction. He proposed that local exchange of valuables among neighboring groups had the benefit of regularly renewing and keeping open ties of mutual friendship and obligation that, in occasional years of subsistence scarcity and need, could then be more easily called upon for obtaining staples. A similar interpretation was offered by Ford (1974). However, Ford envisioned valuables and subsistence items as directly exchangeable for each other, whereas Hall more realistically assumed a multicentric economic organization, in which staples and valuables have different prestige and moral value and belong to distinct spheres of exchange (Bohannan 1955). To Hall's and Ford's models can be added the possibility that regularized, local exchange of valuables may have kept alive alliances that had as their goals security from conflict and/or the exchange of mates. Both Hall and Ford envisioned interregional Hopewellian exchange and procurement as mechanisms for feeding local exchange and alliance systems.

Cross-culturally, valuables exchange at the local level, either within a polity or among adjacent polities, can occur among ordinary persons seeking to raise their prestige with the items they receive and give, among leaders who are Big Men or chiefs and likewise seek to improve their status, or both. Melanesian kula trading partners within and among island societies (Malinowski 1922b) were both commoners and leaders. Cross-culturally, the parties involved in local valuables exchange are usually roughly equivalent in prestige and give roughly equivalent gifts, that is, exchange is symmetric. This need not be the case at the interregional level (see below). Local valuables exchange among trading partners may be more or less ritualized and institutionalized, in part depending on the social distance of the parties. Sometimes, trading partnerships may be inherited across generations, as in the cases of the kula (Malinowski 1922b) and historic Plain-Rio Grande Pueblo exchange of ceramics and staples (Leonard 2000).

The only two examples of Hopewellian local exchange that have been documented firmly through artifact chemical or physical signatures, and that might have involved valuables, of which I am aware, are the coordinated study by Carr and Komorowski (1995) and Yeatts (1990) on the exchange of fancy and ordinary ceramics within Ohio (see also Carr, Chapter 2) and a parallel study by Fie (2000, n.d.) for the lower Illinois valley. Carr, Komorowski, and Yeatts found that, at the McGraw site, Ohio, finely decorated vessels of the kind that were used in mortuary and probably domestic ceremonial contexts and that might represent valuables, as well as coarse, utilitarian, cordmarked vessels, were manufactured up to 25 kilometers away from McGraw and most probably were brought into the site by exchange. McGraw was a small, undistinguished habitation. If the finely decorated vessels were specially valued by Hopewellian peoples, then the case would constitute local valuables exchange, most probably among ordinary persons of roughly equivalent prestige. The persons would have been from the same and/or close local symbolic communities and sustainable communities (Carr and Komorowski 1995:741), given what is known about Hopewellian community and mating network sizes,[15] and would have considered each other "normal people" in Helms' terms. In addition, because both utilitarian and fancy foreign-made vessels at McGraw were sometimes produced from very similar clays and tempering

materials, and likely were made in the same foreign location, the case suggests that lines of valuables exchange were paralleled by lines of utilitarian exchange. This would support Hall's position (see above) that local valuables exchange helped to maintain local alliances and utilitarian exchange, specifically the exchange of staples, especially if food had been contained in the vessels brought to McGraw. The case does not address the issue of whether utilitarian and valuables exchange occurred at the same or different times and places and constituted distinct spheres of exchange.

Fie (2000:498–502) chemically analyzed 304 Middle Woodland coarse and fine ware sherds from four bluff-base habitations and two flood plain mound centers well distributed along the lower 40 miles of the Illinois valley. Twenty-eight (9.2%) of the sherds—six of which were fine ceremonial wares (Hopewell, Grigsby rockered, and Baehr styles)—were found to have been manufactured in all probability at locations in the lower Illinois valley other than the sites where they were discarded. Because three of the six fine ware vessels occurred in habitation sites, not simply in flood plain mound centers where local and extralocal peoples gathered for ceremony and may have used and discarded only their own ceramics (Buikstra and Charles 1999; Charles 1995), it can be inferred that the three vessels actually exchanged hands between persons of neighboring groups within the lower Illinois valley. The three vessels can be interpreted as cases of local valuables exchange, if their fineness set them apart as valuables for lower Illinois valley Hopewell peoples. This is probably true, because Hopewell, Baehr, and Grigsby rockered styles are found much more commonly in mortuary contexts than domestic ones. In addition, Fie's (2000:447) data show that coarse and fine wares were traded in parallel, from the same originating habitation site to the same destination habitation site, for two pairs of sites in the lower Illinois valley.[16] Again, this supports Hall's position that local valuables exchange helped to maintain local alliances and utilitarian exchange, possibly including the exchange of staples in vessels.[17]

Indirect evidence of local valuables exchange can be found in chemical sourcing data on galena (Walthall 1981). Of the 121 archaeological samples of galena from across the East that have been chemically sourced, only 8 came from central Missouri deposits, and all of these were found in sites in the lower Illinois valley. The rarity and spatially limited distribution of the Missouri galena suggested to Walthall (p. 37) that it was procured in one shot and then dispersed through trade partners among nearby communities. Additionally, Walthall (1981:41) argued that upper Mississippi valley galena cubes found in Copena sites are so geochemically homogeneous that they probably were gotten from one specific place within the source district, possibly in one or a very few procurement trips. Subsequently, the galena would have been spread through trade partners among Copena communities. Additional indirect evidence of local valuables exchange in Ohio, Indiana, and Illinois can be envisioned in the foreign, fancy raw materials besides galena that are found in small quantities in small habitation sites. These are listed and referenced by Carr (Chapter 2, Interregional and Local Hopewell).

All of the above-cited literature and examples of local valuables exchange focus on ceremonial exchanges that had as their purpose the establishing and reinforcing of alliances. A second form of local valuables exchange—competitive exchange—aims instead at settling prestige rivalries among elite or among ordinary persons and their kin (Dalton 1968, 1977). This is accomplished through the giving-away of valuables in such quantity and quality that they cannot be reciprocated and the receiving party is embarrassed. Food surpluses and other staples commonly exchange hands along with valuables, which may help to overcome temporary local shortages and extralocal differentials in the staples of life, similar to the case of cooperative alliance formation defined by Hall (see above). The potlatch of Northwest Coast Native Americans is a well-known example of competitive valuables and staples exchange among elites who held their position by inheritance or achievement, supported by their kin and/or communities (Piddocke 1969; Rosman and Rubel 1971; Suttles 1960). These events were tied to the acquisition of titles of prestige.

Competitive exchange among common persons and their kin are found in societies of many levels of complexity around the world in the form of bridewealth give-aways; less common dowry give-aways; and give-aways associated with puberty rites, marriages, funerals, and other rites of passage. The bridewealth exchanges of historic Great Plains Native Americans (e.g., Collier and Rosaldo 1991:278–279; Driver 1969:224–225, 342; Hoebel 1966:349) are examples. Among other purposes, these aimed at prestige building. Another fine example of competitive exchange among common persons is the contemporary Apache female puberty ceremony, which openly involves competitive giving of massive amounts of gifts, raw food, and cooked food between the young woman's matrilineal clan and the matrilineal clan of her Godmother. Hundreds of persons are fed for a period of four days. The ceremony is followed immediately afterward and one year later by give-aways by each clan to those who helped amass the valuables and food (Elizabeth Brandt, personal communication, 2001). On the Great Plains, the Give-Away Ceremony among the Arapaho was competitive, but less openly so in the short run. It was and is held by families who wished to honor a family member who had achieved or experienced something good, such as being selected for a position or title of importance, participating in the Sun Dance, or returning home from military duty. The ceremony was also held at funerals. Cloth bolts, clothing, pots, horses, saddles, and such were given to a variety of persons, from close friends to visitors from other bands or tribes— in general to those with whom one had some kind of relationship of reciprocity—rather than to a specific social unit of competition. However, the items given were noticed and talked about (Weist 1973; Peter Welsh, personal communication, 2001).

In the Hopewell world, competitive exchange and the gathering of large numbers of people for this purpose have been inferred explicitly for Havana flood plain mound complexes from the quantity and diversity of prestigious items found in the mounds and surrounding midden deposits (Buikstra and Charles 1999; Charles 1995; Charles and Buikstra 2002; see

Carr, Chapter 2, Buikstra and Charles). Competitive exchange has also been used to interpret the flamboyance of Hopewellian mortuary remains across the East generally (Braun 1986:121). However, other ritual practices are probably responsible for the large ceremonial deposits of valuable artifacts within the "altars" (cremation basins) and some burials in Ohio Hopewell mounds, especially those deposits comprised of many artifacts or raw materials of one or two kinds (e.g., breastplates, celts, pipes, copper geometric symbols, ovate stone disks, quartz, galena, obsidian) (Carr et al., Chapter 13; Greber 1996).

A final variant on local valuables exchange is that involved in the making of a Big Man, as described ethnographically for Melanesian societies and modeled by Sahlins (1972). Here, the upcoming leader gains prestige and power by giving away valuables and/or staples to the persons he is attempting to draw into debt to him and in support of him. The valuables or staples commonly are needed by those persons to fulfill social obligations of a kind (e.g., bridewealth, blood money, feasts, and give-aways at rites of passage). It is not difficult to imagine a Hopewell person who aspires to be socially important acquiring specimens of a potent mineral, herb, "medicine", or other natural product through travel to its source or through trade partners and then ceremonially "giving" them away[18] to others, thereby increasing his or her prestige, but also spreading the valuables through the society. The distribution of central Missouri galena in lower Illinois valley sites and upper Mississippi valley galena in Copena sites (Walthall 1981), as described above, could easily be explained in this way or by the other forms of local exchange.

Regional, Symmetric Exchange of Valuables

Valuables exchange at a regional level, involving "close strangers", has been modeled by Flannery (1967). He was concerned with explaining material similarities between Formative-period communities in the valley of Oaxaca, Mexico, and the central highlands generally, and the Olmec communities in coastal Veracruz and Tabasco. The similarities include both concepts expressed in

nonportable material culture (ceremonial architecture, iconography) and portable prestige raw materials and finished items, as in the Hopewell case. Early and Middle Formative ceremonial architecture and iconography in Oaxaca incorporated elements found among Olmec sites, but not vice versa. Oaxacan sites have yielded Gulf Coast mussel shell, turtle shell, and a crocodile mandible, while Olmec centers have borne magnetite and ilmenite that was concentrated and worked in quantity in one Oaxacan site, and obsidian and greenstone from the highlands (Flannery 1967:68; Grove 1997:84–85).

To explain these distributions, Flannery built a model of regional valuables exchange among elite through ethnographic analogy to the fur "trade" of the coastal Tlingit and inland Athabascan groups in the Pacific Northwest, and to the jade and food "trade" of the valley Shan and highland Kachin in Burma. The regional scales of all three exchange systems are roughly similar to each other and to certain interaction spheres in the Hopewell world. From the valley of Oaxaca to Gulf Olmec centers it is about 175 miles. The Tlingit–Athabascan and Shan–Kachin exchange systems spanned about 50 to 100 miles. These distances equate, at most, to those between adjacent northern Hopewellian phases, such as Scioto Hopewell and Mann phase Hopewell, the latter and lower Illinois valley. Hopewell, or Scioto Hopewell and the Goodall focus, but not to the distances between these northern traditions and ones of the mid Southeast and deep Southeast (e.g., Copena, Marksville, Santa Rosa–Swift Creek, Porter, Miller). Also relevant to the analogy is that the interacting Pacific Northwest and Burmese groups spoke different languages, i.e., were "close strangers," which was true of the Native American tribes that historically were spread over the territories of the above-named northern Hopewellian traditions.

The Northwest Coast and Burmese exchange systems worked as follows. The Athabascans were egalitarian groups, and the Kachin egalitarian and simple rank societies. Both groups lived in highland territories having valuable raw materials (furs in the first case; jade, amber, tortoise shell, gold, and silver in the latter). These goods were coveted by the elite of the stratified lowland Tlingit and Shan societies for use as symbols of prestige, for competitive display, and, in the Tlingit case, also for give-away and destruction through potlatching. In both exchange systems, headmen or chiefs from highland groups and nobles or princes from lowland groups entered into gift-giving partnerships, which were cemented by the exchange of daughters for marriage. The Burmese system also involved the Shan elite, who had agricultural surpluses, gifting rice and sometimes valley-bottom rice land to the Kachin elite, who had more marginal subsistence yields.

Flannery's model of regional exchange, based on these two ethnographic analogs, has characteristics beyond scale that are both different from and similar to the models of local exchange described above. First, regional exchange and display of exchanged prestige goods are exclusively or largely restricted to the upper eschelons of the exchanging societies rather than potentially open to persons of all levels of prestige in any frequency (Dalton 1977, in Renfrew and Bahn 1991b:311; Flannery 1967:81). Local exchange is typically more open. Second, although the exchanges of gifts and daughters in regional exchanges are symmetric and the parties involved are structurally equivalent as social elite, their prestige differs. This encourages emulation of the cultural ways and status symbols of the more prestigious elite (e.g., Tlingit, Shan) by the less prestigious elite (e.g., Athabascans, Kachin), some practices of which may then filter down to the remainder of the society. Third, regional exchange may involve simply the exchange of items or persons of value, without parallel exchanges of food or utilitarian items, as in the Tlingit–Athabascan case. Regional valuables exchange among elite can be motivated simply by their desire to raise their prestige and bolster their leadership positions within their own communities with the foreign status items they receive. In contrast, local valuables exchange is typically paralleled by utilitarian exchange, formally or informally.[19] Fourth, because the parties involved in regional valuables exchange are "strangers" and may speak different languages, the practices of exchange are typically heavily ritualized (see Seeman 1995).

To these characteristics of regional valuables exchange can be added a qualification of Helms (1976:133, 136, 176), which is based on ethnohistoric and ethnographic analogy to interaction among Panamanian chiefdoms. Helms posed that leaders in rank societies, to be effective, must evidence knowledge of the supernatural, upon which their claims to leadership in part are typically built. She also notes that to travel beyond a circle of neighboring tribes to unknown territories inhabited by unknown peoples/beings is tantamount in some non-Western societies to traveling to little-known supernatural worlds of the cosmos. The near–far axis and the ordinary–supernatural axis may be confounded philosophically (but see Huntington and Metcalf 1979; also Eliade 1964).[20] Thus, elite who travel in the course of obtaining and exchanging valuables bolster their status not only with rare material symbols of rank, but also with esoteric knowledge and experience of supernatural worlds obtained in their journeys, as evidenced by those symbols. This same logic applies to traveling elite in egalitarian and emerging rank societies (Netting 1972). Helm's qualification may not apply to regional-level valuables exchange among groups who are culturally and linguistically different yet know a fair amount about each other, such as the Shan and Kachin, who knew enough to dislike each other. The interpretation is more likely to apply as the distance of regional valuables exchange increases, such as between highland and lowland Mesoamerica, or between adjacent northern Hopewellian traditions, where the average community member might know little about the distant lands.

Archaeological evidence for regional valuables exchange among Hopewellian societies that is in line with the above-described characteristics is reasonable to explore, at least considering a broad perspective on the nature of Hopewell. First, differences in sociopolitical complexity of the kind found between the Tlingit and the Athabascans may have occurred among Havana, Mann phase, and Scioto Hopewell societies (Braun 1979; J. A. Brown 1979:219; Struever 1965; but see Buikstra 1976), and between southern Havana or Scioto Hopewell and Goodall focus Hopewell. The organizational

differences among these Hopewellian communities, if real, would have afforded a motivation for valuables exchange and leadership emulation and would suggest the applicability of Flannery's model. It is true that firm statements about differentials in sociopolitical complexity among these traditions cannot yet be made, because mortuary analyses of their social organization have not been made or have generally been site-specific rather than regional in scope (e.g., Braun 1979; Brown 1981; Greber 1979; Tainter 1975a, 1977; see also Carr, Chapter 2, Buikstra and Charles; Carr, Chapter 3, Community Ceremonial–Spatial Organization; and Carr, Chapters 6 and 7, for exceptions). However, differences in the amounts and ranges of material symbols accumulated in the above-compared Hopewellian traditions, and in their earthmoving endeavors, are clearly evident and substantial,[21] and these visible conditions may be more directly relevant to the question of applicability of Flannery's *emulation* argument than social complexity per se—which was the variable he emphasized.

A second aspect of Hopewell that invites us to explore the applicability of Flannery's model is found in a conclusion of Struever's (1964:88). He held that fancy Hopewellian artifacts and raw materials deposited in mortuary contexts were not specifically mortuary ceremonial goods but, instead, were status markers used by elite persons in rituals and social contexts within community life generally. This he surmised from the occurrence of such items, to some extent, in domestic contexts as well as in burials. Flannery's model deals specifically with the exchange of fancy items as status markers.

Finally, note that Flannery's model of regional valuables exchange stands distinct from both Renfrew's (1986) concept of "peer polity interaction" and the "prestige goods economy" model summarized above, and appears more applicable to regional-scale Hopewellian interaction than the latter two. Flannery's model poses significant differences among the exchanging polities in their socio-political organizational complexity and the positional security and institutionalizing of their elite, whereas Renfrew's construct does not. Such organizational differences appear to distinguish Hopewellian

societies in certain different, neighboring regional traditions, as just mentioned, and give priority to Flannery's model. Also, Flannery's ideas pertain to the exchange and emulation of specifically elite status items, not valuable items that were used locally as currency by non-elites in making critical social payments and that were monopolized by rising elite, as posited in the prestige goods economic model. The restricted distributions of Hopewellian interaction items to a minority of burials within Hopewellian cemeteries over the Woodlands again suggests the greater relevance of Flannery's model to the Hopewellian case.

Unambiguous cases of specific artifacts or artifact classes that were exchanged at a regional scale are few. Seeman (1979a:330) and Struever and Houart (1972:74) agreed that platform pipes were exchanged from Scioto Hopewell communities west into those of the Crab Orchard and Havana traditions. However, Penney's (1989:174–191) stylistic analysis of 117 effigy platform pipes from the Scioto, Havana, Crab Orchard, and other traditions disclosed only 2 as having likely been made by the same hand yet buried in different cultural areas—those from the Rutherford mound in the Crab Orchard area and the Bedford mound in the Havana area (Penney, p. 185). Mineralogical analyses of Havana platform pipes by Farnsworth (1997), Hughes et al. (1998), and Wisseman et al. (2002) support Penney's finding (see above). Hopewell ware pottery, including bird-effigy vessels, from the Havana, Crab Orchard, and Scioto traditions, bears strong resemblances that Struever and Houart (1972:74) interpreted to represent regional exchange. Griffin et al. (1969:1) thought that limestone-tempered Hopewell ware made in the lower Illinois valley was traded or carried into central and northern Illinois and western Michigan. Of these Hopewell ware pots, only the one from the Newcastle site, Indiana, which resembles pots from the Steuben, Knight, and Norton sites in Illinois (Swartz 1971:4, in Seeman 1979a:379), and the vessel from the Esch mound group, Ohio, which resembles Havana Hopewell vessels (Prufer 1961a:476), were assessed by Seeman (1979a:378–379) to have possibly been exchanged. Only a rare few Hopewell ware

vessels from the Mann site have been shown, through compositional analysis, to have been foreign to this site (Ruby and Shriner, Chapter 15). Compositional analyses of Hopewell ware from southern Illinois and Ohio (Fie 2000; Stoltman 2000; both summarized above) and a stylistic analysis of specifically bird-effigy vessels from the two regions (Penney 1989:207–225) have not revealed any foreign Hopwell ware vessels there. Copper celts and clay figurines were once thought to have been exchanged among Ohio, Indiana, and/or Illinois Hopewellian peoples (Struever and Houart 1972:74), but these conclusions are not consistent with stylistic and distribution studies (Keller and Carr, Chapter 11; Bernardini and Carr, Chapter 17).

The possibility that obsidian was obtained from the Rocky Mountains by Ohio and/or Indiana Hopewell peoples and exchanged from one or both of these communities to Havana peoples in Illinois (Struever and Houart 1972:74) remains a reasonable but still tentative interpretation, considering the smaller amounts and sizes and the lesser formality of obsidian specimens in Havana sites than those at the Hopewell site, Ohio, and the Mt. Vernon site, Indiana (Note 5; Wiant 2000). The similarity of Illinois and Ohio specimens in their percentages from various obsidian sources supports this interpretation over the idea of independent acquisition of obsidian by Havana and Scioto Hopewell peoples. Alternatively, this case may represent an example of the travel of aspiring social leaders from Illinois to centers of learning in Indiana or Ohio, and/or from Indiana to centers of learning in Ohio (see the following section).

The possibility of regional-scale exchange remains open for most classes of Hopewell Interaction Sphere items, which have not been studied.

Interregional, Asymmetric Exchange of Valuables

Exchange of valuables interregionally among "foreigners" has been modeled and explained by Helms (1976; see also 1988, 1993). Her ideas applied to this geographic-scale complement those of Flannery's for regional-scale valuables

exchange, although she did not make this scalar distinction herself.

The interregional expanse of the exchanges that Helms addresses is on the order of hundreds of linear miles, typically making impractical the parallel exchange of utilitarian and subsistence goods found in local valuables exchange systems and some regional valuables exchange systems (see above). Thus, the impetus for interregional exchange in Helm's view is not directly material but, rather, sociopolitical: to augment and validate the authority of leaders with esoteric knowledge, ceremonial practices, and material symbols of knowledge and power sought out from foreign (i.e., supernatural) realms. As in regional valuables exchange, long-distance exchange is undertaken only by leaders of societies or those aspiring to become leaders. However, the form of exchange among leaders differs from that in regional exchange: It is *asymmetric*. Leaders travel afar to study under and to learn esoteric matters from more prestigious leaders, providing their teachers with gifts and perhaps receiving ceremonial paraphernelia or other valuables that symbolize and prove their acquisition of knowledge. Leaders who serve as teachers are perceived as powerful because of their geographic distance from the homelands of their student-leaders, the greater sociopolitical complexity and perceived power of their polities, and the greater elaboration of the religious practices, concepts, and oral literature over which they have command, according to Helms (1976:129–143, 177).

Helms (1976) based her ideas on the learning networks of high chiefs (*quevis, nelas*) and shaman-like practitioners (*tequinas*) of the Cuna in Panama. In Cuna culture, a high value is placed generally on knowing about things, particularly their origins, as a means for controlling things (Helms, p. 120). In chiefdomship and shamanic leadership, "an understanding of the powers of nature and of the origins and history of human society and its relationship with the natural–supernatural realms legitimized chiefly rule" [and shamanic practice] (Helms, p. 127). Chiefs and shaman were admired for their displays of traditional esoteric knowledge and held status challenges with other chiefs and shaman of similar position to show their control over "secrets" and the hidden essences of things (*purba*) (Helms, pp. 73, 126). The specialized ceremonial languages and metaphors used by chiefs (Helms, pp. 124–125), their abilities to creatively use traditional cultural metaphors (Helms, p. 125), and apparently in prehistoric times the zoomorphic, gold symbols of their education in distant capitals of learning in Columbia (Helms, p. 119) each demonstrated their knowledge and power. Cuna chiefs and shaman in the late 19th and 20th Centuries traveled to eastern Panama and into Columbia to traditionally known places of learning to study with teachers (Helms, pp. 129–131), sometimes for years and with regular trips back to their teachers afterward.

Making one or several educational journeys or "knowledge quests" (Helms 1976:140) to one or several different teachers was essential to the making of a chief in the Cuna world. Helms argued that those Cuna who were born of a high-status chiefly line and were thought to inherently have great potential for power (*niga, kurgin* [Helms 1976: 74]) nonetheless had to activate it—through their educational stays in foreign places associated with the unfamiliar and supernatural, through their journeys in trance to mystic levels of the Upper and Lower Worlds of the cosmos, and through ritual practice. Her conclusion is based on a 20th-Century example of a Cuna leader and by way of analogy to Polynesian chiefs (Helms, pp. 71–72, 119, 137–139).

In Helm's theoretical perspective, and in light of the Cuna analogy, to say that interregional valuables exchange had as its goal the acquisition of fancy items for a leader to evidence his or her power would be to miss the point. The commodity sought in Helms's view is esoteric knowledge, which could be used in public ceremonial displays to extend the reputation and sphere of influence of a chief, to outcompete rivals, and to impress and maintain the support of followers within the chiefdom (Helms 1976: 109). Esoteric knowledge was a more fundamental "scarce resource" (Helms, pp. 175–176) than material symbols of it. Moreover, Helms challenges us to replace the picture of symmetric exchange between foreign leaders in some ritualized gift-giving context, as discussed in the previous section, with an asymmetric one: the image of

a student-leader learning from a renowned leader in a foreign land and paying in valuables and labor, with the return of perhaps a few elite, material symbols of schooling. In my thinking, in light of ethnographic analogs, these two views of elite valuables exchange are not competing, as Helms (pp. 172–175) seems to argue, but differ in their probability of occurrence according to geographic scale and modes of travel. With greater distances and travel times among polities, asymmetrical valuables exchange among elite becomes more probable, and symmetrical exchange less so.

Helms's idea of leaders traveling long distances to learn esoteric knowledge, including how to perform religious ceremonies, recall's Penney's (1989) notion of medicine persons or others journeying afar to learn powerful ceremonies and buy the rights to perform them, as documented ethnographically among Plains and Woodlands Native Americans. However, in Penney's framework, those who bought religious prerogatives were not specifically community leaders, but any individuals, with varying degrees of community recognition, who were seeking power in general or power to control specific things. Moreover, buying of religious prerogatives in historic North America did not involve the long periods of learning documented for Cuna leaders.

Helms's interpretive framework has potential for helping us to understand the interregional distribution of at least some Hopewellian valuables and concepts, when taking a broad view of them. It is true that we do not know the value system of Hopewellian peoples, and whether it emphasized the learning of esoteric knowledge to control life or would have encouraged long-distance travel to leader-teachers of esoteric knowledge. However, the heavily shaman-like nature of Hopewellian ceremonial paraphernalia and leadership symbols, and the visual complexity of their art system, both suggest a rich ideology that could have been supported by such a value system.

Examining specific Hopewellian artifact classes, it is clear that Helms's interpretive framework is not useful for explaining the distributions of several distantly moved Hopewellian

material exotica because their sources were in sparsely populated territories without ceremonial centers of learning. Obsidian brought from the Rocky Mountains, copper from the upper Great Lakes and the Ducktown, Tennessee area, and mica from the southern Appalachians, for example, do not fit the model. However, conch shells, barracuda jaws, shark teeth, and alligator teeth, which were buried in Scioto Hopewell sites but are not found in other sites between Ohio and their Gulf/Atlantic coast sources, may well be explained by Helms's ideas. Conch shells, barracuda jaws, and shark teeth were specifically used in religious ceremonies in the Southeast, the first for serving the black drink (Hudson 1976:229, 373, 398), and the last two for scratching persons (to let blood as a sacred offering) in preparation for participation in ceremonies. Moreover, the items are fairly rare to very rare in Scioto Hopewellian sites, much as the gold zoomorphic artifacts that Helms concludes were gifts from Columbian teacher-leaders to Panamanian student-leaders. Conchs, barracuda jaws, and shark and alligator teeth could logically have been either gifts made to Ohio teacher-leaders by Southeastern student-leaders or symbols of acquired knowledge given by Southeastern teacher-leaders to Ohio student-leaders; the geographic distribution of the items does not discriminate the two possibilities. Other reasonable interpretations for the northward movement of these four Southeastern items include Scioto Hopewell peoples having bought religious prerogatives and these items from Southeastern persons and the direct procurement of these items at their Southeastern sources by Scioto Hopewell persons who journeyed afar in the course of vision and power quests. Long-distance symmetrical valuables exchange among elite seems less likely, given the relatively modest value that these four artifact types would have had to peoples and leaders of the Southeast, where the items are common.

The southward movement of galena from its concentrating area in Scioto Hopewell centers to Copena sites (about 325 miles) and then to Mandeville and McQuorquodale (about 250 miles), as described above (see Archaeological Evidence for Long Distance Exchange), could indicate the

travel of leaders seeking training and teacher-student gift/token-giving over a string of learning centers. Again, the travel of students to foreign centers could logically have been in either direction. An equally plausible interpretation of this movement of galena would be the long-distance symmetric exchange of valuables among elite. Galena is rare in both the Midwest and the Southeast, and would likely have been seen as valuable/powerful to peoples in both regions. Another alternative interpretation—pilgrimage to a ceremonial center—must also be considered.

It is possible that Havana Hopewell aspiring leaders from Illinois ventured to Ohio and/or Indiana to be trained in esoteric issues by mentors there and were given small, token gifts of obsidian to bring back with them. This interpretation is supported by an apparent westward movement of obsidian from centers in Ohio and/or Indiana—at least the former of which directly procured it in the Rocky Mountains—to Illinois communities. That movement is indicated by the much smaller amounts and sizes and the lesser formality of obsidian in Illinois sites than at the Hopewell site, Ohio, and the Mt. Vernon site, Indiana (Note 5; Wiant 2000). Also supporting the interpretation of Havana rising leaders traveling to Ohio or Indiana for training, and weakening the case for independent acquisition of obsidian by Havana and Scioto Hopewellian peoples from the Rocky Mountains directly, is the similarity of Illinois and Ohio obsidian specimens in their proportions from various obsidian sources (Note 5). Alternatively, the data could reflect elite exchange between Havana Hopewell communities and Ohio and/or Indiana communities, with obsidian having moved westward and other items eastward. Neither the Helms model of student-leader traveling to a distant mentor nor the elite exchange scenario, however, accord with the wide, largely sparse, distribution of obsidian among dozens of village sites in Illinois along the Illinois and Mississippi river valleys (Wiant 2000). This distribution suggests relatively open access to obsidian in Illinois, rather than its restriction to elites and to elite training or exchange. If either the traveling student-leader or elite exchange situation apply to the Illinois case, this activity was followed by local exchange of obsidian within Illinois.

The case of the roseate spoonbill brought alive from the Southeast to Illinois (see Archaeological Evidence of Long-Distance Exchange, above) could represent long-distance asymmetric valuables exchange of the kind envisioned by Helms, instead of the long-distance symmetric exchange of valuables among elites. The spoonbill could have been either a token symbol of acquired knowledge given by a Southeastern teacher-leader to a Midwestern student-leader, or a gift-payment to a Midwestern teacher-leader by a Southeastern student-leader. Again, the alternative explanation of pilgrimage to a ceremonial center, either in the Southeast or in Illinois, also remains a possibility.

Finally, the several kinds of fancy, decorated, foreign-made vessels found at the Pinson Mounds site, Tennessee (Stolman and Mainfort 2002:16) could indicate the travel of rising leaders from various portions of the Southeastern United States to Pinson—the premier Hopewellian center in the Southeast—for training. Santa Rosa-Swift Creek vessels from the greater northern Florida area, a Larto Red vessel from the southern Lower Mississippi valley, and check marked vessels and a fabric impressed vessel, all identified petrographically to have been produced elsewhere than Pinson Mounds, are telling. These vessels, and/or their contents, could represent gifts to important teachers at Pinson. Other possible interpretations of these foreign-made vessels include pilgrimage and symmetrical valuables exchange among elite. The great bulk of foreign-style vessels found at Pinson, which were made locally (Mainfort et al. 1997), are more in line with the practice of pilgrimage, given their substantial quantity there (see Pilgrimage to Ceremonial Centers, above). Other foreign style or foreign-made vessels found in the Duck's Nest Sector of the site (Mainfort 1986:31, 35, 46; 1988:167–168) are much more readily interpreted as the remains of a ceremonial gathering analogous to the historic Huron and Algonkian Feasts of the Dead (Carr, Chapter 12; Mainfort 1986:46).

Helms's (1976) model informs us of not only the possibility of aspiring Hopewellian leaders having traveled far in their quest for esoteric knowledge, with accompanying gift giving

and the interregional spread of ritual items. The model also suggests, in this context, the possible nature and roles of Hopewellian ceremonial centers. A great Panamanian Cuna chief-teacher might have as many as 20 to 50 student chiefs who studied with him (Helms, p. 132). These persons constituted for the chief a "fund of power" and a source of prestige (Sahlins 1972) in their ritual and mundane labor for the chief, and in the ritual gifts they gave to him, during the course of their studies. It is possible that some or all of the clusters of domestic debris (apparent residences) and the wooden buildings used for manufacturing ritual items within the confines of the Seip earthworks, Ohio (Baby and Langlois 1979; Greber 1997:216), indicate, among other interpretations, the areas of tutelage, ritual practice, payment in the form of ritual manufacture, and temporary residence of local and foreign students of one or more renowned Ohio Hopewellian leaderteachers. A similar interpretation might apply to some of the clusters of domestic debris within the Mann site (Ruby 1997e). Only further excavation and artifact analysis can bear out or refute these and alternative propositions.

ELITE-ORCHESTRATED TRANSFERENCE OF RELIGIOUS CULTS

A final means by which Hopewellian material culture, ideas, and practices may have been disseminated over the Eastern Woodlands is through the transference of religious cults among clans or other tribal segments, which in turn was orchestrated by competing Big Men to facilitate supralocal exchange and local wealth and prestige. This mechanism is suggested by way of analogy to the Enga regional system of ceremonial exchange and the spreading of cults in highland Papau, New Guinea, as described by Wiessner and Tumu (1999). The introduction of the sweet potato to the highlands, perhaps not unlike the dramatically increased productivity of cultivation of Eastern Agricultural Complex plants in the Midwestern United States during the Woodland Period (Wymer and Johannessen 2002), afforded the possibility of local Big Men

to generate larger local food surpluses. In New Guinea, such surpluses were used locally and supralocally to compete for brides and allies in warfare through the payment of bridewealth and war reparations, while Big Men who helped to finance their followers in these matters gained in prestige. The surpluses were accumulated not simply within networks of kin locally, but also through two potent networks of ceremonial regional exchange—the Tee cycle and the Great Ceremonial Wars exchange festivities—which greatly expanded geographically and in the generation of wealth after the sweet potato was introduced. These two networks eventually came to connect more than 355 clans over a distance of about 85 kilometers (55 miles). In the Tee cycle, which came to replace the Ceremonial Wars, initiatory gifts moved down the chain of clans, main gifts of pigs, utilitarian goods, and valuables were reciprocated in the opposite direction, and then large kills of pigs and festive distributions of pork moved in the first direction, repaying those who had given the main gifts.

Organizing a clan to generate wealth for ceremonial exchange and articulating neighboring tribal segments and tribes in a milieu of increasing wealth, competition, and new and wider social relations were difficult for clans and their Big Men. So too, were setting agreed-upon times for the different stages and ceremonies of the Tee and Ceremonial Wars, and maintaining a spirit of cooperation among all exchange participants over the course of a ritual exchange cycle. These difficulties were overcome by the conscious crafting, innovation, and circulation of ritual cults, which integrated the necessary parties. The cults involved sacred objects, rites, and spells, which were intended to improve individual and clan prosperity. One cult—the bachelor's cult—involved young men making voyages to purchase sacred objects from another clan, as a part of their social transformation into adult men integrated with a broader community. Cults were exchanged for wealth and, once bought, could be altered by the purchaser and sold to others. Thus, cults were traded and reworked like material objects, without restriction by any centralized religious authority, and in accord with local needs of the moment and management by local leaders.

The buying and selling of cults that occurred in New Guinea are similar to the buying and selling of ritual prerogatives that occurred in North America, as posed by Penney (1989; see above) to explain interregional Hopewell, but involved an entire clan, which was led in its decisions by a Big Man, rather than the efforts of one individual.

The Enga system of ceremonial exchange and cults is instructive when considering how Hopewellian ideas, ways, and materials might have spread because it shows how several of the mechanisms enumerated above may *combine* to form a regional system of interaction. The Enga case encompassed the spread of cults, buying and selling of ceremonial prerogatives, local valuables exchange, intermarriage across community lines, Big Man-orchestrated competitive displays (e.g., Tee feasts, the Ceremonial Wars), and personally transformative journeys to obtain sacred objects.

The Enga system is not a reasonable analog for Hopewellian interaction among regional traditions across the East, given differences in scale, language diversity, and community distribution between the Enga and Hopewellian cases. The Enga system spanned a linear distance much smaller than the Eastern Woodlands and, instead, approximated the expanse of a single Hopewellian tradition, such as the lower Illinois valley Havana Hopewell, the Scioto Hopewell, or the Tennessee valley Copena Hopewell. While the Enga spoke dialects of one language, and would fall within Helms's category of "normal people," interregional Hopewell spanned Helms's "normal people," "close strangers," and "foreigners" (see above). Finally, while the Tee Cycle, the Great Ceremonial Wars, and specific cults connected a near-spatial continuum (i.e., cline) of communities, the communities that participated in Hopewellian ideas and practices had a patchy (i.e., nodal) distribution over the East, possibly restricted to areas of high resource potential (Struever 1964:89, 95–96, 99–105). These distinctions imply significant differences in the nature of intercommunity social interaction in the two cases, with regard to social distance, formality, bridging symbolism, and perhaps the frequency of interaction.

The Enga case may, however, give insight into Hopewellian interaction within regional traditions. It is not hard to envision ceremonial events functionally like the Enga Great Ceremonial Wars having occurred at various prescribed earthworks and times in Ross County, Ohio, bringing together communities from several tens of miles away in competitive displays, exchange, and alliance creation. One can also easily imagine a string of communities along the lower Illinois valley, each focused on a flood plain mound center, having been tied together in a cycle of exchange like the Enga Tee. Finally, the dynamic innovation and spread of cults to keep such exchange systems going among the Enga may have characterized Hopewellian intraregional exchange, as well. The diverse nature of the large ceremonial deposits of copper symbols, copper earspools, copper breastplates and celts, smoking pipes, mica sheets, obsidian, galena, and quartz crystals found in different Scioto Hopewell mounds (Carr et al. Chapter 13) may evidence the active innovation, spread, and short life of various cults that helped to organize and schedule Scioto Hopewellian exchange systems and keep up a spirit of cooperation among widespread participating communities.

Speaking against this analogy of Hopewell corporate ceremonialism to Enga ceremonial cycles, at least in the Ohio case, are Clay's (1992:79–80) criticisms of the interpretation of pre-Hopewellian Adena societies as Big Man societies, which also hold for Ohio Hopewell societies (see Carr and Case, Chapter 5). Clay rightly pointed out that the power of Melanesian Big Men, and we would add their ability specifically to fuel corporate ceremonialism of the Enga type, is based on their capability to amass large surpluses. In contrast, the rarity of storage pits in Ohio Hopewell habitation sites suggests subsistence productivity at the level of family consumption alone, although recent paleoethnobotanical syntheses for the Havana and Ohio Hopewell traditions (Wymer and Johannessen 2002) may place this in debate. Second, Clay notes that the ceremonies administered by Melanesian Big Men are staged near their own houses, creating an essential identification among the Big Man, place, and power. The dispersed settlement pattern

of Ohio Hopewell communities and the use of Ohio earthwork ceremonial centers by leaders from multiple communities do not indicate this key symbolism. The Enga case is perhaps more instructive in showing how competitive displays, the spreading of cults, buying and selling of ceremonial prerogatives, local valuables exchange, and intermarriage among communities may have been combined in Hopewell life and in the spread of practices, ideas, and material forms within a regional tradition than it is in epitomizing the nature of Hopewellian leadership. Archaeological evidence for the primarily shaman-like rather than Big Man-like nature of Ohio Hopewellian leaders (Carr and Case Chapter 5) supports this conclusion.

SOCIAL RECEPTIVITY TO FOREIGN WAYS

Of the many mechanisms enumerated above by which Hopewellian raw materials, artifacts, practices, and ideas came to be spread across the Eastern Woodlands, some require, in addition, that local communities were receptive to and accepting of such foreign elements, so that they gained in popularity in their new cultural setting. Intermarriage, spirit adoption, buying of religious prerogatives, and emulation involved in regional-scale, elite valuables exchange each offer the opportunity for the spread of a foreign idea or practice within a local community, but contingent upon local receptivity.

A society at large can be more or less receptive to outside contact, ideas, and practices for very many philosophical–religious, political–ideological, social organizational, technological, demographic–labor, and ecological reasons (Roe 1995:38–55). The very patchy distribution of Hopewellian material traits across the Eastern Woodlands during the Middle Woodland period (Struver 1964) reflects the lack of acceptance of Hopewellian ideas and practices by many Woodland societies at large. A well-documented example is the persistence of Adena ritual practices among communities in the Hocking and the central and lower Muskingum valleys (Black 1979; Carskadden and Morton 1996:320–321,

326–327), several centuries after their geographically close, Scioto valley neighbors had been heavily creating and investing in Hopewellian ways.

At a smaller scale, different segments and personae of a society—males and females, groups of different rank or wealth, leaders and followers—may vary from each other in their receptivity to foreign cultural elements for reasons as diverse as those pertaining to whole societies (e.g., Roe 1979; 1995; see also Cannon 1989). Thus, a well-grounded understanding of the spread of Hopewellian ideas and practices and the mechanisms of their dispersal requires the study of many different functional categories of material culture that were produced and used by different segments of society, which potentially varied in their openness to foreign culture. It is likely that the differing geographic distributions of various finished Hopewellian artifact classes over eastern North America (e.g., Seeman 1979a, 1995) reflects in part the differing receptivity of different social segments and personae in different regions to the ideas and practices enmeshed with those various artifact classes.[22]

The topic of the receptivity of a particular kind of social segment/persona to foreign Hopewellian ways, and its variation across regional traditions, is taken up in this book by Keller and Carr (Chapter 11). They document similarities and differences among three Hopewellian regional traditions in the style of terra cotta figurines, which in all probability were made by females,[23] and then infer the varying receptivity of female artisans in those different societies to foreign designs. Illinois Havana Hopewell, Indiana Mann phase Hopewell, and Ohio Scioto Hopewell are the regional traditions examined. The authors find that, in all three traditions, figurines were probably produced and used in open social–ceremonial contexts rather than closed, secretive ones. This would have allowed the free spread of visible stylistic traits—such as the natural style and clay medium of the figurines—across traditions, which is observed. At the same time, female producers of figurines in the three traditions differed in their acceptance of styles for rendering somewhat less visible, facial features such as the nose,

eyes, mouth, and ears. Figurines from the Mann phase vary widely in the style of these features, sharing in some styles found in the other two regions. This suggests a wide network of "active interaction" of female artisans of this tradition with those of others, and the receptivity of Mann phase figurine makers to foreign styles. In contrast, Havana and Scioto Hopewell figurines are more uniform and limited in the style of their facial features. This implies a strong network of artisan interaction within each region, strong grammatical rules in form and production rather than family or individual-generated stylistic innovations, and little acceptance of extraregional styles. The greater receptivity of Mann phase females to foreign figurine styles is paralleled by their[24] acceptance and reproduction of Southeastern, Swift Creek, complicated stamped pottery decoration styles, vessels of which are common at Mann phase sites and were made locally, but very rare in Scioto Hopewell sites and apparently nonexistent in Havana Hopewell sites (Ruby and Shriner, Chapter 15).[25] In turn, the openness of Mann phase females to foreign styles and their greater interaction with neighboring groups may relate in part to the location of the Mann phase in a major riverine crossroads—near the conjunctions of the Wabash, Tennessee, and Cumberland rivers with the lower Ohio River.

A fruitful extension of Keller and Carr's study would be stylistic analyses of artifacts likely made by men, in order to infer their receptivity to foreign styles compared to that of women in each of the three regional traditions. Documenting the interregional spread of Hopewellian ideas and practices along multiple lines, possibly distinguished by gender or other dimensions of social segmentation, could prove useful in understanding the distinct geographic distributions of different Hopewellian material traits, and the social–ceremonial nature of Hopewell.

SUMMARY AND CONCLUSIONS ON INTERREGIONAL HOPEWELL

When an actor-based view of the spread of Hopewellian ideas and practices across the Eastern Woodlands is taken, and when ethnographic descriptions of long-distance human travel and interaction are considered, a wide diversity of mechanisms of dispersal and motives for dispersal of Hopewellian material culture are suggested as logical possibilities (Table 16.1). Cautious and systematic review of archaeological evidence relative to ethnographically derived expectations indicates that most of these mechanisms probably operated in Hopewellian times. The strongest examples are summarized in Table 16.2, following from the above discussion.

From this table, it can be seen that no single mechanism is a satisfactory explanation of much or all of the spreading of Hopewellian ideas, practices, and material culture. This finding is fully in accord with the great diversity of kinds of Hopewellian artifacts and raw materials, their wide range of religious, social, and other functions, their varying contexts of production and use (e.g., local, nonlocal, mortuary, domestic), and the diverse roles of the individuals who would have used them. *When one considers who was doing what and for what possible social or individual motives, instead of simply tracking the movement of objects over a landscape, the reasons for the distinct geographic distributions of different material classes become clearer.* One would not, for example, expect galena obtained by individual or small groups of medicine persons or aspiring leaders from multiple societies over the East during vision/power quests to be distributed geographically like ceremonial ceramics made by pilgrims at a single ceremonial center. By deconstructing the interregional Hopewellian archaeological record specifically through personalizing and contextualizing it with social roles and motives, interregional Hopewell is made more dynamic and understandable, and also is opened to being generated from local situations. This last task remains a challenge that has been addressed to date only in the most general of terms.

CHAPTERS THAT FOLLOW

The four chapters that follow each address interregional Hopewellian travel, procurement, and forms of interaction that led to the wide distribution of Hopewellian ideas, practices, material

Table 16.2. Mechanisms of Interregional and Regional Dispersal of Hopewellian Raw Materials and Finished Goods, with Strong Evidence

Raw material or finished good	Mechanism
Obsidian in Ohio and possibly Indiana	Vision/power questing or pilgrimage to a place in nature from Ohio and possibly Indiana
Obsidian in Illinois	Travel to Ohio or Indiana centers of learning, or elite valuables exchange between Ohio or Indiana and Illinois
Meteoric iron in Ohio and Illinois	Vision/power questing or pilgrimage to a place in nature from Ohio and Illinois sites
Copper for peoples within the distribution of copper celts in Northern and Midsouthern traditions	Vision/power questing or pilgrimage to a place in nature
Cobalt silver at LeVesconte, Ontario, the Converse site, Michigan, and the Tunnacunhee and Mandeville sites, GA	Vision/power questing or pilgrimage to a place in nature from these sites
Keweenaw peninsula silver at the Hopewell and Turner sites, OH, and possibly the Liverpool site, IL	Vision/power questing or pilgrimage to a place in nature from these sites
Galena in Ohio and Illinois	Vision/power questing or pilgrimage to a place in nature from Ohio and Illinois sites
Galena from Copena sites to Mandeville, GA, and McQuorquodale, AL	Long-distance elite exchange or travel to a center of learning
Conch shells, alligator teeth, barracuda jaws, shark teeth in Ohio sites from the Gulf Coast/Florida Atlantic area	Vision/power questing, pilgrimage to a place in nature, travel to a center of learning, buying of religious prerogatives
A carved river mussel shell in Naples-Russell Mound No. 8, IL, from southeastern GA	Vision/power questing or the travels of a medicine person
Effigy platform pipes in the Scioto, Havana, Crab Orchard, and Marksville areas	Buying of religious prerogatives or travel to a center of learning
A platform pipe at the Rutherford Mound (Crab Orchard area) and one at the Bedford Mound (Havana area)	Elite valuables exchange (chemical testing required)
Bird-effigy pots in the Marksville, Miller, Havana, Crab Orchard, and Scioto areas	Buying of religious prerogatives or travel to a center of learning
A Hopewell ware pottery vessel at the Newcastle site, IN, from the area of the Steuben/Knight/Norton Mounds, IL	Elite valuables exchange (chemical testing required)
A Hopewell ware pottery vessel at the Esch Mound (northeast OH) from the Havana area	Elite valuables exchange (chemical testing required)
Rocker-stamped vessels at the Connestee phase Ice House Bottom site, TN, from southern Ohio	Elite valuables exchange
Connestee-like, simple stamped vessels at several mounds in southern Ohio from the vicinity of the Ice House Bottom, TN	Elite valuables exchange
Clay, painted figurines at the Mandeville site, GA, and the Knight mound, IL	Intermarriage, spirit adoption, or buying of religious prerogatives
"White metal" (silver, iron) overlaid in the central depressions, only, of copper earspools at the Esch Mound (northeast OH), Bedford Mound 4 (IL), and Tunacunnhee (GA)	Intermarriage, spirit adoption, or buying of religious prerogatives
Swift Creek-like complicated stamped pottery made locally at the Mann site, IN	Intermarriage, spirit adoption, or buying of religious prerogatives and their spread locally
Decorated ceramics made locally at the Pinson site, TN, similar in style to pottery from the Marksville, Santa Rosa–Swift Creek, Tennessee valley, and Mobile Bay areas	Pilgrimage to a ceremonial center
Decorated ceramics found at the Pinson site, TN, but produced nonlocally and similar to Santa Rosa-Swift Creek, Larto Red, check-marked, and fabric-impressed styles	Pilgrimage to a ceremonial center, travel to a center of learning, or elite exchange
Fine-spaced, simple stamped pottery found at the Mann site, IN, but produced nonlocally and similar in style to pottery from the Appalachian Summit	Pilgrimage to a ceremonial center, travel to a center of learning, or elite exchange
Roseate spoonbill in Gibson Mound 3, IL, from the Florida/Alabama Gulf Coast	Pilgrimage to a ceremonial center, travel to a center of learning, or elite exchange

styles, raw materials, and, occasionally, finished goods over the Eastern Woodlands. The chapters consider four different kinds of Hopewellian items: metallic celts, metallic panpipes, metallic earspools, and raw and worked silver. These vary interregionally in a number of their characteristics and allow interregional Hopewell to be resolved into some of its variant contents, geographic expanses, and distributional mechanisms, as discussed at the beginning of this chapter. The themes that the chapters address, in various combinations, include: (1) the geographic place(s) of origin of the styles of finished artifact classes, (2) the different geographic distributions of the four kinds of items and what this variation implies about differing forms of interregional communication, (3) the different or similar ideological meaning(s) of each kind of item across its own geographic distribution, (4) the fundamental issue of whether the finished items were exchanged across traditions, or whether Hopewellian peoples from each tradition procured their own raw materials and manufactured the items themselves, (5) the similar or different mechanisms by which each kind of item came to be distributed over the Woodlands, (6) the similar or different social roles of those who employed a given kind of item across its geographic distribution, and (7) the similar or different rituals in which a given kind of item was used across the Woodlands. The conclusions drawn about each of these seven topics in the four chapters that follow are now summarized and integrated.

Origins

Ohio has commonly been interpreted as the place of origin of Hopewellian ideas and practices, which spread from there over the East. The enormous concentration of certain Hopewellian artifact classes and the diversity of Hopewellian artifact classes in Ohio would suggest this interpretation if one indiscriminately accepted the simple logic that the area of origin of a cultural feature is that region with the greatest concentration and/or diversity of the feature—an extension of the old age–area hypothesis (Wissler 1926; see also Harris 1968:374–377). Although undemonstrated for most material aspects of Hopewell,

one finds this assumption embedded in archaeological terminology used today, where Ohio is said to be the "core" of Hopewell (Pacheco 1996).

Two chapters in this book and other evidence refute this position. In Chapter 18, metallic panpipes are found through stylistic study to have had their origins most likely in the Upper Great Lakes Trempealeau region, not in Ohio. Chapter 19 indicates that earspools of early morphology occur as early in the Copena, Havana, and Goodall regions as in the Scioto area. Similarly, the style of Hopewell ware made its appearance earlier in the Havana region than in Ohio (Griffin 1967:184). These probable or possible extra-Ohio origins of some primary markers of Hopewell reinforce the view of Hopewell as an interaction sphere of co-evolving regional traditions (Griffin 1967:184) without one center of origin, and in this regard, not unlike the later Southeastern Ceremonial Complex of Mississippian societies (J. A. Brown 1976). Thus, interregional Hopewell is to be understood as having been generated in several different, local cultural contexts, and its study requires a locally contextualized and generativet approach.

Artifact Classes with Different Geographic Distributions

Metallic earspools, metallic panpipes, and raw and worked silver are each distributed across essentially all the major Hopewellian traditions in the Eastern Woodlands (Seeman 1979a:304, 381). In contrast, metallic celts are limited to Hopewellian traditions in the northern and midsouthern Woodlands. These different distributions suggest the possibility of different cultural mechanisms of interregional communication and imply the need to deconstruct interregional Hopewell geographically. Following Seeman's (1995) and Helms's (1988) lead (see Deconstructing Interregional Hopewell, above), the smaller distribution of metallic celts may indicate interactions among peoples who considered each other "close strangers" and who used bilingualism; out-of-group foster care, education, and marriage exchanges; pidgins; trade jargons; and ritualized behavioral response sequences to

relate to each other. Seeman (1995:134–135) would equate this relatively small area of close strangers, who communicated through linguistic means, with a *Sprachbund*: an area of shared general understandings where people know what to talk about—in this case, Hopewellian society and philosophical–religious beliefs. In contrast, the much more widely distributed earpools, panpipes, and silver imply interactions among groups who considered each other "outsiders", spoke mutually unintelligible languages, and were limited to nonlinguistic, artistic forms of communication such as iconography, music, and dance. These persons probably would have considered each other to have been potentially dangerous yet, by their very unfamiliarity, also powerful and attractive to interact with (Helms 1988). All of these thoughts about the different forms of communication in which different classes of artifacts participated provide a solid groundwork for thinking about the ideological meanings of those artifacts, to which we now turn.

Uniformity and Variability of the Ideological Meanings of Artifact Classes across the Woodlands

Seeman's (1995) interpretation of the different geographic distributions of celts and panpipes posits only that the two artifact classes were involved in different kinds of interregional communication. He did not attempt to define what specific meanings celts and panpipes might have had to Hopewell peoples. This issue and the related one of whether the meaning of a given artifact class varied across regional traditions are taken up in each of the following chapters in Part IV.

The most theoretical of the four chapters in their discussions of artifact meanings is Chapter 17, by Bernardini and Carr. It provides a framework for understanding the social, symbolic, and semantic place of Hopewellian artifacts in local communities and their interregional relations, not simply for copper celts—its subject matter—but also for many other ritual artifact classes. The authors draw from social science distinctions made by Marx (1954), Rappaport (1979),

and Helms (1988), and thoughts on Hopewell by Seeman (1995).

Bernardini and Carr argue that copper celts and other Hopewellian ceremonial artifact classes each had unique values and meanings, and thus articulated socially in local contexts in their own unique ways. The value and meanings of a particular specimen, they propose, were a composite of two independent dimensions: its "canonical" meaning(s) and its "indexical" meanings. Canonical meanings are basic worldview assumptions about the enduring aspects of nature, society, and the cosmos. In pertaining to things outside of a specific ritual or cultural context, they are immutable and unfalsifiable. Indexical meanings are more particular concepts that concern the immediate conditions and relations among people in a given ritual or cultural context. Being concerned with relationships and the immediate, they may vary from situation to situation. In the case of copper celts, their canonical meanings were indicated by their similar shape and material over the northeastern and midsouthern Woodlands. Across the Hopewellian traditions in these areas, celts may have uniformly referred to canoe building and long-distance journeying and power questing via canoe, the felling of trees to make earthworks and ritual architecture, the journey of souls to an afterlife, and/or the institutionalized leadership roles involved in these activities. Ethnographic and archaeological data suggest these interpretations. To own a copper celt thus communicated an attained level of prestige through achievement in one or more of these arenas. The more practical and variable indexical meanings of celts were indicated by their different sizes. Larger and smaller celts indicated the differing abilities of persons to acquire copper—a substance that was economically, socially, and politically costly, and ideologically charged and potentially dangerous—and, by extension, the prestige of a celt owner relative to others. This second meaning also would have been understood uniformly across the geographic areas where metallic celts have been found. That both meanings were shared across regions is argued by the authors finding little relationship between a celt's length and its distance from the upper Great Lakes

copper source. The lack of correlation implies that each Hopewellian tradition with celts acquired copper from the upper Great Lakes independently of others, through long-distance journeying, rather than through interregional exchange of copper and/or celts. Thus, the various regional traditions would have shared experientially in the same mode of acquisition of copper for celts, with all its philosophical–religious, canonical implications listed above. In addition, people in each of the multiple regional traditions would have understood the expense of obtaining copper and the prestige differentials of copper celts of different sizes, that is, their indexical meanings. The interregional sharing of these two dimensions of the value and meaning of copper celts can be considered an example of a coherent *Sprachbund*.

In Chapter 18, Turff and Carr explore the possible meanings that panpipes may have communicated within regional Hopewellian traditions and among peoples from distant traditions who met. Like Bernardini and Carr (Chapter 17), Turff and Carr distinguish between the canonical and the indexical meanings of ceremonial artifacts. The authors point out that historic Native Americans in the northeastern and southeastern Woodlands attributed different sets of indexical meanings to copper, of which panpipes were made. In the Northeast, copper referenced creatures of both the Upper and the Lower Worlds, including the Horned Serpent, Underwater Panther, bear, and Thunderers. In the Southeast, copper apparently was associated with the sun deity, the sacred fire, blood, life and success, the colors red and/or brown, and the East and/or Upper World. All of these meanings, in not spanning the entire Woodlands, are too specific to explain the spread of panpipes across this area. More plausible candidates are some very general, canonical meanings that possibly were attributed to panpipes. One is power, attributed through the association of the copper of panpipes with powerful supernatural beings of one kind or another, through the linking of the copper, silver, and music of panpipes with magical transformation, and possibly through the tying of cedar or sumac, which may have been used in stuffing some panpipes, with purification. Other possible canonical meanings of panpipes include power obtained by long-distance journeying to copper and silver sources; the power of the panpiper in his/her ability to successfully make such a dangerous journey and to manage power; and/or humanness, personhood, and sentience, expressed in the multinote sounds of panpipes, which resembled the human voice in song and speech. Any of these canonical meanings would have fostered mutual respect among foreigners from different Hopewellian traditions who met, helped to smooth social interactions among them, and given the parties a motive for interacting. In being effective in aiding social interaction across the Woodlands, panpipes would have spread over this range. Turff and Carr go on to note that it would have been the musical qualities of panpipes associated with humanness, personhood, and sentience, rather than the symbolic referents of their copper, that were most fundamental to their wide distribution over the Woodlands. The association of panpipes with the meanings linked to copper, such as power, obtained power, and managed power, would have been true of other copper artifacts (e.g., breastplates, celts, headplates) as well, yet these have smaller geographic distributions. In addition, the message of humanness would have been particularly important to communicate among very distant foreigners because, not uncommonly, tribal societies consider others at a far distance to be nonhuman and thus dangerous or unworthy of interaction. Finally, Turff and Carr reject the notion that panpipes imitated specific bird calls or other animal sounds, even though animals figure importantly throughout Hopewell art, because panpipes in different regional traditions were different lengths and probably produced different notes.

A critical conclusion that Turff and Carr reach from their study of panpipes is that interregional Hopewell, or at least the aspect of it represented by panpipes, was not a single religion (contra Caldwell 1964), nor was it an ideological system interwoven with a social structure (contra Seeman 1995:123), nor was it a consistent set of material forms and practices in which uniform ideas might have been expressed. Instead, Turff and Carr pose that interregional Hopewell

was fluid, material–ideological–mental projective process. Panpipes across the Woodlands were similar enough in their forms, materials, and tonal qualities to have allowed Hopewell peoples in different regional traditions to have projected *some* meaning(s)—canonical or indexical, more or less local—onto them, creating familiarity and some common basis for meeting. Upon meeting, persons from different regional traditions may have read somewhat different meanings into panpipes. They almost certainly were not able to appreciate all the specific, indexical connotations that panpipes of copper and their music had in each other's cultures, and they may not have been able to grasp even some core worldview assumptions that panpipes may have differentially expressed in the northeastern versus southeastern Woodlands. However, the roughly similar worldviews and beliefs across the Eastern Woodlands area, which were rooted in shamanic thought and practices, would have ensured that the projected meanings were similar enough to have formed an effective framework for interaction.

Like celts and panpipes, earspools appear to have communicated very general, shared Hopewellian concepts of a canonical kind when Hopewell peoples from distant regions met. The case for earspools is presented in Chapter 19 by Ruhl. There, Ruhl makes a stylistic–technological analysis of earspools across the Woodlands and finds an interesting contrast. On the one hand, poorly visible stylistic–technological traits provide strong evidence for the very localized production of earspools, localized design norms, and minimal exchange of earspools geographically. At the same time, visible aspects of earspool morphology form the same symbol across the East at large—a gleaming metallic ring of light offset from a dark center. Very significantly, Ruhl's chronological seriation of earspools enables her to show that the style of the ring symbol changed in parallel across the East over the Middle Woodland period. These time–space–form patterns in combination suggest a metaphorical, nonverbal form of interregional communication using a key material symbol—in line with Seeman's (1995) and Helms's (1988) model of communication among widely separated

"foreigners". Symbolic communications of this kind, and across great distances, must have been fairly regular for the ring symbol to have followed the same stylistic trend across all regions over the centuries.

The specific canonical meaning(s) of the ring symbol are not discussed by Ruhl. However, it can be mentioned that the contrast between light and darkness seen in earspool design is just one example of a fundamental concern with light and darkness that fully permeates Hopewellian material culture—artifacts, and mound and earthwork soils, alike (see Carr and Case, Chapter 5, for many examples). The contrast most likely represents a basic worldview assumption of Hopewellian peoples in Ohio, where it has been studied in detail (Carr 1998; Carr and Case 1996; Greber and Ruhl 1989:275–284), and probably has its foundations in shaman-like ideologies (Carr and Case, Chapter 5) that would have been known across the Eastern Woodlands and more widely.

Contrasting with the uniform, general, ideological meanings had by celts and earspools, and probably panpipes, across the Woodlands is the apparently dichotomous meaning of silver. In Chapter 20, Spence and Fryer document chemically that Hopewellian traditions across the Woodlands used only two sources of silver, in Cobalt, Ontario, where it occurs in pure veins, and in the Keweenaw peninsula of Michigan, where it is intermingled in small quantities with much more plentiful copper. Different traditions used one source or the other, exclusively, and the source used by a particular tradition was typically that closest or made available through neighboring traditions that used the source. However, this was not the case for Hopewellian peoples in the Scioto and Little Miami valleys, who used only the Keweenaw source, which was more distant than Cobalt silver available to them through neighboring Point Peninsula communities and which was less rich in silver. Spence and Fryer explain this anomaly, and the generally exclusive use of one kind of silver by each Hopewellian tradition, as resulting from the circulation of two concepts of silver among Hopewellian peoples in the Woodlands. In one view, silver was a ritually acceptable material in its own right and could be

gotten from the pure silver Cobalt source. In the other view, silver was associated in some essential ideological way with copper and had to be obtained from the Keweenaw source to be ritually acceptable. Hopewellian peoples in the Scioto and Little Miami valleys would naturally have had the second concept of silver because they procured copper from the Keweenaw peninsula. Spence and Fryer also suggest that the plentifulness of silver at the Cobalt source may have encouraged its association with that place, and with personal stories about taking arduous journeys to that place to obtain it. The personalizing of Cobalt silver procurements could have limited their transfer among persons, including transfer to Hopewell peoples in the Scioto and Little Miami valleys from peoples in the Point Peninsula, Goodall, and northeastern Ohio regions. This limitation would not have pertained to Keweenaw silver, which was acquired as a byproduct of copper mining, and would explain the spread and common distribution of Keweenaw silver among sites within the Scioto valley. Thus, through several kinds of evidence and lines of thought, Spence and Fryer were able to resolve the Hopewellian geographic distribution of silver into two, apparently ideologically distinguished components.

Each of the following chapters in this part of the book, by giving ideological meanings to the whole of the geographic distribution of a raw material or artifact, or by discriminating ideologically different subareas within it, humanize interregional Hopewell. The chapters, along with what has been presented in this one, fill in the Hopewellian landscape with socially, politically, and religiously motivated people who met and interacted in social contexts of varying kinds and with beliefs both shared and distinct.

Whether Finished Artifacts Were Exchanged

The chapters on celts, panpipes, and earspools in Part IV, as well as an earlier one on terra cotta figurines in Part III, each conclude through stylistic studies that there was little or no interregional exchange of these finished goods (contra Struever and Houart 1972). Although celts, panpipes, and earspools were found at the highest frequency by far in the Scioto region, peoples of the Scioto were not normally exporters of these goods to peoples of other regional traditions, and Scioto burial sites were not typically the resting place of these goods imported or brought from afar. The Scioto concentration of celts, panpipes, and earspools is, instead, to be understood as a product of intense, local conspicuous consumption—cooperative and/or competitive—peculiar to this region. Part of the cultural context for this consumption was a three-community alliance and its periodic recreation in the Scioto–Paint Creek area, described in Chapter 7 by Carr.

Distribution Mechanisms

Chapter 20, by Spence and Fryer, resolves the distribution of raw and worked silver over the Woodlands into three possible mechanisms of its acquisition and dispersal, which occurred in different regions. Vision and power quests and/or pilgrimage directly from LeVesconte to Cobalt, Ontario, over 400 kilometers away, to obtain silver are implied by the silver items found at LeVesconte. The silver represents every stage in the technological sequence, from acquisition to processing: raw ore, derived nuggets, partially formed sheets, artifacts, and clippings left from their production. The authors conclude that the remains probably represent a single expedition to Cobalt. The evidence from the Converse site, Michigan, is similar, with raw nuggets and a partially formed sheet. These specimens also suggest direct procurement, or perhaps exchange through a few hands from Cobalt. In contrast, silver specimens from the Scioto Hopewell region suggest multiple expeditions and/or exchange. The specimens all come from the Keweenaw peninsula, where silver occurs infrequently as inclusions within copper, and would have been obtained fortuitously as a by-product of copper mining. One sheet of silver from the Hopewell site and silver overlays on buttons, earspools, and panpipes from the Hopewell, Mound City, and Seip sites in Ohio each are formed from multiple small pieces of silver blended together, and each may represent the accumulated results of several procurement trips or exchange episodes.

The clear conclusion from Spence and Fryer's chapter is that interregional Hopewell was constituted by multiple means of distribution, which varied situationally and, as reviewed above, probably with belief.

Uniformity and Variability in the Social Roles in Which Interaction Sphere Items Were Used

A further topic that helps to personalize interregional Hopewell and reveal its complexity through deconstruction is the social roles in which interaction sphere artifacts were used. In Chapter 18, Turff and Carr document that panpipes varied in their specific social and ritual functions and in the contexts in which they were used, both within and among Hopewellian societies across the Eastern Woodlands. These variations occur despite the fact that panpipes as a roughly similar artifact form were spread widely across the East. In order to reconstruct the uses of panpipes, the authors begin with the observation that panpipes were taken out of life only through burial in cemeteries, primarily in the graves of individuals rather than communal ritual deposits, and usually one panpipe per person, indicating that those buried with panpipes were typically their owners. Panpipes are found to have been buried alone with a person a quarter of the time, suggesting that the panpiper was a social role in its own right. The associations of panpipes with other kinds of grave goods and the social roles indicated by the goods give insight into the structural place of the panpiper in a system of social statuses, the roles with which that of the panpiper was bundled, and by extension, the activities in which panpipes were probably integral. The roles associated with the panpiper turn out to be very diverse, as well as fluid in their combinations. The roles encompassed community-wide leaders marked by celts; sodality members or high achievers marked by breastplates and/or earspools; clan leaders or members of import; and many kinds of shaman-like practitioners, including public ceremonial leaders, producers of ceremonial items from exotic raw materials, diviners in general, war or hunt diviners, healers, and keepers of cosmology and

philosophy. Significantly, regional Hopewellian traditions differ distinctly from each other in the ranges of social roles with which that of panpiper was combined. For example, panpipers buried with shaman-like equipment occur most commonly in the Southeast, while panpipers in the central and northern Midwest rarely had such burial furniture. Considering all role associations, the authors find four broad regions of the Eastern Woodlands that were distinguished in their organization of social roles with that of the panpiper: the northern Midwest, the Northeast, the central Midwest, and the Southeast. These empirical findings clearly make questionable the notion that interregional Hopewell was a single, complex kind of social organization interwoven with a symbol system that marked leadership and/or prestige and that facilitated social interaction (contra Seeman 1995:123).

In Chapter 19, Ruhl infers that earspools in the Scioto and Little Miami valleys of Ohio had both personal and group aspects to their symbolism. They were typically found one pair per burial, suggesting individual use. At the same time, they also were deposited in large offerings, sometimes bundled together, suggesting a reference to some larger corporate group. Corporate group symbolism, and the precedence of the group over the individual, is also implied by the better workmanship of earspools found in large deposits than that of earspools placed in burials. Ruhl goes on to notice that earspools in Ohio were buried much more commonly with adult males than females, suggesting their representation of a corporate group of restricted membership. In Chapter 7, Carr uses this and other contextual evidence to conclude more specifically that earspools marked membership or achievement in a sodality. Interestingly, outside of the Scioto and Little Miami valleys, large ceremonial deposits of earspools do not exist, or at least are very rare (Ruhl, personal communication, 2003), suggesting differences in the nature of the social roles marked by earspools in Ohio than elsewhere, and the unlikelihood that interregional Hopewell was a unified social–symbolic system.

Chapter 17, by Bernardini and Carr, explores the social roles in which metallic celts may have been used. The authors suggest several

possibilities, based on the known utilitarian functions of the stone counterparts of metallic celts. A metallic celt may have symbolized dugout canoe making, canoes, and the long water journeys that the celt's owner made or led to the sources of valued raw materials, such as the copper from which the celts were made, or to unknown and learned peoples. A metallic celt also may have referenced the spirit canoe that a shaman used to make a trance journey to another world, which is a common practice cross-culturally. Further, a metallic celt could have symbolized a person who was involved in or led the clearing of trees to make earthworks or the cutting-down of trees to make charnel houses, log tombs, and coffins, all of which served as containers for the deceased. Proven accomplishment and leadership in any of these domains may have been represented by a celt, especially given that, at least in Ohio, metallic celts were regularly decorated with images of important persons in regalia (Carr 2000c, 2000d; Carr et al. 2000).

It is generally unknown whether metallic celts marked different ones of these social roles in different Hopewellian traditions. However, Bernardini and Carr do note that canoe-shaped coffins, which also would have been constructed with celts and probably connotated the journey of the deceased to an afterlife, were unique to the Copena tradition. Further, earthworks and the social roles involved in managing their construction occurred in only some Hopewellian traditions. It seems likely that celts represented somewhat different social roles in different Hopewellian traditions and, again, that the idea of interregional Hopewell as a single, complex kind of social organization wedded with a unified symbol system that marked leadership is an oversimplification (contra Seeman 1995:123).

Uniformity and Variability in the Rituals in Which Interaction Sphere Items Were Used

Metallic panpipes, celts, and earspools each were used in rituals of varying kinds within and among Hopewellian regional traditions. In Chapter 18, Turff and Carr elucidate four fundamental ways in which rituals involving panpipes differed from

each other. Rituals varied in whether they were directly or only indirectly related to mortuary tasks, as reflected in the contrast between panpipes buried in graves and panpipes buried in a ceremonial deposit lacking human remains. Rituals also differed in whether multiple panpipers gathered and gave gifts to the deceased, perhaps indicating whether a sodality of panpipers and a sodality-run ritual were involved. Rituals also varied in whether panpipes were buried with a mature adult or, much more rarely, a child, young adult, or very old person, the latter three suggesting age-related rites of passage such as naming, attainment of puberty, menopause, the passing into elderhood, and the death of persons at or nearing these ages. Finally, in the case of rituals that generated ceremonial deposits lacking human remains, the ceremonies differed dramatically in the number and role diversity of persons who attended. Most such gatherings over the Woodlands were very small and resulted in the decommissioning of only one panpipe, with no other or few other items. Focus was on the panpipe. On the other hand, two gatherings in Ohio were enormous, having involved hundreds of gift givers and gifts representing many kinds of roles and persons from multiple local communities. Attention was not on panpipes or the panpiper. Instances of rituals that were unique in one or more of these ways and very localized in their geographic distributions include rituals at LeVesconte and Cameron's Point, Ontario; Tunacunnhee, Georgia; and the Hopewell and Turner sites in Ohio. The varied and geographically delimited nature of rituals of these different kinds clearly shows that interregional Hopewell, or the aspect of it marked by panpipes, was not a single cult (contra Prufer 1964b).

Chapter 17, on celts, and Chapter 18, on earspools, likewise note that these artifacts were usually placed in burials, normally one celt or a pair of earspools per person, and were aspects of mortuary rites. However, the chapters also describe occasional large deposits of these items. In the case of earspools, Ruhl attributes one huge deposit of them to the gathering of a corporate group, which is identified earlier (Carr, Chapter 7) as a sodality. Ruhl notes that both the bundling of the earspools together with heavy cord and

their higher quality than earspools placed in individual graves suggest emphasis on the group over the individual in this instance.

In sum, each of the four chapters in Part IV develop finer-grained understandings of interregional Hopewell by resolving it into its variant contents, geographic distributions, and distributional mechanisms. These kinds of discriminations are fostered heuristically by inhabiting Hopewellian landscapes with motivated people who filled a great variety of social roles and operated at both the local and the interregional scales. In this way, interregional Hopewell in its rich diversity of ideas, practices, material forms, and their distributions is generated from its human creators.

CODA: SO, WHAT WAS INTERREGIONAL HOPEWELL?

Hopewell in its interregional expression has commonly been defined in the past as some one kind of cultural and material content that was shared broadly across regions of the Woodlands and/or as some single kind of mechanism by which shared content came to be spread across regions (Hall, 1977:156). Attempts to find a simple understanding of Hopewell by assigning it one identity—be it ecological (Struever 1964), economic (Struever and Houart 1972), religious (Caldwell 1955), a form of symbolic communication (Seeman 1997:138), or other—have been a consistent aspect of Hopewell archaeology.

The chapters in this and other parts of this book, along with some previous publications, show empirically that interregional Hopewell cannot be so simply characterized as one form of content or distribution mechanism. By taking a humanizing perspective that personalizes the archaeological record with motivated actors in social roles, that explores the intricacies of local cultural context, and that is founded in deep and broad empirical data—by thickly describing the past—it has been possible to resolve interregional Hopewell into contents and distribution mechanisms of many different kinds and scales.

Let us step through the phenomena that empirical evidence firmly shows interregional Hopewell not to have been, and then assemble empirically what it was.

Interregional Hopewell was not a single, coherent, or high volume economic exchange system. Many of the artifact classes once thought by some to have been exchanged outward and interregionally from certain centers of production (Struever and Houart 1972; see also Seeman 1979) turn out to have been produced locally at multiple centers. Stylistic studies and/or material compositional analyses of copper celts, metallic panpipes, metallic earspools, ceramic figurines, bird effigy ceramic vessels, and platform pipes indicate little or no interregional transport of these items (Chapters 11, 15, 17, 18, and 19, and citations above). Likewise, raw materials once believed to have been procured by a particular society and then exchanged to others interregionally (Struever and Houart 1972) are now known from material compositional analyses to have frequently been procured directly from their natural sources by multiple Hopewellian societies across the Woodlands independent of one another. This is the case for copper, silver, obsidian, and probably meteoric iron, but only in part for galena (Chapters 17 and 20, and citations above). In addition, Seeman (1979a) showed that if some Hopewellian artifact classes and raw materials were traded, trade did not occur through a single, hierarchically structured network of sites, or regularly, as Struever and Houart (1972) had modeled. These conditions are indicated by weak correlations among the regional spatial distributions of artifact and raw material classes, as well as a lack of fit of these distributions to central-place, geographic models of exchange that focus on site size and the diversity of goods traded through a site.

Interregional Hopewell was not a single kind of social organization. Hopewellian societies across the Eastern Woodlands varied in the social roles they encompassed, as indicated by the different kinds of material social role markers found in them (Seeman 1979a:381, Table 13). Social roles were bundled into social positions in different combinations in different regional traditions. For example, the northern Midwest, the central Midwest, the Northeast, and the Southeast were distinguished from one another by the roles that were associated with that of the panpiper (Turff and Carr, Chapter 18). Role bundling also varied over time, over the Middle Woodland

period. In Ohio, the multiple roles of the classic shaman became increasingly segregated among discrete specialists over time, and an incipient priest-like role marked by plain copper head-plates seems to have emerged by the end of the period (Carr and Case, Chapter 5). Further, Hopewellian societies likely varied in their kinship structure (Field et al., Chapter 9). Even within the limited area of Ohio, strongly patrilineal, less strongly patrilineal, and matrilineal kinship systems are evident from multiple lines of evidence. Also, gender relations and the relative prestige given to men and women varied among Ohio Hopewellian societies (Field et al., Chapter 9; Rodrigues, Chapter 10).

Interregional Hopewell does not appear to have been a coherent cult, ritual, or ritual system, from what evidence has been analyzed in detail to date. Metallic panpipes perhaps give the best understanding of this (Turff and Carr, Chapter 18). They are one of only five Hopewellian social-ceremonial artifact classes (Seeman 1979a:381, Table 13)—panpipes, earspools, conch shell vessels, mica mirrors, and metallic beads—that are distributed across all eight of the major Hopewellian traditions of the Woodlands, and the only class that is restricted temporally to the Middle Woodland period. Nevertheless, peoples in different regions differed considerably in how they used panpipes ritually. Regions varied in the social and ceremonial roles associated with panpipes, in whether panpipes were used only for mortuary rites or also more broadly ritually, in the size and role diversity of gatherings that led to the burying of panpipes, perhaps in whether panpipers were organized into a local ceremonial society, in whether panpipes were used in age-related rites of passage, and in the age-sex distribution of those who were buried with and presumably owned panpipes. The Woodlands can be divided into four broad regions (listed above) that differed from one another in their ceremonial organization and content in these regards. Further, the different arrays of ceremonial artifacts and raw materials that characterize different regional Hopewellian traditions (Seeman 1979a:306–308; 382–384) do not indicate a single, pan-Woodlands cult or ritual system. The idea that interregional Hopewell was specifically a burial cult is negated by the great differences

found in the sizes, layouts, and contents of mortuary facilities in Ohio compared to those in Illinois (J.A. Brown 1979; Struever 1965).

Interregional Hopewell was not a consistent symbolic-meaning system of shared, specific, indexical meanings. Ceremonial raw materials and religious concepts that have deep roots in time in the Eastern Woodlands, such as copper, raptorial birds, serpents, and bears, nevertheless had significantly different symbolic associations and indexical meanings in the historic northeastern and southeastern Woodlands (Turff and Carr, Chapter 18). This was probably the case during the Middle Woodland as well, to judge from extensive regional variations of the kinds just mentioned in ceremonial content and ceremonial role organization (Field et al., Chapter 9; Keller and Carr, Chapter 11; Turff and Carr, Chapter 18; Ruhl, Chapter 19). The two distinct meanings that seem to have been given to silver by Hopewellian peoples in different regional traditions (Spence and Fryer, Chapter 20) illustrate the conceptual diversity of interregional Hopewell.

Interregional Hopewell was not a single mechanism of dispersal of raw materials, artifacts, artifact styles, and cultural practices and ideas. Nine forms of interregional interaction and procurement, which have ethnohistoric analogs in the Eastern Woodlands or more broadly in North America, have some to substantial evidence that they operated among Hopewellian societies interregionally during the Middle Woodland. (Table 16.2). A minimum of four groups of these mechanisms are most readily distinguishable in their archaeological signatures (Table 16.1), and one or more mechanisms from three of the groups very likely occurred: (1) vision/power questing and pilgrimage to a place in nature; (2) perhaps the travels of medicine persons or patients for healing; (3) the buying of religious prerogatives to manufacture and use ceremonial items, spirit adoption, and intermarriage; and (4) pilgrimage to a ceremonial center, valuables exchange among elite, and travel to a center of learning for mentoring in esoteric knowledge and ceremony (Table 16.2). Interregional Hopewellian connections were a composite palimpsest of multiple kinds of discrete activities by socially different kinds

of actors with different kinds of needs and motives.

Interregional Hopewell was not a phenomenon, of whatever kind, that originated in one place in the Eastern Woodlands—Ohio or elsewhere. Of the five Hopewellian social-ceremonial artifact classes that are essential archaeological markers of interregional Hopewell, in that they are distributed across all eight major Hopewellian traditions in the Woodlands (listed above and in Seeman 1979a:381, Table 13), at least three are now known to have had their origins of manufacture and social-ceremonial use in separate portions of the Woodlands, and not in Ohio. Copper earspools, as technologically complex forms, appeared earliest in the Havana and Copena traditions. They appeared later in Ohio, as fully realized forms, without obvious technological antecedents there (Ruhl, Chapter 19). Panpipes that are simplest in form and in the materials from which they are made, and that presumably were earliest, were concentrated in the Trempealeau tradition in the Upper Great Lakes area. Outward from there, the simple panpipe class decreased in its frequencies in central Midwestern traditions, and was almost entirely missing from southeastern Hopewellian traditions. Formally and materially more complex kinds of panpipes increased in frequency and complexity from north to south, with the most complex and presumably latest kinds having been most frequent in the Southeast and missing from the Trempealeau tradition and neighboring Goodall Focus (Turff and Carr, Chapter 18). Conch shell ceremonial vessels had their origins, obviously, in a third area of the Woodlands—along the Gulf Coast. A geographically more restricted yet still interregionally distributed artifact form, ceramic ware with bird designs, appeared earliest in the Marksville tradition (Penney 1989:111, 119; see also Griffin 1967:184; Prufer 1964a:58), not Ohio. In sum, important markers of interregional Hopewell had both northern and southern points of origin. The diverse geographic origins of "Hopewellian traits" was recognized early on by Griffin and some other archaeologists: "It is erroneous to speak of *an* origin for Ohio Hopewell, or for any Hopewellian focus. There were many origins for many different traits, and these were combined in the different areas into regional associations. These are isolable blocks of culture traits." (Griffin 1946:74; see also Maxwell 1947:26; R. Morgan 1952:92).

Although the Ohio Hopewell tradition is known for the most numerous examples, most stylistically elaborate examples, and/or the most diverse versions of many classes of interregionally distributed Hopewellian items, it does not necessarily follow that Ohio was the place of innovation of them, as some earlier researchers thought (e.g., Deuel 1935:430; 1952:264; Ritchie 1937:185). Some aspects of Ohio Hopewellian material culture, practices, and beliefs did have direct antecedents in earlier Adena ways in Ohio and adjacent locales. Yet, peoples of the Ohio Hopewellian tradition were also avid collectors of cultural practices and fancy artifact classes from distant places and peoples, just as they were avid collectors of exotic, fancy raw materials, for a variety of social, political, and religious reasons.

So, if interregional Hopewell was not a single kind of economic exchange system, social organization, cult or ritual system, indexical symbolic meaning system, or mechanism of dispersal of raw materials, artifacts, artifact styles, and cultural practices and ideas, what was it? The easiest answer to give is that the question, itself, is misleading, because it assumes that interregional Hopewell had some singular identity. The search for an interregional Hopewell of one nature derives historically from the attempt of Eastern Woodland archaeologists to fill the void created when it became evident that Hopewellian similarities across the Woodlands could no longer, with anthropological appropriateness, be interpreted and termed monolithically a "Hopewell Culture". The Midwestern Taxonomic System (McKern 1934, 1939), accompanied by McKern's critique of the improper use of the term "culture" in Woodlands archaeology, was a key intellectual development that helped to produce that void. Yet the taxonomic system also perpetuated the monolithic view of Hopewell, by recognizing both a Woodland-wide "Hopewellian Phase" and various more localized "Hopewellian Aspects" or "Foci". (A well referenced discussion of this history of concepts and terms is given in Chapter 2, Note 2). In this vein of thought, the right

question to ask might be "What *is* interregional Hopewell", placing emphasis on the intellectual construct and its history of development, rather than on some empirically based, monolithic, cultural phenomenon of the past. Monolithic interregional Hopewell in this view, then, is a historical product of archaeological intellectual thought.

Although this first answer is reasonable and historically correct, it by itself is not satisfying to me, and would not be satisfying to the scores of archaeologists who, familiar with the Hopewellian archaeological record, see similar cultural features that cluster in time during the Middle Woodland period and that are spread broadly in space across the Eastern Woodlands. So, again, what was interregional Hopewell?

Interregional Hopewell was an interaction sphere (Caldwell 1955), but not of one nature or scale. Varying combinations of localized peoples in different cultural traditions created connections with each other in different ways through a good diversity of means, and varyingly shared raw material classes, artifact classes, artifact styles, and cultural practices and ideas. Interregional Hopewell was a composite palimpsest in its contents, their geographic expanses, and in mechanisms of interaction, following Hall's (1977) trichotomous distinction.[26] The boundaries of expanse of interregional Hopewell are fuzzy rather than clear cut, from an archaeological viewpoint, because interactions were of multiple kinds that linked differing sets of peoples and places to varying degrees and with variation through time as localized conditions and needs changed (see also Seeman 1996:306, 312). The interactions were clothed almost completely in philosophical- religious concepts, symbols, and ceremonies (Tables 16.1, 16.2), but had local social, economic, political, religious, and demographic ramifications, more or less so, depending on the particular kind of interaction. In this regard, the interactions should probably not be labeled "religious" or "mortuary-religious", as Caldwell (1955:137, 139) did.

The differing geographic distributions of different Hopewellian raw materials, artifact classes, styles, cultural practices, and ideas that the Woodlands archaeological record exhibits reflects the different *roles* that these media played in the lives of different local peoples. It also reflects the differing localized conditions, needs, and preferences of peoples in different regional traditions and, thus, the kinds of interregional connections that peoples in one or another regional tradition did or did not search out, and the kinds of exotic practices and ideas that they did or did not accept. The different media (material, behavioral, and conceptual) had different qualities, such as size, visibility, rarity, durability, malleability, and portability, which determined their differential suitability to particular roles and their varying utility or desirability in different local contexts and in different forms and scales of interaction.

Despite all of the above-mentioned variations in interregional Hopewell, there is a fabric—a seeming gestalt—to its forms and ways that no well-familiarized archaeologist can deny. This quality of interregional Hopewell derives from some very basic, shared philosophical-religious concepts—canonical meanings—and their most essential symbolic expressions in material (and presumably ceremonial) forms that served as vehicles for and facilitators of interregional and local interactions and local lifeways. The concepts were shamanic world view assumptions and cosmological constructs that had deep and widespread roots in the Eastern Woodlands and that served as foundational elements for the more particular Woodlands Native American belief systems and religions built on them through prehistory and historically. Some of the most essential of these concepts include: transformation in a variety of guises, "seeing through", darkness versus light, the tripartite cosmos, the creatures and qualities of these realms, the four directions and solstices, and the axis mundi (Carr and Case, Chapter 5 and 1995; Carr 1997, 1998, 1999a, 199b, 2000a, 2000b). These widely shared, historically deep, foundational elements are seen in the raw materials, artifact classes, artifact styles, and cultural practices of Hopewellian peoples, and create the fabric of their cultural world that archaeologists intuitively sense as Hopewellian: the figure-ground reversal structure that runs through much of Hopewellian art; the directional symmetry that is common in Hopewellian art and earthen

architecture; the zoned and tripartite structure of Middle Woodland ceramics, especially Hopewell ware; the creatures that commonly were rendered in Hopewellian art; the attention given to contrasts between darkness and light in Hopewellian art, artifacts, and earthen architecture; the shiny, reflective, translucent, and transparent raw materials that Hopewell peoples favored; raw materials that naturally, or with human manipulation, transform between shiny or light and dull or dark, and sometimes back again, or that are simultaneously shiny/light and dull/dark; the distant journeys that, as a metaphor for and facilitator of transformation, were required to obtain many Hopewellian raw materials; mortuary practices that emphasize staged processing of corpses, dismemberment, and cremation; burial mounds as axis mundi and earthworks that were aligned to solstices; and so on. The light and dark, ring-shaped image created by the form of copper earspools (Ruhl, Chapter 19), which occur in all the major Hopewellian regional traditions across the Eastern Woodlands, is one specific, shared expression of some of the foundational concepts and general kinds of materials that give interregional Hopewell its distinctive nature. So, too, is the panpipe, which is found in all Hopewellian regions and which, through its copper material, appears to have connoted power by reference to the creatures of the Upper and/or Lower Worlds (Turff and Carr, Chapter 18).

Cross-regional Hopewellian interactions were made possible by the essential, widely shared, shamanic concepts that some kinds of local material productions (e.g., earspools, panpipes), and perhaps some kinds of locally created ceremonies, embraced in vivid manners. The basic Woodland-shared, shamanic qualities that such material items and ceremonies effectively expressed allowed Hopewellian peoples in different regional traditions to project *some* meaning(s)—canonical or indexical, more or less local—onto them, creating familiarity and some common basis for meetings of interregional scope, and making such items and ceremonies attractive, leading potentially to their interregional spread. Foreign Hopewellian persons who met and gathered would not have known or understood all of the specific indexical meanings

that such items or ceremonies had in each other's cultures. However, what meanings the parties projected onto the items or ceremonies, in sharing essential, Woodlands shamanic concepts, ofttimes appear to have been "close enough" to have served as an effective context for interaction and the cross-regional spread of those items or ceremonies.

The widely shared, historically deep, basic shamanic concepts and their generalized material and ceremonial expressions enumerated above became elaborated during the Middle Woodland as an aspect of and in support of increasing social complexity in select areas and cultural traditions of the Eastern Woodlands that we have come to call Hopewellian. At least some of the particular areas in which societies became more complex were characterized by one or more critical, natural environmental and ecological conditions that spurred on social change (Struever 1964; see also Ruby et al., Chapter 4). In some areas, social change was tied to increases in population sizes and densities, as in the expansion of central Illinois valley Havana peoples into the lower Illinois valley (Ruby et al., Chapter 4; Charles 1985, 1992, 1995; Farnsworth and Asch 1986; see also Styles 1981). In other areas, such as the Scioto valley, this may not have been the case (Wymer 1987a; see also Seeman and Branch, n.d.), and other environmental or sociocultural factors seem to have been important (Ruby et al., Chapter 4). Interregional Hopewell was generated from *local* sociocultural and natural environmental conditions and dynamics.

The cultural character of a given Hopewellian regional tradition was a product of several things: the previous history of its peoples in expressing and working out, in their own local ways, materially and ceremonially, the basic foundational shamanic concepts of the Woodlands (e.g., Adena material culture and practices in Ohio); the peoples' further, unique innovations and elaborations in expressing materially and ceremonially those shamanic concepts during the Middle Woodland as societies became more complex; and the peoples' emulation, resisting, and/or reworking of particular material and ceremonial expressions created by others in other Hopewellian regional traditions. In some

instances, particular local material or ceremonial expressions of basic shamanic concepts came to have very wide distributions across the Woodlands, such as earspools and panpipes mentioned above; in other instances, the expressions spread only so far—all depending on the social roles that those material forms or ceremonies fulfilled, the utility or not of those roles in the context of the particular conditions and needs within other regional traditions, and how well the forms or ceremonies meshed with cultural ways and preferences within other traditions. The geographically diversified nature of interregional Hopewell in its content and distribution mechanisms, but also certain aspects of its definable, shared fabric, derived from local matters. It is in this light that this book has emphasized the linkages between interregional and local Hopewell, their common nature in addition to their distinctive qualities, and the generation of interregional Hopewell from local scenes (Carr, Chapter 2).

NOTES

1. Our use of the term *deconstruct* has no linkage to the postmodern deconstructivist school of thought in the humanities and social sciences.
2. An analogous study in Chapter 11, by Keller and Carr, shows differences in the amount of prestige and the markers of prestige given to Hopewellian women in the Havana tradition in Illinois versus the Mann phase in Indiana versus the Scioto tradition in Ohio. However in this work, the specific nature of the differences in social organization among the three geographic areas is less clear than in the case presented by Field et al. in Chapter 9.
3. The roots of Ohio Hopewellian animal impersonation in earlier Glacial Kame and Adena practices is clearly evidenced in actual animals masks and medicine bags (Converse 1981; Webb and Baby 1957:61–76) and in the Adena engraved tablets (Carr 1999b; Webb and Baby 1957:83–101).

4. See Basso (1996) for a Native North American view of places that is broader and encompasses that presented here.
5. Obsidian from Ohio Hopewell sites has a high total weight—300 pounds was found in Mound 11 of the Hopewell site, alone. The obsidian occurs as large finished bifaces in a few sites, as well as smaller tools, core fragments, blades, and debitage (Hatch et al 1990:463). The large total amount of obsidian and the large size of some specimens suggest its direct acquisition from its source in the Wyoming–Idaho area. In contrast, obsidian from Illinois Hopewell sites has a very low total weight (about two kilograms), occurs as small specimens scattered over many sites with a few pieces each, and is largely debitage (Wiant 2000). The small total amount of obsidian and the small maximal size of specimens suggest indirect acquisition by some means. Only three unaltered obsidian nodules are known from Illinois—from the Albany mounds in northwest Illinois (Herald 1971; Wiant 2000). One large, 25-pound obsidian boulder supposedly from the Meridosha site, lower Illinois valley, cannot currently be confirmed for its provenience, antiquity, or source (Wiant 2000).

Ohio Hopewell sites do not differ significantly from Illinois ones in the percentages of obsidian from Obsidian Cliff versus other sources like the Camas–Dry Creek formation. Tabulating specimens analyzed by Hatch et al. (1990), Griffin et al. (1969), and Hughes and Fortier (1997) reveals that 30 of 37 (81.1%) assayed specimens from Illinois came from Obsidian Cliff, Wyoming, while 48 of 54 (88.9%) assayed specimens from Ohio came from or possibly came from this source. The similarity of these two areas in their percentages of obsidian from different sources does not support the hypothesis that persons from both areas *independently* and directly acquired obsidian by long-distance travel to the Wyoming–Idaho area. Instead, it suggests acquisition by one of these areas and disperal to the second, leading to the similarity in percentages. The much larger specimens and much greater amounts of obsidian found in Ohio imply that it was Ohio Hopewellian persons who obtained obsidian directly from the Wyoming–Idaho area, while Illinois Hopewellian persons got it indirectly, through the hands of Ohio Hopewellian persons.

Less is understood about obsidian found at the Mt. Vernon site, Indiana. Formal, large bifaces of the kinds found in Ohio, and ovate preforms, are known from the Mt. Vernon mound (Seeman 1995:129) and suggest access to large pieces of obsidian, through either direct long-distance travel to the Rocky Mountains or exchange with Ohio Hopewell peoples. The quantities of these specimens compared to those found in Ohio sites is unknown, given the incomplete and unsystematic excavation of Mt. Vernon. The ovate preforms suggest that obsidian was worked at Mt. Vernon and that formed points were not necessarily brought into the site from Ohio. The percentage (60%) of obsidian that sources to Obsidian Cliff, Wyoming, is lower than that found in

Ohio and Illinois sites, but the sample of assayed artifacts is small (total $n = 10$) and of unspecified formal types (Shackley 1997), prohibiting sound comparison.

6. Keweenah silver at the Liverpool site, Illinois, may have been acquired directly from the Keweenaw peninsula rather than through down-the-line or nodal exchange. The few silver specimens from Illinois that have been analyzed by Mauer et al. (1976) and Spence and Fryer (Chapter 20; 1990, 1996) all source to Cobalt, Ontario, save those from Liverpool. The silver at Liverpool thus may not have been obtained from communities within the region and may have been obtained from afar. However, in contrast to the strong cases for direct acquisition of silver that can be made for LeVesconte, Hopewell, and Turner, where silver manufacturing debris occurs, no such debris is reported from Liverpool. This leaves open the possibility that the silver at Liverpool was obtained in finished form from communities outside of the Havana region by other processes, rather than procured directly from the Keweenaw peninsula by the occupants of Liverpool. Logical alternatives to direct acquisition would be long-distance elite valuables exchange and travel to a center of learning. Stylistic analysis of panpipes across the Eastern Woodlands (Turff and Carr, Chapter 18) does not, in general, indicate the long-distance dispersal of finished panpipes, but the panpipe from Liverpool was not included in their study.

7. Especially convincing examples of similarity in artifact style and content are the raven pipes from Mound City, Ohio, and the Rutherford and Bedford mounds in Illinois, plus the fact that, of the 14 animal species represented on Illinois pipes, 13 are found on Ohio pipes (Penney 1989:183–185, 285–288).

8. The homogeneity of figurine styles in the Havana, and perhaps Scioto, regions is less definitive evidence of a lack of interregional exchange of female artisans and figurines. The homogeneity suggests the infrequency of exchange of female or figurines and/or the low receptivity of figurine producers in these traditions to styles from other traditions.

9. Copperas Mountain also is a source of pyrite nodules. Pyrite shaped into hemispheres that were probably used for divination were deposited at the Hopewell site (Shetrone 1926:190–191), which is not far from Copperas Mountain, but in a different branch of Paint Creek valley. However, no pyrite is reported from Seip (Shetrone and Greenman 1931:455–458, 509), which is directly adjacent to Copperas Mountain.

10. The closed-in nature of the Appalachian Plateau compared to the openness of the Till Plain province in Ross County may have been perceived by Hopewellian peoples as a dark/light dichotomy, or Lower World/Middle World dichotomy, given the commonality of these themes in their material culture generally (Carr and Case, Chapter 5; Carr 1998; Carr and Case, 1996).

11. A good example of this situation is the use and construction of Russell Brown Mound 3 at the Liberty earthworks, two or three centuries after the heyday of Liberty

when the Big House of the Edwin Harness Mound was in operation. The Big House has a weighted-average, calibrated radiocarbon date of A.D. 309 ± 32 (Greber 1983:89), whereas three calibrated dates from Russell Brown Mound 3 have means that span the period of A.D. 490 to A.D. 665 (Seeman and Soday 1980:93).

12. Griffin (1958:7, Griffin et al. 1970:8; Braun et al. 1982:62–62) and Stoltman (1979:135) did think that some finely made Hopewell ware vessels in northern Illinois, southwestern Wisconsin, and Ohio had been traded there from their core area of occurrence in the lower Illinois valley.

13. Carr and Sears (1985:85) note that while meteorite falls—sources of iron—are much more common in the Southeast than the Northeast, meteoric iron in Hopewellian sites is more common in the Northeast than the Southeast. This complementarity suggests the possibility of systematic interregional exchange of meteoric iron from south to north. Concordant with this possibility is the co-occurrence of a variety of meteoric iron artifacts (Carr and Sears, p. 80) and Copena-style Big Pipes (Shetrone and Greenman 1931) at the Seip–Pricer mound.

14. The terms local, regional, and interregional, in referencing space rather than social relationships, are poor substitutes to Helms's descriptors, normal people, close strangers, and foreigners, which bridge more easily to kinds of valuables exchange. Nonetheless, the spatial terms are more easily used as adjectives and do reference archaeological landscapes well.

15. Ohio Hopewellian community and mating network sizes are known from the work of Pacheco (1996; Pacheco and Dancey n.d.), and Ruby et al. in Chapter 4. Pacheco's survey data on the central Muskingum valley, as analyzed by Ruby et al., indicate that local symbolic communities in the Dresden subregion and the upper Jonathan Creek subregion had catchment diameters of about 6 to 11 kilometers. A study of the distances among earthwork-mound centers in the Scioto valley–Paint Creek region by Ruby et al. (Chapter 4, Table 4. 6) indicates that local symbolic communities there had modal nearest-neighbor separations and diameters of about 8 to 10 kilometers. Sustainable communities (mating networks), also defined from earthwork-mound center distances, were separated from neighbors by and had diameters of 16 to 18 kilometers, or 21 kilometers, depending on the measure. These inter-community distances are all smaller than the approximately 25 kilometer maximum distance of origin of fine vessels brought into McGraw–a radius from McGraw that equates to a 50 kilometer diameter area. Together, these estimates imply that vessels at McGraw came from within its local symbolic and sustainable communities, and well as sometimes from outside of them, from up to two to three local symbolic communities away and from immediately adjacent sustainable communities.

16. Fie's (2000a) table 52 shows that one fine ware vessel and one coarse ware vessel both were probably manufactured

at the Macoupin habitation site and came to be deposited at the Sandy Creek Church habitation site. Similarly, two fine ware vessels and four coarse ware vessels were probably made at the Sandy Creek Church habitation site and ultimately were deposited in the Smiling Dan habitation site.

17. Unexpected relative to Hall's model is Fie's finding that some coarse wares ($n = 26$ of 304) in lower Illinois valley sites were derived from outside of the area, while no fine wares were. This pattern may indicate visitation by small family groups from adjacent regions (Fie n.d.) similar to that clearly evidenced at the Massey and Archie sites (Farnsworth and Koski 1985), rather than extralocal exchange of utilitarian vessels and staples, per se.

18. Given the common historic Native American view that power can be acquired only by exchange, it is unlikely that the items would simply be given away and received. They would probably be acquired by the recipient with a small exchange gift. Penney's (1989) concept of buying of religious prerogatives is one manifestation of this thought process, as is the leaving of tobacco or other offerings in the place of any object removed from nature for use.

19. The emphasis placed here on the status-building motivation for regional exchange was not that preferred by Flannery (1967:81). He held on to the idea that regional exchange could have an underlying ecological purpose of distributing food from zones of agricultural surplus to less fortunate areas, in line with Sander's (1956; Sanders and Price 1968:188–191) idea of regional Mesoamerican symbiosis.

20. The equation of greater geographic distance with a transition from the natural to the supernatural is complemented or contradicted in at least stratified societies by the notion of the kingdom as the cosmos, with the center—the capital and the king—being the most sacred part (Huntington and Metcalf 1979:123; see also Eliade 1964:264). In simpler societies with shamanic cosmologies, the idea of the omnipresent, sacred "Center of the World" or *axis mundi*, found in each person's own self, own house, and own village (Eliade 1964:260–265; see also 259–274, 477–482, 487–494) also complements or contradicts the equation of distance with sacredness. More in line with Helms's idea is the paradoxical equation of the vertical *axis mundi*, which connects this world and those above and below it, with a horizontal bridge or difficult horizontal passage (Eliade 1964:482–486).

21. Seeman (1979:391–397, Figure 36) reported the richness and sizes of Hopewellian sites across the Eastern Woodlands in terms of the total number of kinds of Interaction Sphere goods (finished items and raw materials) recovered from each site and the amount of moved earth encompassed in the mounds and embankments (if any) of each site. On these measures, the Ohio Hopewell tradition far outranks the Havana tradition, which in turn outranks the Mann phase and Goodall tradition. Two sites alone, both in Ohio, have 30+ kinds of Interaction Sphere goods and sizes of 672,000–1,8999,000 ft^3:

Hopewell and Seip. Sites with 22–26 kinds of Interaction Sphere goods and sizes of 131,000–204,000 ft^3 include Turner, Liberty, and Mound City, all in Ohio. Sites with only 7 to 17 kinds of Interaction Sphere goods and sizes of 6,000 to 4,37,000 ft^3 include Knight, Bedford, Baehr, Montezuma, Naples, Havana, Ogden-Fettie, Rutherford, Davenport, Klunk, Gibson, Albany, and Norton in Illinois; Newcastle in Indiana; and Cincinnati, Esch, Ater, Tremper, and North Benton in Ohio. The Mann site in Indiana and Goodall site in Michigan fall in a group of 42 sites with only 5–10 kinds of Interaction Sphere goods and sizes of 1,000 to 157,000 ft^3. Only a few third-order sites occur in traditions outside of the Scioto, Havana, and Mann areas: Crystal River in Florida, Wilson in the Crab Orchard area of Illinois, and Tunacunnhee in Georgia. All other regional Hopewellian traditions have only fourth or fifth order sites in Seeman's typology.

   Ruby (1997a:400) calculated the volume of the five largest Hopewellian mounds in the Eastern Woodlands and found them to be restricted to the Scioto and Mann areas: Hopewell Mound 25, Ohio (49,000 m^3), Mann mound IU9, Indiana (17,000 m^3), Seip-Pricer, Ohio (14,700 m^3), Mann mound IU1, Indiana (13,200 m^3) and the GE mound, Indiana (11,000 m^3).

   Walthal et al. (1979:202) calculated that the typical Ohio Hopewell burial mound required 50 times more labor than the typical Copena mound. In addition, Ohio Hopewell communities built massive earthworks, whereas Copena communities did not.

22. Geographic distributional differences in artifact classes could also reflect whether or not various social segments/personae existed in particular regions over the East.

23. There is a strong worldwide and North American cross-cultural trend for women to make pottery and work soft, pliable materials, while men work hard, tough-to-process materials (Driver 1969; Murdock and Provost 1973).

24. Here it is assumed that females also made the Southeastern complicated ceramic vessels, as in Note 23.

25. Swift Creek complicated stamped sherds were found at the Twenhofel site (Caldwell n.d.)—a Crab Orchard tradition site in Jackson County, Illinois, but apparently not in Havana sites in Illinois.

26. Here, as throughout this book, interregional Hopewell is defined in terms of *regional cultural traditions and societies* that shared practices, ideas, and material forms to various degrees, and the cultural interconnections and means of interconnection among these societies. Distant places in *nature* from which Hopewellian peoples procured raw materials (e.g., Obsidian Cliff, Wyoming, the Keweenaw peninsula, Michigan) are not included in the geographic expanse of interregional Hopewell, although the travels to such places for various purposes, as cultural practices and as practices more or less shared among traditions, are included in the concept of interregional Hopewell. From this perspective, then, interregional Hopewell can be spoken of as an "interaction sphere" rather than more broadly as a "sphere of interaction and procurement".

Chapter 17

Hopewellian Copper Celts from Eastern North America

Their Social and Symbolic Significance

WESLEY BERNARDINI AND CHRISTOPHER CARR

Archaeological sites containing diagnostic, Hopewellian raw materials and finished goods are found in regional traditions spread over a wide area of almost 500,000 square kilometers. This area includes the states of Wisconsin, Michigan, New York, Pennsylvania, Ohio, Indiana, Illinois, Missouri, Kentucky, Tennessee, Mississippi, Alabama, Georgia, and Florida and parts of Ontario and Quebec. The fact that visually impressive Hopewellian artifacts were distributed across groups that must have differed considerably in language, local histories, and adaptations to local environments has sparked archaeological interest for over a century. Anthropologically, this distribution has been inter-break preted as the material expression of a culture, race, people, or civilization (see summaries in Fowke 1902; Shetrone 1936; Willey and Sabloff 1980), an interaction sphere in which religious ideas and objects were exchanged (Caldwell 1964), a cult (Prufer 1964b), an economic exchange system (Struever and Houart 1972), a material–stylistic means of adaptation to increasing subsistence risks related to population increases (Braun 1986), and a *lingua franca* for overcoming increasing difficulties in interregional communication as dialects and languages developed with increasing sedentism (Seeman 1995).

Recent interpretive research on Hopewell has emphasized the multidimensional ways in which leadership roles were expanding and societies were changing in the Middle Woodland period, and the roles of Hopewellian ritual, ideology, symbolism, and material exchange in the cooperation, competition, and interaction among leaders (e.g., Carr and Case, Chapter 5; Carr, Chapter 7; Carr et al., Chapter 13; Seeman 1995). This multidimensional perspective has permitted varying rather than unitary explanations for different regional Hopewellian manifestations. It also has encouraged archaeologists to evaluate Hopewellian artifact classes individually, rather than treating all goods as functionally equivalent in their messages and roles (e.g., Carr and Case, Chapter 5; Carr, Chapter 7; Thomas et al., Chapter 8; Turff and Carr, Chapter 18; Ruhl, Chapter 19; Carr and Maslowski 1995). There is increasing recognition that artifact classes differ in the availability of the raw materials from which they were made, their degree of elaboration and standardization, their visibility and

communication potentials, their durability, their portability, and the areas over which they are found. These differences in turn determine or reflect the contexts of artifact production and use and their potential roles in society (Carr and Neitzel 1995:389–390; Morse 1995). Different Hopewellian artifact classes likely reflected varying kinds of interactions among different sets of actors and segments of a society, and among different societies. Particular kinds of artifacts were probably used to reproduce, bolster, and/or modify particular kinds of social and economic relations.

In this light, this chapter focuses on one diagnostic kind of Hopewellian artifact—copper celts. We consider particularly their variability in size, in order to clarify the roles they played in Hopewellian societies. In contrast to the thin, geometric and zoomorphic art and ornaments into which Hopewellian artisans often hammered and cut copper, copper celts appear to have functioned as *masses* of an exotic material, the value of which was easy to appraise visually by its size. In this sense, copper in celt form may have represented what has been called a "store of value (wealth)" (Winters 1981:22).

This chapter begins with an introduction to the nature, geographic distribution, archaeological associations, and social contexts of Hopewellian copper celts. We inventory 217 of 332 celts from 47 sites spread over five northern and midsouthern regional traditions in the Eastern Woodland. Celts are found to have been owned by individuals, typically one per person, rather than by communities, with the possible exception of two extraordinarily large celts from the Hopewell and Seip sites, Ohio. From the predominantly adult male age and sex distributions of those buried with celts, it is inferred that they marked social positions of leadership or achievement. Next, we consider the means by which copper was procured from distant resources. From four kinds of empirical patterning, it is concluded that copper used to make celts was acquired primarily by long-distance journeys undertaken by individuals to the upper Great Lakes, rather than by nodal exchange or down-the-line exchange. Ethnographic analogs suggest that the journeys

were probably ritualized and aimed at power acquisition. In this context, we then discuss the economic and ideological values of celts. Recognizing the importance of establishing a theory of value in order to understand the operation of a socioeconomic system (*sensu* Marx 1954), and drawing upon inspirations from M. Helms, R. Rappaport, and M. Seeman, we attempt to reconstruct the particular emic logic that was used in the past to assign value to copper celts. We propose that copper celts had two dimensions of worth: (1) as symbols and transmitters of canonical (immutable, unfalsifiable) messages of an ideological nature, concerning the principles of Hopewellian society and philosophy–religion; and (2) as transmitters of indexical (situation-varying) messages of a practical, operational nature, concerning the relative power and prestige of celt owners. The first dimension is indicated empirically by the formal similarity of celts across the eastern United States; the second, by their varying size. Celts formally may have referred to canoe building, long-distance journeying to powerful peoples and sources of raw materials, the felling of trees to make earthworks and ritual wooden architecture, the journey of souls to an afterlife, and institutionalized leadership roles involved in these activities. In contrast, variation in the sizes of celts expressed the differential prestige of individuals—specifically, their varying abilities to acquire copper, which was socially, sociopolitically, and economically costly to obtain from distant sources in the upper Great Lakes. Finally, quantitative analyses are made of celt sizes and numbers across and within various Hopewellian regional traditions in order to clarify how copper celts specifically expressed and augmented the prestige and power of individuals. Our inference that copper for making celts was obtained largely by direct, long-distance procurement from its upper Great Lakes source, rather than by exchange, is bolstered by the similar range and variability in celt sizes found among regional traditions, implying their autonomy in copper acquisition. The many celts found with Burials 260 and 261 at the Hopewell site are taken to indicate the gathering of many celt owners and the gifting of celts, and are used to estimate the probable number of celt owners

(40–62) who congregated for a mortuary ceremony. Numerical evaluation suggests that some of these individuals probably came from outside the Scioto region. In addition, both the Scioto and the Mann regions are found to be distinctive in having certain single sites with very large numbers of celts, in contrast to the Havana region, in which no site has a concentration of celts. This difference echoes previous observations suggesting the greater sociopolitical complexity of Scioto Hopewellian societies than Havana ones.

COPPER CELTS AND THEIR ARCHAEOLOGICAL CONTEXTS

Copper celts are ax and adze-shaped masses (Shetrone and Greenman 1931:404). None show evidence of having been hafted, use-wear on the bit, or any other signs of their having been used as a tool. In this manner, they differ from Copena greenstone celts, which do show evidence of use (L. A. Beck, personal communication, 1998), are commonly found in habitation sites (Walthal 1980:128), and are not considered here. The bodies of copper celts vary from long narrow forms to short fat forms, with concave or convex lateral edges, but all share a basic morphology (Figure 17.1A). Winters (1981), in a stylistic analysis of celts from Ohio and Illinois, found no consistent differences in their shapes among regions. All of these characteristics indicate that copper celts were not utilitarian items but were, instead, important for their symbolic meaning(s) at an interregional scale.

Geographic Distribution

Copper celts are distributed across the northern half of the Eastern Woodlands, in the Scioto,

Havana, Point Peninsula, and Crab Orchard regions, as well as the Southern Appalachian (Copena) region (Figure 17.2). They are not found in the Deep Southern Hopewellian traditions of Marksville, Miller–Porter, Santa Rosa–Swift Creek, St. Johns, or Crystal River. The regional traditions over which copper celts are distributed cover an area of the order of about 50,000 square kilometers.

Seeman (1995) suggests that the geographic scale of distribution of copper celts across the Middle Woodland landscape, in contrast with the smaller and larger scales at which other Hopewellian artifacts are found, represents groups of people who would classify each other as "close strangers." Such groups fall between the emic categories of "normal people" and "outsiders" (Helms 1988). They lie outside the range of neighboring lineages, but not so far away that they fall outside the cosmological construction of known reality, for which they would be classified as dangerous, supernatural, and/or powerful. Seeman (1995:135) suggests that the area encompassed by the distribution of copper celts "may have been a *Sprachbund*, an area of shared understandings of the universe and what to talk about." In this regard, the massed, undifferentiated form of celts is important. It may have been a form with a meaning(s) that transcended local ideological and linguistic expressions.

Technology

Copper celts, and all Hopewellian copper artifacts, were produced by cold and/or heated hammering, probably with some annealing (e.g., Goad 1978). These production techniques require relatively little specialized knowledge. The most difficult aspect of producing a copper celt was probably acquiring enough copper to make

Figure 17.1. A copper celt from the Seip earthwork, Ohio. (A) The celt's surface is covered with fabric in some areas and layers of feathers possibly appended to a fabric of a different weave in another area. Photograph of object by permission of the Ohio Historical Society, accession No. 957/—. (B) The celt's surface materials are differentiated by digital enhancement (red band × inverse of blue band; no green band). (C) Linework shows the fabric and feathers to be a mosaic forming a human face in profile, facing right, with a headdress composed of three layers and a large earspool. The headdress and earspool are made of the fabric, oriented vertically; the face is made of the feathers, oriented at a 45-degree angle. Ethnohistorically in the Eastern Woodlands, cloth turbans were worn by societal leaders (e.g., Carr, Chapter 1, Figure 1.4f; Paterek 1994:31, 71, 114–115; Trigger 1978:641–642, 665, 679, 683, 749).
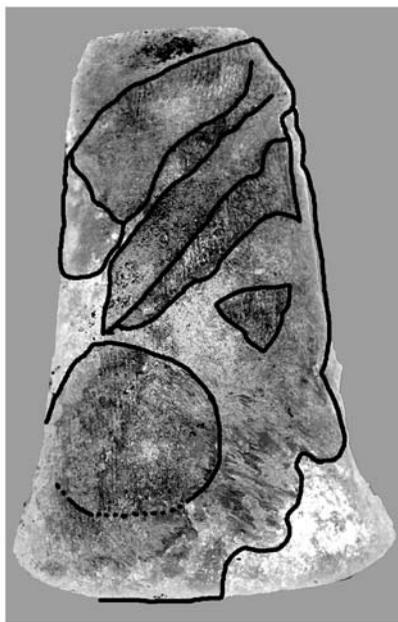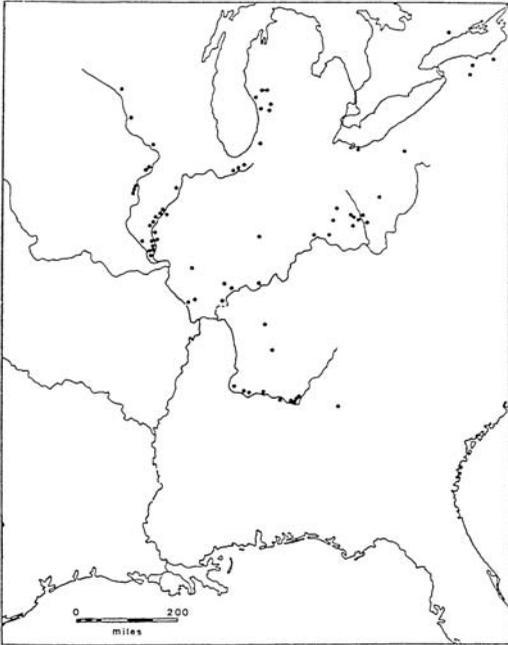
Figure 17.2. Geographic distribution of Hopewellian sites with copper celts. From Seeman (1979a:351) by permission of the author.

one and the travels necessary to do so—one dimension of its value (see below).

Mass, Frequency, and Value

The amount of copper used to make a celt is at least twice as much as was used to make any other kind of Hopewellian copper artifact. The average weight of a copper celt in the sample analyzed here, excluding the two enormous celts at Hopewell and Seip, is about 1 pound (0.47 kilograms). This mass of copper is about twice the weight of the average breastplate (Seeman 1979a:316), the next most sizable Hopewellian copper object after celts, and about three times that of the average headplate. It is about 11 times the weight of the average copper earspool (Seeman, p. 315), the most common Hopewellian copper object. Thus, on a weight basis, and given the travel costs involved in obtaining copper, celts had more *economic* value than breastplates, headplates, and earspools to Hopewellian peoples. In addition, celts are much less frequent than copper earspools, somewhat less frequent than copper breastplates, and more frequent than cop-

per headplates. This suggests that celts probably had a *social* value greater than those of earspools and breastplates and less than that of headplates.

Combining both the economic and the social dimensions of values of celts, one finds that the hundreds of copper celts excavated in Hopewellian sites represent well over 200 pounds (91 kilograms) of copper, compared to 88 pounds of copper represented by all known Hopewellian breastplates and 43 pounds of copper represented by all known Hopewellian earspools (Seeman 1979a). With one exception, the amount of copper contained in the celts from any one site, and the combined socioeconomic value of celts, would have been many times more than that contained in all other copper artifacts combined. The exception is the Turner Site, which in its excavated sections, contained over 91 earspools but only two celts.

Contexts of Deposition, Ownership, and Social Roles

Copper celts are found in both burials and caches, but the great majority of excavated archaeological deposits with celts are burials. At the Ohio sites of Hopewell, Seip, and Ater, celts occur with only 5% to 12% of the burials and 25–26% of the cermonial deposits, suggesting the restricted access to and high social value of celts.

In the sample of celts analyzed here, across eastern North America, most persons buried with celts were buried with only one (Table 17.1). It was also relatively common for a single individual to have been buried with multiple celts: between two and five, with a median of three. Much less frequently, multiple individuals were buried with multiple celts, multiple people were buried with a single celt, or celts were placed in ceremonial deposits without associated burials. These patterns in celt contexts are relatively consistent across Middle Woodland regions, although patterns are unclear in some regions where sample sizes are small (Tables 17.2–17.6).

We interpret the predominance of the one-celt-per-person pattern to indicate that celts were typically individual possessions. In contrast, examples of individuals buried with multiple celts could imply mortuary rites that were attended by

Table 17.1. Contexts of Burial of Celts in All Regions

Burial context	Number of cases
1 person, 1 celt	41
1 person, multiple celts	17
Multiple people, multiple celts	7
Multiple people, 1 celt	6
Ceremonial deposit	4

Table 17.2. Contexts of Burial of Celts in the Havana Region

Burial context	Number of cases
1 person, 1 celt	10
1 person, multiple celts	7
Multiple people, multiple celts	7
Multiple people, 1 celt	3
Ceremonial deposit	0

Table 17.3. Contexts of Burial of Celts in the Scioto Region

Burial context	Number of cases
1 person, 1 celt	23
1 person, multiple celts	6
Multiple people, multiple celts	0
Multiple people, 1 celt	2
Ceremonial deposit	4

Table 17.4. Contexts of Burial of Celts in the Crab Orchard Region

Burial context	Number of cases
1 person, 1 celt	3
1 person, multiple celts	2

Table 17.5. Contexts of Burial of Celts in the Southern Appalachian Region

Burial context	Number of cases
1 person, 1 celt	4
1 person, multiple celts	2

Table 17.6. Contexts of Burial of Celts in the Point Peninsula Region

Burial context	Number of cases
1 person, 1 celt	1
Multiple people, 1 celt	1

a handful of persons of the social identity represented by celts, who gave these items as gifts to the deceased (see Weets et al., Chapter 14). The most telling probable example of the latter depositional process is the unique lot of 63 celts laid over Skeletons 260 and 261 in Mound 25 of the Hopewell site (see discussion below).

Our interpretation that celts generally were individual possessions, which is based on a pan-regional quantitative patterning, differs from J. A. Brown's (1979:212) interesting suggestion that Havana Hopewell burial crypts were corporately owned facilities in which a corporate group's valuable property (e.g., artifacts of exotic raw materials, like copper celts) could be stored, and in which individuals and their possessions were not well distinguished. At this time, we do not find evidence for the idea of community ownership of celts in the Havana region. The pattern of one or a few celts per burial facility that occurs

across the eastern United States, generally, holds well for the Havana region.

There are, however, two more convincing possible exceptions to the idea that a celt was the property of an individual. Two celts, one from Hopewell Mound 25, Skeletons 260 and 261, and a second from the Seip-Pricer mound, are extremely large relative to others. They are 60 and 58 centimeters long, respectively, in contrast to the modal celt length of 14 centimeters (see details below). It is possible to argue on the basis of their size, alone, that these two celts may have been community property rather than individual property, perhaps symbolizing some community-wide, institutionalized leadership position. An analog would be the very large animal-effigy "Copena"-style pipes found at the Seip-Pricer mound and Esch Mound 1, which have been thought of as community-owned pipes, in contrast to the much smaller and more frequent platform pipes of plain and animal-effigy styles. Significantly, the Copena pipes at Seip were found in a ceremonial deposit above six burials, and the large pipe from Esch was an isolated find above a burial. In contrast, smaller pipes are found in both burials and ceremonial deposits, and when found in graves, usually occur one per individual.

Table 17.7. Ages of Individuals Associated with Celts, in All Regions

Age class	Number of cases
Old adult	3
Adult	30
Child	7
Infant	1

Of 19 individuals identified to sex or probable sex and associated with celts in the Scioto and Havana traditions, 14 were male and 5 were female (Appendix 17.1). The Scioto and Havana traditions do not differ in their distribution of celts by sex. No information is available from the other Hopewellian traditions.

Of the 41 individuals with celts who could be assigned to age categories, 33 were adults and 8 were infants or children (Table 17.7). Adults with celts were noted in sites of the Scioto, Havana, Crab Orchard, and Southern Appalachian traditions. The adults were a wide spectrum of ages, or of unknown adult age, except in the Scioto tradition, where they were more often young adults (five of nine persons). Children with celts were noted in sites of the Scioto, Havana, and Crab Orchard traditions. No information on the age of persons buried with celts could be gotten for the other Hopewellian regions.

By traditional archaeological models (e.g., Braun 1979; Peebles 1971), this distribution of celts, which crosscuts the dimensions of age and sex, and which includes persons too young to have been social leaders, in the infant and child age classes, could be argued to indicate social ranking by inheritance, residence, or some other criterion of ascription. Celts would have been a symbol of rank. However, the strong bias for celts to occur with adult males suggests, instead, that they indicated social prestige that was obtained by achievement and/or leadership roles that were filled preferentially by males. The case for copper celts having marked a leadership role, and one that complemented a leadership role symbolized by copper head plates, is made strongly with archaeological and ethnohistorical evidence presented by Carr in Chapter 7 and Thomas et al. in Chapter 8, with support from Carr and Case in Chapter 5 (Table 5.5) Celt accompaniment with children

could have related to a second, independent factor—the value of children (e.g., for labor) in an increasingly horticultural society, and gifting to children upon their death. In these ways, celts are similar to copper headplates, breastplates, and crescents, and most kinds of shamanic paraphenelia, which in the Scioto tradition sites of Hopewell, Seip, and Ater are also found primarily with adult males (Carr and Case, Chapter 5).

Copper celts are found above, below, and to the side of burials, from the head to the feet. No common location of burial could be found for those celts for which position was documented at the Ohio sites of Hopewell, Seip, Turner, and North Benton.

Recent research using digital photography, microscopy, and chemical analytical methods has revealed that at least some copper celts, breastplates, headplates, and other copper items from 14 Scioto-tradition sites served as the ground for artistic compositions. The compositions were made by patination, by applying fabrics, feathers, bark, other plant items, hide, sand, and other materials, as mosaics, and, occasionally, by painting (Figures 17.1A–C) (Carr et al. 2000, 2002; Carr and Lydecker 1998). The compositions on the celts most frequently picture the face and torso of a single human who wears an animal mask–headdress (e.g., bird, canine) or a geometric or layered headdress, analogous to the animal mask–headdresses worn by shaman-like medicine persons and the layered turbans worn by societal leaders ethnohistorically in the Eastern Woodlands (e.g., Paterek 1994:31, 71, 114–115; Trigger 1978:230, 641–642, 665, 679, 683, 749). Copper breastplates and headplates also were rendered with human and animal-impersonator figures of these kinds, but the compositions are usually more complex, with multiple figures. Studies of the life histories of these artifacts indicate in a few cases that the compositions were made after the ceremonial killing of an artifact.[1] In these cases, the compositions may have been produced as an aspect of the mortuary rites involving their final deposition with the deceased, rather than having been an integral part of their function in ceremonies during the owner's life. However, in most cases, the time of production within the use-life of the artifacts is

unclear, and it remains possible that the compositions contributed to the meaning(s) and value of celts during their use in life.

COPPER PROCUREMENT COSTS AND STRATEGIES, AND THE VALUE OF COPPER

Copper was a valued raw material that had circulated among societies of the eastern United States prior to the Middle Woodland and continued to be important into historic times (e.g., Goad 1978; Griffin 1961a; Quimby 1960; Winters 1968). More copper appears to have been consumed during the Middle Woodland than at any other point in eastern prehistory (Seeman 1979a; Trevelyan 1987). Moreover, copper is by far the most commonly used metal and fancy raw material found in Hopewellian sites. It was used to make a variety of nonutilitarian objects including breastplates, headplates, earspools, cutouts, staffs and wands, cones, balls, rattles, panpipes, gorgets and pendants, effigy animal power parts, beads for necklaces, bracelets, buttons, and pins, in addition to two kinds of tools—awls and needles. The common use of copper for personal adornment, and to depict publically viewed zoomorphic and geometric symbols for ritual, suggests that its value was widely appreciated among peoples within Hopewellian communities.

The source of the vast majority of copper found in Middle Woodland sites across the northeastern United States is the series of mines and exposures in the Upper Great Lakes: the Keweenaw Peninsula of upper Michigan, Isle Royale in north-central Lake Superior, and Green Bay, Wisconsin. Small amounts of copper from free nuggets of Wisconsin and pre-Wisconsin-age glacial drift in Illinois, Indiana, and Ohio, which originated largely from the Lake Superior sources, may also have been used (Goad 1978, 1979; Seeman 1979a:293). In the southeastern United States, Middle Woodland communities used copper from both the Great Lakes and the southern Appalachian mountains in Tennessee, North Carolina, and Georgia (Goad 1978, 1979). The relative amounts of copper used from the Great Lakes and Appalachians apparently varied from one region to another in the Southeast. In the

Copena area, where copper celts are found, most of the copper artifacts that Goad (1979:241) assayed chemically were found to have been made of copper from Great Lakes sources; the remainder were made of copper from the ore band in southeastern Tennessee, northeastern Georgia, and northwestern North Carolina.[2] What is critical to our arguments here is that Great Lakes copper appears to have been used exclusively or in large proportions by Middle Woodland peoples in the eastern United States who made copper celts.

For sites in any of these Middle Woodland regions, the Lake Superior copper source is a great distance away. It is about 600 linear miles from the largest sites in the Scioto, Point Peninsula, Havana, and Crab Orchard regions, and about 900 linear miles from the largest site in the Southern Appalachian region (Seeman 1979a). Canoe trips from these regions to the Lake Superior copper sources would have taken many months (Little 1987). The Appalachian copper ore band that was used by Copena societies was separated from them by about 100 to 400 linear miles.

The great distances that were involved in obtaining copper, if it was gotten directly through logistical trips (see below), and the practical aspects of preparing for, funding, and manning such an expedition, mean that copper had a high procurement cost. This fact alone helps to account for its social and economic values in Hopewellian societies. In addition, the nonlocal source of copper may have increased its *ideological* value. Mary Helms (1976, 1988) suggests that in traditional societies, spatially distant people and areas are often viewed as unknown, powerful, dangerous and/or supernatural in the same ways as are philosophical–religious mysteries such as death. Her review of the ethnographic literature indicates that people who can become familiar with spatially distant areas are often accorded the same kind of prestige as shaman, priests, and other kinds of religious officials. (For the bridging logic, see Eliade [1972:482–485] on the "difficult passage", and Carr, Chapter 16: Note 20.) Long-distance travel often requires extensive ritual preparation. In this view, distance is a resource that, expressed in either knowledge or material goods, is not equally accessible

to all members of a population. If most copper used in Hopewellian societies was obtained by long-distance journeys, then the ideological value of copper, in addition to its economic value, would have been great. Likewise, the social prestige of those who journeyed and successfully retrieved copper would have been great—not simply as the possessors of copper, but as persons who made the journey and came back to tell of it.

The relevance of Helm's position to the ideological value of Middle Woodland copper depends on whether or not the distant Great Lakes copper that was used to make celts was typically obtained by persons *directly* through long-distance logistical trips. It is possible that, instead, copper was procured *indirectly*, through down-the-line regional exchange. Likewise, it may have been gotten indirectly through "nodal" regional exchange among leaders of "peer polities" or leaders of a formal or informal hierarchy of regional and local exchange centers. Chemical sourcing of copper artifacts does not discriminate among these options.

Indirect procurement by one form or another of regional nodal exchange has been favored by Goad (1978, 1979:245) and Struever and Houart (1972). In contrast, we suggest that direct, long-distance procurement was common, for four reasons.

(1) *The geographic distributional nature of Hopewellian ritual raw material sources, generally.* It appears that, to make their ritual objects, Hopewellian communities often deliberately sought raw materials that were somehow "difficult" to obtain, and that long-distance journeying was a common correlate of difficulty. For example, alligator teeth and barracuda jaws are available only from the Florida Gulf Coast. They have been found at the sites of Hopewell, Turner, Seip, and Mound City—all within Ohio (Seeman 1979a:table 23)—but none has been found in any of the excavated sites between Ohio and the Gulf Coast. This geographic distribution suggests that they were obtained by long-distance logistical trips, rather than regional exchange. Clearly, these objects were incorporated into Hopewellian ceremonialism only when they were perceived by the local population to

be hard to procure, as a consequence of their distance.

Obsidian is the classic example of a Hopewellian raw material that was obtained apparently in part because of its distant source and difficult acquisition. All of the Hopewellian obsidian that has been chemically sourced has been shown to have come from either Obsidian Cliff in what is now Yellowstone National Park, or the Camas–Dry Creek outcrop in Idaho (Griffin et al. 1969; Hatch et al. 1990; Hughes and Fortier 1997). Both sources are some 1200 miles away from the Ohio Hopewell sites where obsidian is most frequent. It is reasonably certain that obsidian was procured directly by logistical trips rather than by trade (Griffin 1965:146–147, contra W. C. Mills). No Hopewellian exchange artifact has been found in the Wyoming and Idaho areas, and only a few flakes and formal tools of obsidian have been excavated from Middle Woodland-age sites geographically intermediary between the Rockies and Havana Hopewell sites.[3]

Meteoric iron found in Ohio and Illinois Hopewell sites also appears to have been obtained through long-distance logistical expeditions (Carr and Sears 1985). In West Virginia, Pennsylvania, Ohio, Indiana, Illinois, Iowa, and northern Missouri, documented meteorite falls are scarce and small; in contrast, meteoric iron artifacts within Ohio and Illinois Hopewell sites are numerous, implying procurement from a distance. Indeed, specimens from the Turner and Hopewell sites in Ohio have been sourced to the Brenham fall in south–central Kansas (Wasson and Sedwick 1969). Direct procurement of metoric iron by Illinois and Ohio Hopewellian persons, rather than indirect exchange for this raw material, seems likely because Kansas City Hopewell sites lack meteoric iron artifacts (Carr and Sears 1985:84).

The predisposition of participants in Hopewellian rituals to seek out particularly those raw materials that were distant and hard to procure can be argued more precisely from Brose's (1990) study of the travel costs involved in obtaining various raw materials from various regions of Hopewellian florescence. Brose's method goes beyond considering the simple, linear distances between raw material sources

and Hopewellian sites. It is based, more realistically, on both water and overland trail distances between two points, and on the number of changes in the mode of transport (e.g., portaging, river vs. lake transport) required to travel between them. Brose considered 26 raw materials, from six resource catchments over North America. Using this approach, Brose (1990:117, table 3) found that Scioto Hopewell sites, which contain the greatest diversity and quantity of exotic raw materials, are not located centrally with respect to the sources of Hopewellian raw materials; i.e., the sites are not located where travel costs to raw material sources would have been minimized. Rather, the average procurement costs for the raw materials deposited in Scioto Hopewell sites is higher than for any other Middle Woodland cultural region. In other words, raw materials that were difficult to procure, in being distant, were emphasized in Scioto Hopewell ritual. This circumstance suggests the importance of distance in material selection and acquisition and, by implication, long-distance travel to raw material sources.

We do not mean to imply that all ritually and ideologically significant Hopewellian raw materials, or even all those that were obtained from a distance, were always obtained by direct procurement. For example, Carr and Sears (1985:85) have argued from distributional and sourcing data that meteoric iron was probably obtained by Hopewellian communities by several different means, including local collecting, regional exchange, and long-distance logistical trips, depending on the regional tradition. However, we do suggest that a primary thrust of Hopewellian raw material procurement was toward materials that were somehow difficult to obtain, and that long-distance journeying to a material's source was a common and ideologically important expression of difficulty.

(2) *A pattern of accumulation of raw materials within sites.* Two researchers have indicated or implied the improbability of down-the-line exchange and nodal regional exchange models of raw material procurement for Hopewellian societies, considering how raw materials were centripetally brought to and accumulated within key sites rather than distributed or exchanged from them to outlying sites. Otto (1979:12) noted that "the Hopewellian trade network . . . is most clearly seen in terms of the items that the Ohio Hopewell *imported* from outlying localities" (emphasis in original) and deposited in their sites, rather than exchanged among localities. Braun (1986:121) suggested that the distribution and "movement of most exotic materials, in fact, appears to be accounted for most easily by the idea that deliberate expeditions were undertaken by a few residents of the core areas for the purpose of obtaining 'fuel' for local exchange activity back home." An interregional exchange network seemed unlikely to Braun.[4]

(3) *Variation in celt sizes over the eastern United States.* Empirical data presented below do not indicate that celt sizes are typically larger in any one or a few key regions (e.g., the Scioto Hopewell area) that might have served as centers for distributing raw copper or copper celts over eastern North America. Thus, it does not appear that raw copper or celts were acquired and distributed by nodal exchange (Goad 1978, 1979; Struever and Houart 1972). Further, the sizes of celts over eastern North America are not an inverse function of their distances from Great Lakes sources, suggesting that raw copper or celts were not distributed from there by down-the-line exchange (Renfrew and Bahn 1991b:307–338). The data accord, instead, with the idea that copper was procured directly from the Great Lakes through logistical trips taken independently by persons from different regional traditions (see below, Patterning Indicating the Procurement of Copper for Celts).

(4) *Native American ethnographican alogs.* The suggestion that individuals frequently journeyed long distances to the sources of exotic raw materials to obtain them, based on archaeological and geographic data, is supported by analogies to common historic Native American rites of pilgrimage to powerful raw material sources. The annual pilgrimage of Papago men and youths from Arizona to the sacred Pacific Ocean and back to gather salt (a powerful substance), other power objects, and visions, is a well-known example (Carr, Chapter 16; Gill

1982:101–105). In addition, Native American pilgrimage analogs fit well with Helms's (1988) ideas about the power and prestige attributed to persons who are able to return safely from long travels and about the ideological value given to tokens of long travel, here applied to copper. (See Turff and Carr, Chapter 18, for specific historic Woodland Native American religious concepts and rites that involved copper and that bridge the pilgrimage analog and Helms's concepts for copper.)

Considering all the above lines of evidence, we suggest that most Great Lakes copper used by Hopewellian peoples was probably obtained directly from its source by long-distance journeys, rather than procured through regional exchange or obtained locally (in the southeastern United States). Thus, copper would have had high economic and social values. In addition, the ideological value of copper would have been great because its possession typically would have involved taking trips to unknown, dangerous, and powerful places and peoples, following Helms (1988).

Finally, we note that, whether copper was procured by regional exchange or long-distance journeys, it was among the most economically expensive, if not the most economically expensive, of Hopewellian raw materials in the travel costs of procurement it entailed, according to Brose's (1990:124) model. This appears to be the situation for every Hopewellian regional tradition, save Point Peninsula. Of the various Hopewellian raw materials, copper may well have had the highest economic, social, and ideological values in the greatest number of regional traditions—at least from the perspective of travel costs and the potential dangers involved in making long journeys. Copper celts would have been widely understood as to their high economic, social, and ideological values within a Hopewellian *Sprachbund*.

SOCIAL-SCIENTIFIC VIEWS ON VALUE

To appreciate the functional implications of the economic, social, and ideological dimensions of copper in the workings of Hopewellian soci-

eties, it is necessary to consider certain social-scientific, theoretical perspectives on value. The views of Karl Marx and Roy Rappaport are especially pertinent.

An important insight of Marx was that an understanding of an economic system is founded on an understanding of the way in which a society assigns value to objects. Capitalist economies, according to Marx, are based on the labor theory of value. This theory holds that items have value insofar as they have labor invested in them; the labor that produced an item, rather than any inherent usefulness the item might possess, is the primary determinant of its worth. Conceptualizing this basic rule of capitalist economies was essential before Marx could disentangle the relationships between producers, employers, and consumers.

Marx's labor theory of value was developed specifically to explain modern capitalist economies; it was not designed to account for the workings of prehistoric economic systems. Consequently, it is necessary to develop different sets of basic rules to characterize various prehistoric productive systems (cf. Gosden 1989; Gregory 1982).

One possible basis for a logic of value for Hopewellian copper celts can be found in Rappaport's (1979) writings on ritual. Rappaport proposed that a ritual communicates two kinds of messages about it and its performers: canonical and indexical. *Canonical* messages contain more or less invariant information about enduring aspects of nature, society, and the cosmos. These messages refer to entities and processes outside the immediate ritual context and, as such, are relatively immutable and unfalsifiable by the performers. *Indexical* messages, in contrast, pertain to the immediate conditions of and relationships between performers and, as such, are a source of variability in ritual. Even the most invariant ritual ceremony allows for numerical variation. For example, in the Tsembaga *kaiko* ritual,

> What is not specified by liturgy, but is of great importance to all concerned, is the order in which the names of allies are called out. He who is called first is most honored. He who is

called last may well feel dishonored. (Rappaport 1979:183)

Likewise, the quantity of goods involved in a ritual may vary—for example, in the number of pigs slaughtered at a Tsembaga feast. Thus, the variability that can be expressed through the indexical messages of a ritual can be used to communicate information about the relative social distinction and prestige of the performers.

The concepts of canonical and indexical messages can profitably be extended to consider the roles and values of particular objects within a ritual system. Specifically, we suggest that copper celts expressed both canonical and indexical messages in Hopewellian societies. The consistent morphology of the celts and their raw material would have conveyed important canonical messages about invariant principles of Hopewellian society and philosophical–religious beliefs shared (i.e., ideology) within a *Sprachbund*. However, altering the indexical aspect of the celts, namely, their size, could have changed the relative power of these messages and, hence, the relative importance of celts and the relative distinction and prestige brought to their owners. Larger celts had more copper—a raw material that was both economically and socially expensive to procure. In sum, in this light, the value of a celt can be decomposed into its canonical and indexical dimensions. The former is ideological in nature, at once concerned with social and philosophical–religious principles. The latter is practical, operational, and behavioral in nature, simultaneously pertaining to economic, social relational, and sociopolitical actions and costs. It would be inappropriate to assess the value of celts solely in terms of their labor-based economic worth.

In the following section, we consider several possible canonical messages that might have been invoked by copper celts. We then turn to their indexical messages as a function of their size.

CANONICAL MESSAGES OF COPPER CELTS

The canonical messages expressed by copper celts may have concerned three fundamental aspects of Hopewellian society and philosophical–religious beliefs. The first two stem from the fact that copper celts are a nonutilitarian representation of an actual tool important in Hopewellian societies. Ungrooved celts made of ground stone are common on Middle Woodland sites across the eastern United States (Griffin 1955:41; Struever 1964:91). Unlike copper celts, stone ones show much evidence of having been used as chopping tools, including extensive wear on the bit, broken-off bits, and possible resharpening patterns (Beck 1990; Carr 1982b:247; Cole and Deuel 1937:plate 31; McGregor 1958:98; Wray and MacNeish 1961:43). In an analysis of one Middle Woodland domestic site in Illinois, ungrooved stone celts were found to associate spatially with tools used to work hardwoods (Carr 1982b:249). Middle Woodland ungrooved celts have also been found in their original wooden handles in bogs in Pennsylvania, showing that some were used as axes (Witthoft 1955:16). Historically in eastern North America, ground stone celts were used by Native Americans for both the heavy-duty task of felling trees and lighter-duty tasks such as working and shaping wood (Carr 1982b:248).

Ground stone celts were likely used by Hopewellian societies in at least two socially and philosophically–religiously charged events: canoe making and construction of earthworks and wooden ritual facilities. The dugout canoe, as a vehicle for long-distance travel (Brose 1990), would have been an important symbol of potential contact with unknown and powerful people and places afar, including the human and geographic sources of valued raw materials such as copper. A celt made of copper, analogous to stone celts used to manufacture canoes, would have been an ideal representation of such an adventure, as well as the resources that had to be mustered for it and the raw material and power retrieved.

It is also possible that an association of celts with canoes made another, or an additional, metaphorical reference: to the "spirit canoes" or "soul boats" that shamanic practitioners commonly have used cross-culturally to make their journeys to Lower or Upper Worlds or across the Middle World (Eliade 1972:164, 172,

356–357; Harner 1990:71). The derivation of copper from underground deposits of the Lower World, and the archaeological association of copper with clear Lower World referents in some Ohio Hopewell sites (Turff and Carr, Chapter 18; Penney 1983), are relevant here. A celt of copper could have been a natural referent to journeying to the Lower World and the power it entailed.

Both ideas—of the physical journey to copper and the spirit journey to the Lower World—may well have been intertwined. In band and tribal societies, shaman or shaman-like practitioners often are the persons who travel widely, across social boundaries, to power places such as the sources of exotic raw materials (e.g., Halifax 1979:87–91; Mails 1979:49–54, 181–185; Park 1938:27–28).

The second socially and philosophically–religiously charged kind of event in which ground stone celts were most likely used is the construction of earthworks and wooden ritual facilities. Stone celts would have been used in clearing trees preceding the construction of geometric earthworks in wooded environments. For example, the Scioto valley during the Woodland Period appears to have been primarily a forested environment, with occasional patches of prairie. Some Scioto-tradition earthworks, such as Hopewell and Liberty, appear to have been built in forests.[5] It is possible that copper celts referred to the clearing of land and the building of earthworks.

Related to this association, ground stone celts would have been used to cut down trees to make charnel houses, other ritual buildings, log tombs, and coffins. Log tombs were a common mode of burial in the Scioto region (e.g., Shetrone 1936; Shetrone and Greenman 1931), and were a rarer and prestigious kind of entombment facility in other regions of Hopewellian ritual in the midwestern and southeastern United States (e.g., J. A. Brown 1979; Jenkins 1979; Walthall 1979). Charnel houses were constructed in only the Scioto region (e.g., Greber 1983; Mills 1916; Shetrone and Greenman 1931), but rituals there were sometimes attended by persons from other regional traditions (Stoltman 2000; see also Ruby and Shriner, Chapter 15). A celt of copper would have been a reasonably direct way of symbolizing the cutting of trees for mortuary and other ritual facilities in eastern North America.

The ideas of both earthwork construction and construction of ritual facilities may, in some Hopewellian traditions, have been intertwined. It is possible that earthworks, charnel houses, tombs, and coffins were all thought of as equivalent, in involving logs and providing a container for the deceased. The similar (subrectangular) shapes of the earthwork embankment, the submound charnel houses, and the Great Mica Grave at Mound City attest to the occurrence of this metaphor in at least the Scioto region (J. A. Brown 1979). A more general, cross-culturally common metaphor that might have linked these several kinds of facilities to each other and the shamanic-rooted concept of the World Axis is summarized by Carr (Chapter 7, The Burial Clusters as Communities).

Finally, it can be noted that the two broad possible symbolic referents of copper celts—canoe making and the construction of earthworks and ritual facilities—may themselves have been conjoined in Hopewellian thought in some regions. In the Copena site of Cramp's Cave, Alabama, burials in "canoe-shaped" coffins of wood were found (Walthall 1979:200). The travel of the dead to the afterlife by a soul boat, analogous or equivalent to that of the shaman's, is a fairly common motif, cross-culturally (e.g., Eliade 1972:355–358; Harner 1990:71; Huntington and Metcalf 1979:71). Celts of copper, again, could have represented the spirit canoe journey to an afterlife.

The possibility that ground stone celts and their copper effigies had some or all of these canonical meanings, and the closely related but distinct nature of these messages, accords well with Seeman's (1995) idea that certain Hopewellian manifestations at a middling distance from each other across the eastern United States comprised a *Sprachbund*. Various Hopewellian traditions may have conferred somewhat different but related sets of meanings to celts, thus making celts an ideal medium for nonverbal communication of broadly shared and approximately similar understandings of the cosmos among distant peoples. Using the

ideologically charged raw material of copper (Turff and Carr, Chapter 18) to represent utilitarian celts and their canonical meanings would have made this medium of regional communication and interaction all the more potent.

The third fundamental aspect of Hopewellian society and philosophical–religious beliefs that may have been communicated by copper celts is the institutionalized (achieved or ascribed) leadership role(s) involved in long-distance geographic journeying, spirit journeying, the construction of earthworks and wooden ritual facilities, and mortuary rites. This possibility is suggested by the artistic compositions that were rendered on at least some copper celts from Ohio, as introduced above (Figures 17.1A–C). Some compositions include bird impersonators, who conceivably could have been bone-pickers responsible for processing corpses (Otto 1975), psychopomps who guided the soul of the deceased to an afterlife, and/or shaman-like journeyers, generally. Other Ohio copper celts depict humans in animal masks, who, along with the bird impersonators, could have been clan leaders in totemic costumes. Yet other compositions illustrate persons adorned with geometric or turbanlike, layered headdresses, who could have been other kinds of leaders perhaps not involved in shaman-like activities. These images accord well with Carr and Case's (Chapter 5) finding, through the study of art and burials, of Ohio Hopewellian leaders of multiple kinds, including classic shaman, shaman-like leaders of more specialized forms, and leaders with less shaman-like casts. Although further work is necessary to confirm specific images on specific celts, in total, the collection of images suggests that copper celts symbolized the institutionalized roles of leaders who interceded for society—perhaps with the corpse and soul of the newly deceased, longer deceased ancestors, creatures of the Lower (and other?) Worlds, strangers in geographically distant societies, and/or other elements of the Hopewellian cosmos. This leadership symbology is not unexpected, given the use of copper celts in Mississippian societies as "badges of office" of the highest degree (Peebles and Kus 1977:441)[6]—albeit, offices that prob-

ably differed in recruitment and function from Hopewellian counterparts.[7]

THE INDEXICAL MESSAGE OF COPPER CELTS

Each of these more or less invariant canonical messages expressed by copper celts may have had corresponding indexical messages, which varied with the size, procurement cost, and/or perceived spiritual power of celts. Specifically, larger and smaller celts could have symbolized the relative prestige acquired by a person who made a long-distance journey, the amount of power entailed in a shaman's journey to the Lower World, the amount of prestige had by leaders who were central in organizing the clearing of land for earthworks and the construction of wooden ceremonial architecture and tombs, and/or the degree of power of a psychopomp who was in charge of burial rites and facilitating the spirit canoe journey of the deceased to the afterlife. Through such indexical messages, copper celts were a means by which certain members of a Hopewellian community could acquire, store, or augment prestige.

Copper celts were an ideal medium for expressing the differential ability of persons to procure a distant raw material, and their varying power and prestige, for at least two reasons. First, celts, on the average, required more copper to make than any of the other Hopewellian artifact classes of copper. Second, it is likely that the indexical messages of relative prestige and power communicated by a large copper celt would have been appreciated in all regions within the Hopewellian *Sprachbund*. As discussed above, per Brose's (1990) analysis, persons in all of these regions would have been aware of the economic costs, difficulty, and danger involved in making a journey to the Great Lakes sources of raw copper.

ANALYSIS

To explore the ideas presented above, we collected available information on the sizes, contexts of deposition, and concentration of copper

celts within each of the regional traditions in which celts have been found. All published archaeological reports of the Hopewellian sites listed by Seeman (1977a) as having had celts excavated from them were consulted. Some celt measurements were given in the text of reports; many had to be estimated from photographs. In addition, all Scioto Hopewell celts curated at the Chicago Field Museum and the Ohio Historical Center (Columbus) were measured directly. This information is reported in Appendix 17.1.

From these data, it was apparent that the most comprehensive analysis could be made if focus was placed on simply the length of celts, as one measure of their size. Various descriptive statistics and graphs for the whole population of celts and for subsets of them were then calculated. These empirical generalizations allowed us to investigate further the theoretical ideas we have developed here, and incidentally to make some culture-historical observations.

Patterns Indicating Canonical and Indexical Messages

Figure 17.3 shows the frequency distribution of the sizes of celts from all Hopewellian regional traditions. Its single mode, as well as the similar morphology of celts over this large territory, indicates that there was a shared, basic, ideal form for copper celts. That form probably communicated certain canonical information about Hopewellian society and philosophical–religious beliefs. The existence of very small copper celts, less than 5 centimeters (2 inches) long, and very large ones, about 60 centimeters (2 feet) long, indicates that celts were valued for the canonical messages they conveyed about Hopewellian society and beliefs, regardless of their size. Thus, in one sense, a small copper celt and a large one transmitted similar information.

However, the considerable variability around the median length of 11.5 centimeters (Figure 17.3) indicates that individuals also manipulated and elaborated the indexical aspect of the
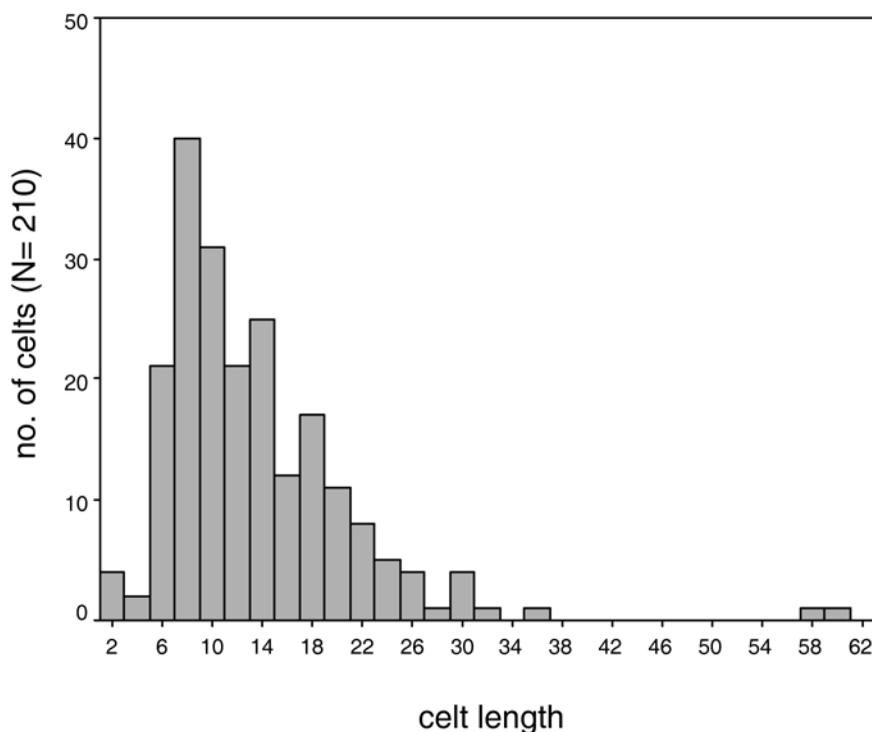
Figure 17.3. Frequency distribution of the sizes of celts from all Hopewellian regional traditions.

messages communicated by these objects, presumably to display and affect their social prestige and power. Some copper celts are quite large relative to the mean, even excluding the two largest celts, which might have been community or other corporate group property. The difference between average-sized celts and larger ones would have been readily apparent to anyone who viewed them. An individual who was able to acquire a large celt would have received social distinction not only from possessing a symbol of Hopewellian society and philosophical–religious beliefs, but also for having magnified the scale at which this symbol was represented. In this light, there was a hierarchy of distinction among "equals" of high prestige.

The use of celt size to display and increase the power and prestige of an individual, we would argue, is evident not only in the variability of celt size, but also in the extended tail of the size distribution to the right of its mode. This suggests that while all would-be celt owners aspired to having a large celt, most could only accumulate enough resources to acquire the copper needed to make a celt of only about 11.5 centimeter length (the median of the distribution). Only a few individuals could muster the resources required for copper procurement trips of long duration and copper mining time, frequent trips, and/or large procurement parties. Alternatively, or in addition, it is possible that the extended tail of the celt size distribution reflects the stochastic (Poisson-like) success that various individuals had at mining copper, upon making procurement trips.

Contextual evidence also supports the idea that the size of a celt reflected the amount of power and prestige symbolized by it. The largest, 60-centimeter celt was found in an artifact deposit over Skeletons 260 and 261 in Mound 25 of the Hopewell site. This deposit contained many other practically and ideologically valuable items that expressed social standing and roles, including over 90 copper breastplates; a few meteoric iron breastplates; 62 other celts largely of copper but also meteoric iron; partially hammered nuggets of Algodonite, copper, meteoric iron, and silver; and over 16,000 pearl and shell beads (Greber and Ruhl 1989:90–100). Also included in the deposit were two items that suggest im-

portant leadership roles: a copper headplate with new deer antler growth and a femur baton carved with the image of an animal impersonator. The impersonator wears a headdress of old and new deer antler growth and appendages in the form of deer ears, rabbit ears, snake heads, and/or bird wings, and has the nose of a roseate spoonbill water bird. The large, 58-centimeter celt from the Seip-Pricer mound was found in a ceremonial artifact deposit placed on a large clay platform and covered with a reed mat and log structure. Like Burials 260 and 261, this deposit again included other artifactual expressions of high social standing: 12 copper breastplates, several large pearl beads, and three bear canines set with pearls (Shetrone and Greenman 1931:380). The large number of indicators of high prestige and key leadership roles found with the two big celts at Hopewell and Seip corroborates the high indexical dimension of their value based on their size.[8]

A final observation suggesting that the size of a celt reflected the prestige and power of its owner is the moderate, negative correlation ($r = -.63$; $R^2 = .40$) found between the average length of copper celts in a region and the travel cost-based value of copper for that region, as calculated by Brose (1990). This pattern suggests that although increasing distance from the Lake Superior copper source somewhat hindered would-be celt owners in, for example, the Southern Appalachian region from producing a large celt, celt size was determined more so by some factor(s) other than distance to copper deposits. One likely factor is the prestige and power of the owners of celts, which need not have varied systematically by region and distance from the Lake Superior source. In other words, individuals expressed and augmented their prestige and power independently in each different regional Hopewellian tradition.

Patterns Indicating the Procurement of Copper for Celts by Long-Distance Trips

In a previous section, we suggested that copper was probably procured commonly by direct, long-distance journeys to its sources, in contrast to down-the-line or nodal regional exchange.
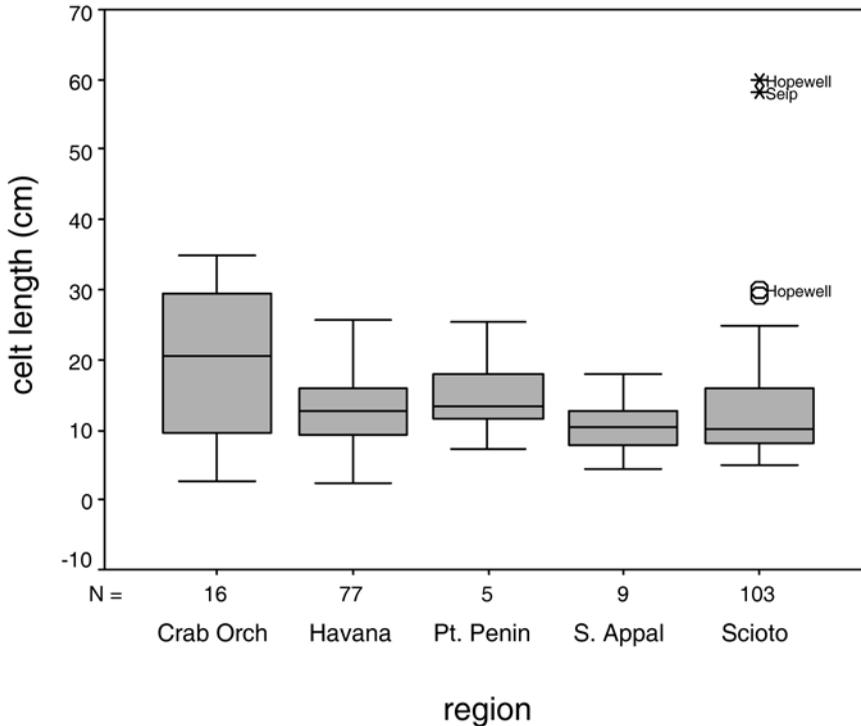
Figure 17.4. Box plots of the ranges and variability of celt sizes in each of five Hopewellian regional traditions show that most regions are generally similar in these regards, but that a few unusually large celts are found at the Hopewell and Seip sites in the Scioto region and at the Mount Vernon site (not shown) in the Crab Orchard tradition.

This idea is supported by comparing the amount of variation in celt sizes within different regional Hopewellian traditions. Figure 17.4 shows that most regions are characterized by a similar numeric range and level of variability in celt sizes. This suggests that within most regions, there were similar degrees of difference between individuals in their ability to obtain copper. In turn, this situation suggests the relative autonomy of each region in matters of copper procurement. In other words, copper to produce celts, and copper celts themselves, were probably not distributed or exchanged from a central location, such as the Scioto region, to elsewhere in the Eastern Woodlands, as would be the case in nodal exchange. Nor did access to copper diminish clinally away from Great Lakes sources, as would be the case in down-the-line exchange from that area (Renfrew and Bahn 1991b:307–338). The autonomy shown by each region in copper procurement and manufacture

accords, instead, with procurement by the direct, long-distance journeying of individuals from many regional traditions to copper sources.

The two notable exceptions to the similarity of regions in the size distribution of their celts are the two large, 60 and 58 centimeter-long celts from the Hopewell and Seip earthworks. Their sizes suggest access to copper and social prestige and power on a scale unmatched in the Hopewellian world. The two cases do not, however, speak to the mechanism by which copper was obtained.

The Size and Social Composition of a Ritual Gathering at the Hopewell Site

Another topic that the data on celt sizes address is the size of one social gathering at the Hopewell site. Deposited along with the 60-centimeter long celt above Skeletons 260 and 261 in Mound 25 of the Hopewell site were 62 smaller celts. If

each celt, or few celts, within the deposit was likely the possession of a single individual, then the number of celt owners who contributed to the ritual deposit over Skeletons 260 and 261 can be estimated. In the 58 cases in our database in which an individual was buried with one or more celts, the mean number of celts per individual is about 1.5. This would imply a gathering of about 41 celt owners to honor the two persons represented by Skeletons 260 and 261. If all persons with celts owned only one, the number of celt owners who gathered would be 62.

It is likely that the primary assumption made in this numerical estimation—that the 62 smaller celts deposited above Skeletons 260 and 261 belonged to many individuals, and not to Skeletons 260 and 261, alone—is correct. The frequency distribution of lengths of 42 of the small celts that were found with Skeletons 260 and 261 (Figure 17.5) and for which measurements are

available mirrors the primary mode of the total frequency distribution for all celts studied here (Figure 17.3). If the 62 celts found in the grave with Skeletons 260 and 261 were instead owned by those two individuals, who were highly prestigious, considering the other items associated with them, then one would expect the size distribution of the 62 celts (as a reflection of these two persons' prestige) to be different. It would have a mode farther to the right than that of the size distribution of all celts representing persons of many degrees of prestige. This is not the case.

Putting the estimate of 41 to 62 celt owners who gathered at Hopewell into context allows one to see that these celt owners probably included many persons who came from *outside* the Scioto region. Only 13 of the 38 excavated sites reported by Seeman (1979a:313) for the Scioto region contained any copper celts, and of the 8 sites for which published data are available, the
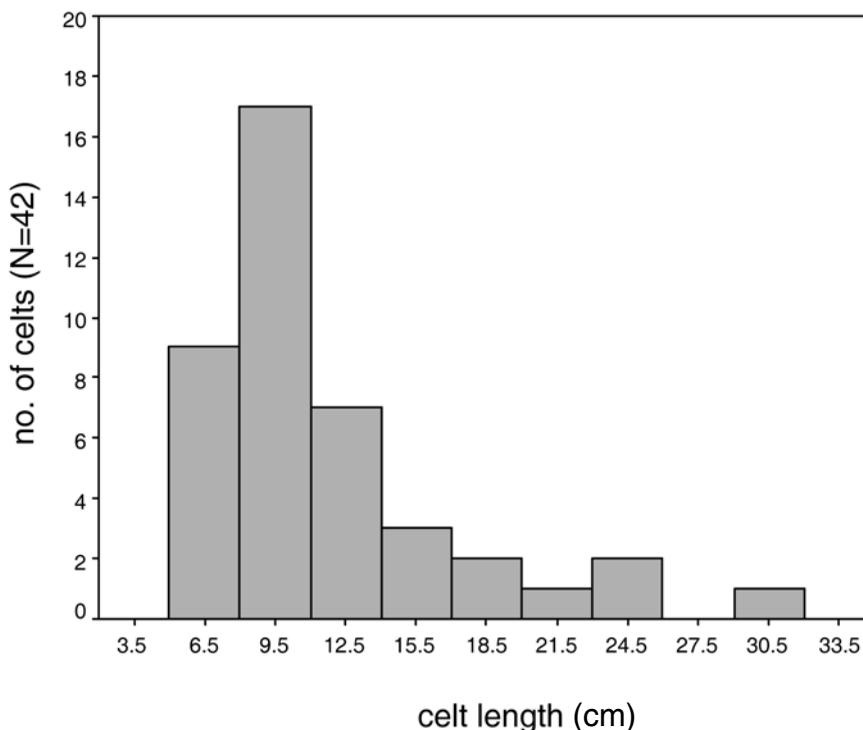
Figure 17.5. The frequency distribution of lengths of 42 of celts that were found with Skeletons 260 and 261 in Mound 25 of the Hopewell site, Ohio, that exclude the one, very large celt from this grave, and for which measurements are available, closely resembles the primary mode of the frequency distribution for all celts studied here (Figure 17.3).

median number of celt owners at these sites was two. Although we cannot know the exact, total number of celt owners who were buried at the 13 sites, using the median number of two per site suggests that the number of celt owners in the Scioto area was almost certainly less than the 41 to 62 celt owners who gathered to honor the two individuals represented by Skeletons 260 and 261. This would imply that celt owners from outside the Scioto area came to the ceremony for those two individuals. Considering that the 13 sites with celts span several hundred years and many generations, the number of celt owners within the Scioto region at any point in time was probably much less than 41 to 62, suggesting that the number of outsiders who gathered to honor the two persons represented by Skeletons 260 and 261 was significant in absolute numbers and in the proportion of celt owners at that ceremony.

Regional Differences in Mortuary Site Differentiation and Social Complexity

The data compiled here (Appendix 17.1, Figure 17.3) show that some regions of the eastern United States (i.e., the Scioto and Crab Orchard) traditions have unique sites with very large celts and large concentrations of celts compared to those in other sites in the area. In contrast, other regions (i.e., the Havana, Point Peninsula, and Southern Appalachian traditions) have numerous sites that contained only medium-sized and small celts at moderate or low concentrations.[9] These differences among regions in their degree of mortuary site differentiation suggest differences in forms of sociopolitical organization: in vertical status differentiation and/or horizontal, extralocal patterning and intensity.

It may be that in some regions, vertical status differences were more marked; in others, less. In particular, the large accumulations of copper celts at the Hopewell and Seip sites make up a large portion of all celts recovered from Ohio Hopewell sites, by number and weight (Figures 17.6 and 17.7). This pattern is duplicated in the Crab Orchard region, where Mount Vernon has produced the majority of celts found in sites of this area, by number and weight

(Figure 17.7). Although sample sizes are relatively small, most other sites in these two regions contain only one or two celts each. The Scioto and Crab Orchard regions stand in especial contrast to the Havana region, which, despite containing large numbers of Hopewellian sites with copper celts, lacks any single excavated site with an unusually large number of celts. Instead, the Havana region contains a number of sites with 5 to 12 celts each, in addition to sites with only a few celts (Figure 17.6).

The situation in the Havana region may reflect the particular sample of sites of various socio-political and ceremonial functions excavated there. Specifically, little archaeological excavation has been undertaken at possibly richer Hopewellian sites like Golden Eagle (Struever and Houart 1972)—the only Havana Hopewellian ceremonial center with a verified geometric earthwork—and the flood plain loaf-shaped mounds in the bottoms of the lower Illinois valley (Buikstra 1974; Struever and Houart 1972). However, taken at face value, the distribution of celts among sites suggests that prestigious individuals in the Havana area did not achieve the same level of social importance as did those at Hopewell, Seip, and Mount Vernon, who magnified the indexical messages of copper celts. In the Havana region, it appears that no one produced a symbol of Hopewellian social and philosophical–religious principles on a scale that distinguished them beyond all others.

This contrast between the Havana and the Scioto Hopewell traditions echoes Struever's (1965) earlier observation that they differed in social complexity—tribal and chiefdom organization, respectively, in his initial estimation from a great variety of material indicators. The pattern is also consistent with the differences noted by James Brown (1979:212–213, 219) between the potential of mortuary crypts in the Havana region to express status through burial and that possible through burial in a charnel house in the Scioto region. Specifically, Havana Hopewell burial crypts are small "storage houses" in which a few bodies were placed to decay and were covered over with logs and other materials instead of viewed. This suggests a relatively simple burial
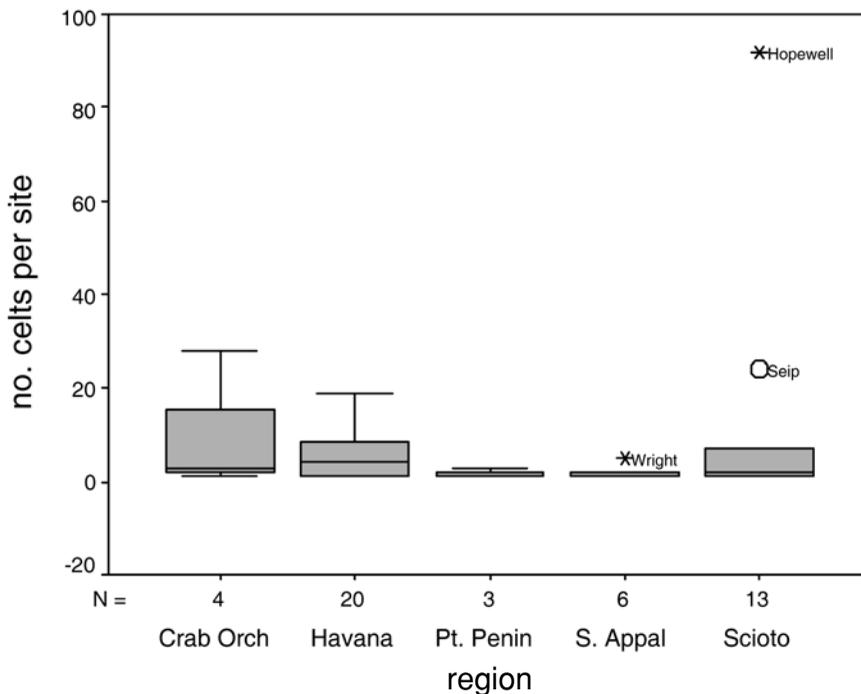
Figure 17.6. Box plots of the ranges and variability of numbers of celts found in each of five Hopewellian traditions indicate that large concentrations of celts at singular sites are found in the Scioto region (the Hopewell and Seip sites) and the Crab Orchard tradition (the Mount Vernon site).
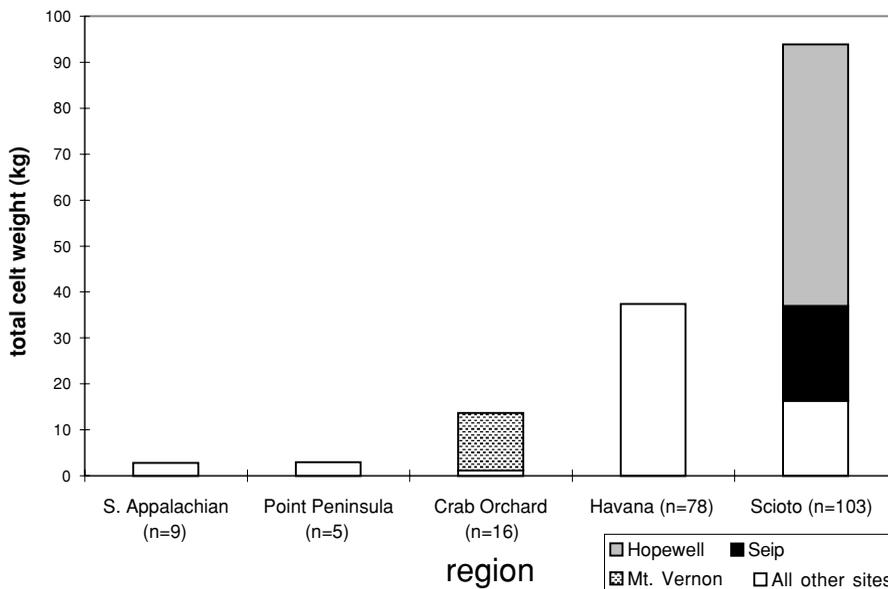
Figure 17.7. Bar chart of the total weight (kilograms) of the celts found in each of the five Hopewellian traditions, and the contributions to celt weight made by single sites (Hopewell, Seip, Mount Vernon) with many celts.

program that was not oriented toward the display of status, and a small funerary audience. These characteristics would imply, in traditional theoretical terms, a relatively simple social organization. In contrast, Scioto Hopewell charnel houses were large, house-like galleries in which sometimes many bodies were processed, rituals occurred periodically, and the prestige of the deceased may have been displayed to visitors. These conditions suggest a more complex burial program and a larger funerary audience. These features would imply a more complex social organization than that of Havana Hopewell. Thus, the contrast between the two regions in both their mortuary rites and their celt distributions points to Havana Hopewellian societies having been less vertically differentiated and complex than Scioto Hopewellian societies.

At the same time, it is wise to temper these contrasts between the Scioto, Crab Orchard, and Havana traditions with the understanding that the observed, different patterns of celt distribution among sites in these three regions may pertain as much or more so to differences in horizontal alliance patterning as it does to differences in vertical social complexity. In particular, Scioto Hopewellian peoples clearly placed more emphasis socially on building alliances among communities and materially symbolizing those alliances than did Havana peoples. This emphasis is evident in rich ceremonial deposits and grave assemblages that indicate large, cooperative and/or competitive ceremonial displays at the regionally special sites of Hopewell, Seip, and a few others in the Scioto area. Such displays explain, in part, the material flamboyance of these sites, including their large numbers and weights of celts. In addition, alliance networks appear to have encompassed more people in the Scioto region, in proportion to larger sustaining populations and community sizes, and in response to greater potential for subsistence risks there (see Carr, Chapter 7, Social Complexity in the Scioto and Havana Region Compared; and Carr et al., Chapter 13). The larger alliance networks again explain, in part, the great material richness, including celt numbers and weights, at Hopewell, Seip, and some other sites. Although the larger numbers of people integrated in the Scioto area

imply greater social complexity there, the particular balance of vertical versus horizontal complexity by which social integration was achieved remains unclear.

CONCLUSIONS

This study has shown that the value of copper celts to Hopewellian peoples cannot be understood from a Western economic perspective, simply from celts having been made of a nonlocal material that was costly to obtain. A labor theory of value is not adequate here. Instead, the value of celts was the product of a particular logic used by their makers, involving two different dimensions. First, celts had worth as a symbol and transmitter of canonical (i.e., immutable, unfalsifiable) messages of an ideological nature, concerning the principles of Hopewellian society and philosophy–religion. Celts possibly referred to canoe building and, thus, to long-distance journeying to unknown and powerful peoples, places, and sources of spiritually charged raw materials, and/or to spirit canoe journeys to the Lower World—the source of copper and power more generally. Celts also may have referred to the felling of trees for constructing earthworks, charnel houses, other ritual structures, and log tombs and, by extension, to the journey of souls of the deceased to an afterlife. Finally, celts may have referred to the institutionalized leadership roles that involved these activities, as evidenced by images of leaders rendered on celts from Ohio, at least, and as supported by the strong association of celts with adults and men over the Woodlands. In these ways, copper celts communicated fundamental structural aspects of Hopewellian society and belief.

From this perspective, to own a copper celt connoted a particular level of prestige and power simply by association with the power-laden phenomena to which it referred. However, at the same time, the social prestige expressed by the possessor of a celt could be augmented, because copper celts also communicated a second, indexical (variable) message of a practical, operational, and behavioral nature: the varying sizes of celts communicated the differing abilities of individuals to access a raw material that

was economically, socially, and sociopolitically costly and ideologically charged. Specifically, varying sized celts symbolized the relative prestige and power acquired by a person who made a long-distance journey to a copper source, by a shaman who journeyed to the Lower World, by leaders who organized the construction of earthworks and tombs, and/or by shamanic psychopomps who facilitated the spirit canoe journeys of the deceased to the afterlife.

In each Hopewellian tradition with copper celts, there were individuals whose differential access to copper permitted them to achieve more or less prestige and power through the production and possession of a celt of a given size. Although all individuals who owned a celt received some prestige by association with its canonical meaning(s), there was also a hierarchy of prestige among these "equals" that was expressed through the sizes of celts—their indexical meaning.

Celts were an ideal medium for expressing the indexical message of prestige and power because they required more copper to make, on the average, than any other Hopewellian class of copper artifacts. In addition, this message would have been understood throughout the various Hopewellian regional traditions in the eastern United States, because all traditions were a great distance from the primary source of copper, in the upper Great Lakes.

Empirically, the canonical and indexical dimensions of Hopewellian celts are, respectively, evidenced in their unimodal size distribution and variability in size about the mode, including an extended tail to the right. The association of extremely large celts with large quantities of other fancy grave goods, and the lack of much relationship between celt length and distance from the Lake Superior copper source, also indicate the indexical message of prestige communicated by celts.

Following Seeman (1995), the geographic distribution of copper celts across the northern Hopewell regional traditions and the Copena area can be suggested to represent a *Sprachbund*— an area encompassing "close strangers" (Helms 1988) who broadly shared understandings about Hopewellian society and philosophical–religious beliefs, and what to talk about when they met.

Some social and philosophical–religious principles, and their nonverbal symbolization in and communication through copper celts, may have been generally shared and understood among Hopewellian traditions in a *Sprachbund* over the northeastern and midsouthern United States. This is particularly likely for the association of copper with the Lower World and power (see Turff and Carr, Chapter 18). Copper was the metal and fancy raw material used most often in ritual contexts by Hopewellian peoples over this area. In this way, copper celts were an ideal medium for the nonverbal communication of basic social and philosophical–religious ideas among societies who probably (Seeman 1995) spoke mutually unintelligible languages. Simultaneously, copper celts would have expressed, through their overall mass, the general degree of power and prestige of their owners, even if their particular social identities (e.g., journeyer, shaman, manager of earthwork construction, psychopomp) were left unspecified.

Reconstructing the logic used in Hopewellian societies to attribute value to copper celts, and examining pan-regional and interregional variation in celt size and value, reveals a number of additional insights. First, a copper celt was probably owned by an individual rather than a community at large, in most cases. Across the eastern United States, most individuals buried with a celt had only one. Cases of multiple celts per burial possibly represent the gifting of celts to a deceased celt owner by living celt owners. The two extraordinarily large celts at the Hopewell and Seip sites in Ohio may have been exceptional instances of celts that were community property, analogous to very large "Copena" smoking pipes.

Second, in the Scioto and Havana regions, celts apparently symbolized social prestige that was achieved rather than inherited, and/or leadership roles that were filled preferably by males. Most persons buried with celts in these regions were adult males.

Third, the extraordinarily large celt found with two persons (Skeletons 260 and 261) at the Hopewell site indicates that one or both of these individuals were able to acquire and display prestige and power to a greater degree than anyone else in the Hopewellian world. This would

have been the case whether the celt was individual or community-wide property. Supporting this interpretation is the cache of 62 smaller celts, 92 copper breastplates, and other fancy items placed above or with the skeletons in which the large celt was found.

Fourth, quantitative analysis suggests that the 62 celts associated with Skeletons 260 and 261 were probably not their possessions, but more likely were contributions from approximately 40 to 60 celt owners who gathered for a ritual to honor the two individuals represented by Skeletons 260 and 261. The number of celts contributed to these to individuals is much larger than the total number of other celts known from all other excavated Hopewellian sites in the Scioto valley. Most sites have only one or two celts. This pattern suggests that the social gathering in honor of the two persons represented by Skeletons 260 and 261 likely included celt owners from outside the Scioto area. Similar multicommunity gatherings may have characterized the Mount Vernon site, Indiana, where 28 celts were recovered from a limited area of digging. However, a lack of intrasite provenience information prevents a certain conclusion. Stylistic analysis of any artistic compositions that may have been applied to the celts from the Hopewell and Mount Vernon sites could help to corroborate or falsify these interpretations.

Fifth, the fact that variability in celt size is largely comparable across all of the Hopewellian regional traditions in which copper celts have been found suggests that each area was largely autonomous in its acquisition of copper from the upper Great Lakes. Thus, copper for celt production, and copper celts themselves, were not distributed or exchanged from any central location (e.g., the Scioto region), as once held by Struever and Houart (1972) and Goad (1978, 1979), nor was copper exchanged in a down-the-line fashion from Great Lakes sources across the Eastern Woodlands. These alternative mechanisms of copper movement would have produced regionally modal or clinal copper distributions, respectively, which do not occur. The autonomy of each region in copper procurement and manufacture argues, instead, for the common, direct, long-distance journeying of individuals from multiple regions to copper sources. Thus, copper was procured similar to the way in which obsidian, alligator teeth, barracuda jaws, and some meteoric iron, at least, were likely acquired—by long-distance logistical trips.

Finally, Hopewellian regional traditions appear to differ in whether they have one site with a large number of celts and many sites with few, as in the Scioto and Crab Orchard areas, or have a number of sites with similar, moderate numbers of celts, as in the Havana area. This variation points to differences among these regions in their social complexity, probably both vertical and horizontal.

We began this chapter by noting the importance of analyzing single classes of artifacts. Each artifact class has its own, distinct properties that articulate it in unique ways with its social and cultural context. Differing kinds of artifacts may be used to reproduce differing kinds of social, economic, political, religious, and other kinds of relations. It is hoped that this chapter has illustrated the utility of detailed and contextual studies of single artifact classes. Similar studies of other fancy Hopewellian artifacts and raw materials with broad interregional distributions, such as metal panpipes (Turff and Carr, Chapter 18), metal earspools (Ruhl, Chapter 19), silver (Spence and Fryer, Chapter 20), mica mirrors, conch shell containers, galena lumps, and meteoric iron are and should be similarly revealing. Through such studies, the homogenized view of "Hopewellian Interaction" can be replaced with more culture-historically specific and sensitive understandings of many interesting forms of social interaction and many particular forms of logic for assigning meaning and value to artifacts.

Spielmann for her valuable comments on this paper and Mark Seeman for providing the inspiration for the early stages of this research.

NOTES

1. In each of these cases, a composition is neatly laid out within the space available on a fragment of a celt. The break in the celt does not crosscut the composition, and the composition does not extend off the fragment.
2. Likewise, the majority of copper artifacts analyzed by Goad from the St. Johns complex in Florida are made of Great Lakes copper. In contrast, those artifacts analyzed by her from the Santa Rosa–Swift Creek area are made of both Great Lakes and Appalachian copper, at similar frequencies (Goad 1978:194, 1979:244). Copper celts are not found in any of these Hopewellian traditions, however.
3. Only one obsidian flake has been excavated from a Kansas City Hopewell site (Johnson 1979:90, 29; Wedel 1943:99, in Griffin 1965:140), which is between the Rockies and the Havana and Scioto Hopewell sites having a fair amount to a large amount of obsidian, and which is along the Missouri River—the probable mode of travel to the Rockies. Little obsidian has been found in Middle Woodland-age sites west of Kansas City. One late Hopewellian corner-notched obsidian point and one obsidian flake were excavated from the Weeping Water Mound Group in southeastern Nebraska (Strong 1935:200–202, plate 7, in Griffin 1965:141). One piece of worked obsidian was excavated from the probably Middle Woodland-age Boundary mound in North Dakota (Griffin 1965:141).
4. Seeman (1979a) demonstrated that the a "Hopewell Interaction Sphere" lacked the highly structured system of centralized redistributional exchange nodes envisioned by Struever and Houart (1972). However, the analysis does not speak to whether raw material resources were more

likely gotten by down-the-line exchange or direct procurement.
5. At Hopewell, this is indicated by historic forest distributions (e.g., Moorehead 1922:87); at Liberty, by the forest soil profiles found below the Edwin Harness mound and the forest soils constituting the mound strata, submound features, and charnel house floor (Greber 1983:19, 23). Other earthworks, like High Banks (Greber 1983:23), Hopeton (Ruby 1997b), and the Great Circle of Newark (Lepper et al. 1992), were apparently built on prairie soils, as indicated by exposed soil profiles below sections of earthwork embankments.
6. At the Mississippian site of Moundville, Alabama, copper axes were found with the highest-ranking central burials in the mounds. They were not found with the highest-ranking individuals in minor ceremonial centers around Moundville.
7. Copper celts in specifically Mississippian societies are thought by J. A. Brown (1975:22–23, 1976:127) to have had their prototypes in war clubs and to have signaled leaders whose office and rank derived from military prowess or managerial effectiveness in warfare. Such war symbolism is common in Mississippian art and elite objects. It may occur in some Hopewellian artifacts (Carr, Chapter 7, Table 7.2), but only rarely. Most Hopewellian art and elite items have a heavy shaman-like loading, instead (Carr and Case, Chapter 5).
8. The relative power and prestige indicated by the two unusually large celts at Hopewell and Seip could have been that of two individuals who owned the celts or the pooled prestige and power of a community at large that owned the celt. Whether one situation or the other is true does not affect the argument that the large number of indicators of high prestige and key leadership roles found with the two celts corroborates the indexical dimension of their value based on their size.
9. This pattern of differences among regions in their degree of intersite variability in celt sizes and concentrations is distinct from their similar numeric ranges and variability in celt sizes.

Hopewellian Panpipes from Eastern North America

Their Social, Ritual, and Symbolic Significance

GINA M. TURFF AND CHRISTOPHER CARR

> Songs, like rivers, are paths through the forest.
> —*Marina Roseman*[1]

Panpipes found in Hopewellian ceremonial sites of eastern North America have long intrigued archaeologists and led them to various suppositions. They have been taken as a hallmark of Hopewell, "uniquely Hopewellian" (Seeman 1979a:327), because they are not found outside the Middle Woodland period. They have been used, with a few other artifact classes and mortuary practices, to define Hopewell as a unitary interregional phenomenon—the Hopewell Interaction Sphere: "panpipes in Ohio, Illinois, and Georgia are virtually duplicated in Florida" (Caldwell 1964:137), and "the size and construction of these instruments are similar across this territory" (Seeman 1995:136). Panpipes have also been used to infer the specific cultural nature of the broadest kinds of Hopewellian interaction over the Eastern Woodlands: nonlinguistic messages that were communicated through visual and musical symbols that might elicit a predictable, ritualized, behavioral response (Seeman 1995:136, 138). Finally, panpipes have given some general insight into the roles and gender relations played out in Hopewellian societies, and whether the social structures of Hopewellian

peoples were uniform across the Woodlands and diagnostic of Hopewell. Griffin (Griffin et al. 1970) held that panpipes across the Woodlands were recovered exclusively with adult males.

These generalizations and others triggered the research presented here. In order to evaluate them, a thorough search was made for all instances of Hopewellian panpipes and related forms in the Eastern Woodlands. A total of 105 panpipes from 55 sites in all of the major Hopewellian cultural traditions was documented (Turff 1997). The purpose of this chapter is to report the basic information obtained, including the construction, materials, proveniences, and artifactual contexts of the panpipes, and then to analyze and interpret them culturally in a personalized and locally contextualized manner. Eight cultural topics are considered, in the following order: (1) ownership of panpipes; (2) recruitment into the social position of panpiper; (3) the social roles marked directly by panpipes and the roles with which they were associated; (4) the categories of rituals in which panpipes were used; (5) the symbolic meanings of panpipes, both specific and

general; (6) the stylistic diversity of panpipes; (7) whether panpipes were exchanged as finished items interregionally; (8) and the geographic origins of the panpipe concept. These topics are addressed by examining the contexts of deposition, artifactual and skeletal–demographic associations, materials, and styles of panpipes.

Our analyses show, most importantly, that interregional Hopewell was not a unitary, shared social organization, cult, artistic style, exchange system, musical form, or meaning system—interpretations that have been posed for interregional Hopewell over the decades. Panpipes were fluidly associated with a great diversity of social roles, both within and among regional traditions. Varying shaman-like, sodality, leadership, and other prestigious roles were bundled with the role of the panpiper. The roles with which that of the panpiper did and did not associate, and other social aspects of their use, distinguish four large regions of differing social organization over the Eastern Woodlands: the northern Midwest, the Northeast, the central Midwest, and the Southeast. Panpipes also varied greatly among locales in the kinds of rituals in which they were used. The rituals differed in the size and role diversity of those who gathered, the funerary and/or nonfunerary functions of the rituals, whether multiple panpipers gathered, and whether a deceased child, very old person, or female was anomalously the focus of the ceremony. Stylistic characteristics of panpipes are found to have differed systematically across the Woodlands, defining passive and active networks of artisan interaction that largely correspond to the four above-named regions where different roles were associated with the panpiper. In addition, the unique band style of panpipes in the Trempealeau area may have actively expressed the cultural identity of Hopewellian peoples there. Panpipes clearly had diverse social and ritual meanings in different regional traditions, given the diverse roles and rituals in which they were used. They also probably varied among Hopewellian traditions in the specific religious meanings attributed to them, especially between societies of the northeastern and those of the southeastern Woodlands, where different particular meanings were attributed to copper ethnohistorically. At the same time, the copper, silver, and melodies of panpipes may have evoked some similar, basic ideas that reflected upon the nature of panpipers when they met distant foreigners and that smoothed and motivated interactions among them. These essential ideas could have included power, the power obtained by long-distance journeying, the power of the panpiper in his/her ability to manage power, and/or humanness.

Some additional, key conclusions about panpipes and Hopewell society are also drawn here. Panpipes were found through stylistic study to seldom have been exchanged as finished goods interregionally among Hopewellian traditions. Also, it is more likely that the idea of panpipes did not originate in the elaborate, central Scioto tradition of Ohio, where panpipes are most concentrated by count, but instead, in the Upper Great Lakes area. Further, across the Woodlands, panpipes were likely owned individually rather than communally. Finally, the role of the panpiper was likely recruited through achievement, and its bundling with other social roles of importance was only weakly institutionalized, given the fluidity with which panpipes were associated with markers of other social roles.

This chapter is an outgrowth of the Masters' thesis research undertaken by Gina Turff (1997) at Trent University. All of the labor of hunting down and compiling the basic data on panpipes reported here was undertaken by her. The contextual analyses of the functions and social–ritual role associations of panpipes, panpipe ownership, and recruitment of the panpiper, as well as the style analysis of artisan networks and panpipe exchange, are the contributions of Christopher Carr. The symbolic interpretations and ethnographic analogs presented are the combined efforts of both authors.

DATA COLLECTION AND DATABASE

The data for this study were assembled by examining curated panpipes, original field notes, site reports, and conference papers. These sources were cross-referenced and cross-verified
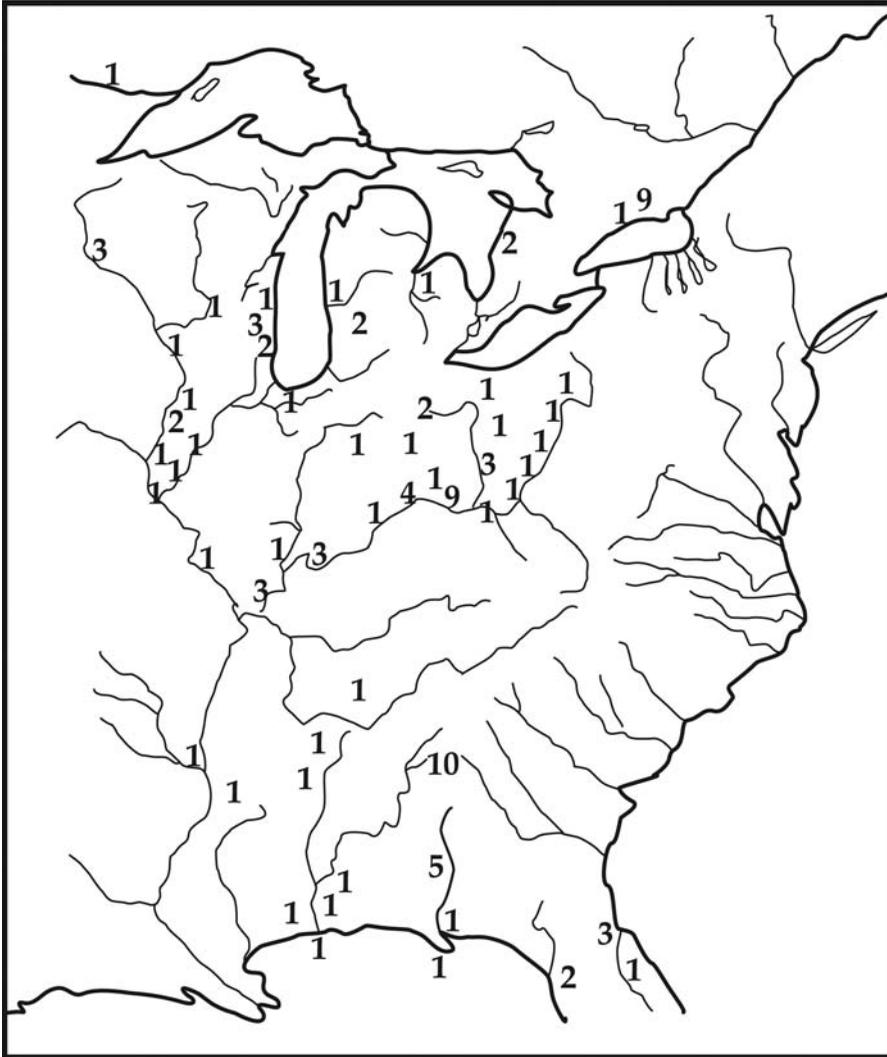
Figure 18.1. Fifty-five Middle Woodland archaeological sites in the Eastern Woodlands with pan-pipes studied here.

whenever possible. Authors of relevant literature were contacted to corroborate the published data and to obtain critical unpublished data. This search resulted in a database of 105 panpipes from 55 sites and 65 known intrasite proveniences within all Hopewellian traditions in the Eastern Woodlands (Figure 18.1). The geographic distribution of panpipes extends from the banks of the Mississippi River to the western flanks of the Appalachians, and from northern Wisconsin and south–central Ontario to the Gulf Coast. Temporally, all of the site components

with panpipes belong to the Middle Woodland period, to the extent knowable.[2]

DEFINITION AND MORPHOLOGY OF PANPIPES

The search for examples of Hopewellian panpipes necessarily involved developing a precise definition of what constitutes a panpipe in actuality and in literary descriptions. Identifying panpipes was not always easy because written

descriptions of them are so variable in nomenclature and accuracy, especially those before 1950. Often, reports noted the presence of folded or corrugated sheet metal objects, the attributed functions of which are bewildering to us today. For example, one antiquarian report suggested that a sheet metal object, now recognized as a panpipe, was part of a sword scabbard (Atwater 1820:168–178). Other objects were described as "ornaments of sheet copper, bent over and repousse" (C. B. Moore 1896:507) and as "conjoined copper tubes" (McKern 1931:261). One object was said to have been as "accurately corrugated as though pressed by machinery" (Snyder 1898:20). Much later, Fowler (1957) recognized such metal-covered, corrugated artifacts to functionally have been "panpipes," a term still used today.

As studied here, panpipes are artifacts with multiple tubes made of cane, reed, or bone that were held together by a jacket made of copper, silver, iron, or a combination of these (Figure 18.2). The jacket might be corrugated on one side, with the number of corrugations usually matching the number of tubes, or a simple band that was wrapped around the tubes (Turff 1997:29; Young 1976:3). Band-jacketed panpipes are less consistently recognized in the archaeological literature than are corrugated-jacketed ones, because band jackets are more open and leave their organic interiors susceptible to decay. No reference was found to a band panpipe having had its organic materials, whereas corrugated panpipes sometimes still retain their organic parts.

Panpipes, in having multiple tubes, are distinguished from flutes with only one tube. All Hopewellian panpipes for which the number of tubes can be determined have three or four tubes. Three is most common. Corrugated jackets that are complete can be divided for analytical purposes according to their length in the direction of the tubes (Appendices 18.1–18.4). Long corrugated ones extend from 7.6 up to 20.7 centimeters in length, while short corrugated ones range from 2.3 to 7.5 centimeters. Band-style jackets extend up to only 3.8 centimeters in length. Of the specimens that were complete enough that they could be assigned a length (n = 91), long corrugated jackets are most common (n = 61; 67%), followed by short corrugated ones (n = 18; 20%) and then band-style jackets (n = 12; 13%).

Most Hopewellian panpipe jackets for which the kind of metal is known (n = 102) are copper (n = 81; 79%). Some are silver (n = 11; 11%) or copper overlaid with silver (n = 10; 10%), while only one (.98%) of iron and one (.98%) of iron and copper are known. The iron panpipe came from the Turner site in Ohio, and the copper and iron one from the Hopewell site in Ohio. Corrugated jackets commonly have from two to six holes on their reverse side, which may have been threaded to tie the ends of a jacket together. The organic tubes of many panpipes could have been wild cane (*Arundinaria*), which grows as far north as central Ohio. Cane was used for the tubes of the panpipe from Helena Crossing, Arkansas (Figure 18.2 [Ford 1963:17]). North of Ohio, elder (*Sambuccus*) was used at LeVesconte, Ontario (Kenyon 1986:31), and sumac such as staghorn sumac and perhaps willow were used at Donaldson II, Ontario (Young 1991). The inner tubes of a panpipe from Schwert, Wisconsin, are thought to be reed grass (*Phragmites communia* [J. Freeman, personal communication]). A "monocotyledonous plant, probably *Mais*," makes up the inner tubes of a panpipe from Albany, Illinois (Herold 1971:90).

Tubes were surrounded with various packing materials to help secure them in their jackets. Organic "stuffing" (Cree 1992:4) is most common, including loose and occasionally braided fibers that parallel the tubes (Turff and Carr, personal observations) and yarns and cambium (Ford 1963:17) (Figure 18.2). Clay was packed around the bone or reed tubes of one panpipe from the Hopewell site, Ohio (Shetrone 1926:267). It is likely that the kind and amount of packing altered the sound produced by the panpipes, and possible that the nature of the packing was selected for this purpose.

Materials may have been suspended from some panpipes. A red jasper point and a clear quartz point were found at one end of a copper-with-silver panpipe from the McRae site, Mississippi, perhaps originally hung from the pipe (Collins 1926, cited in Blitz 1986:17).
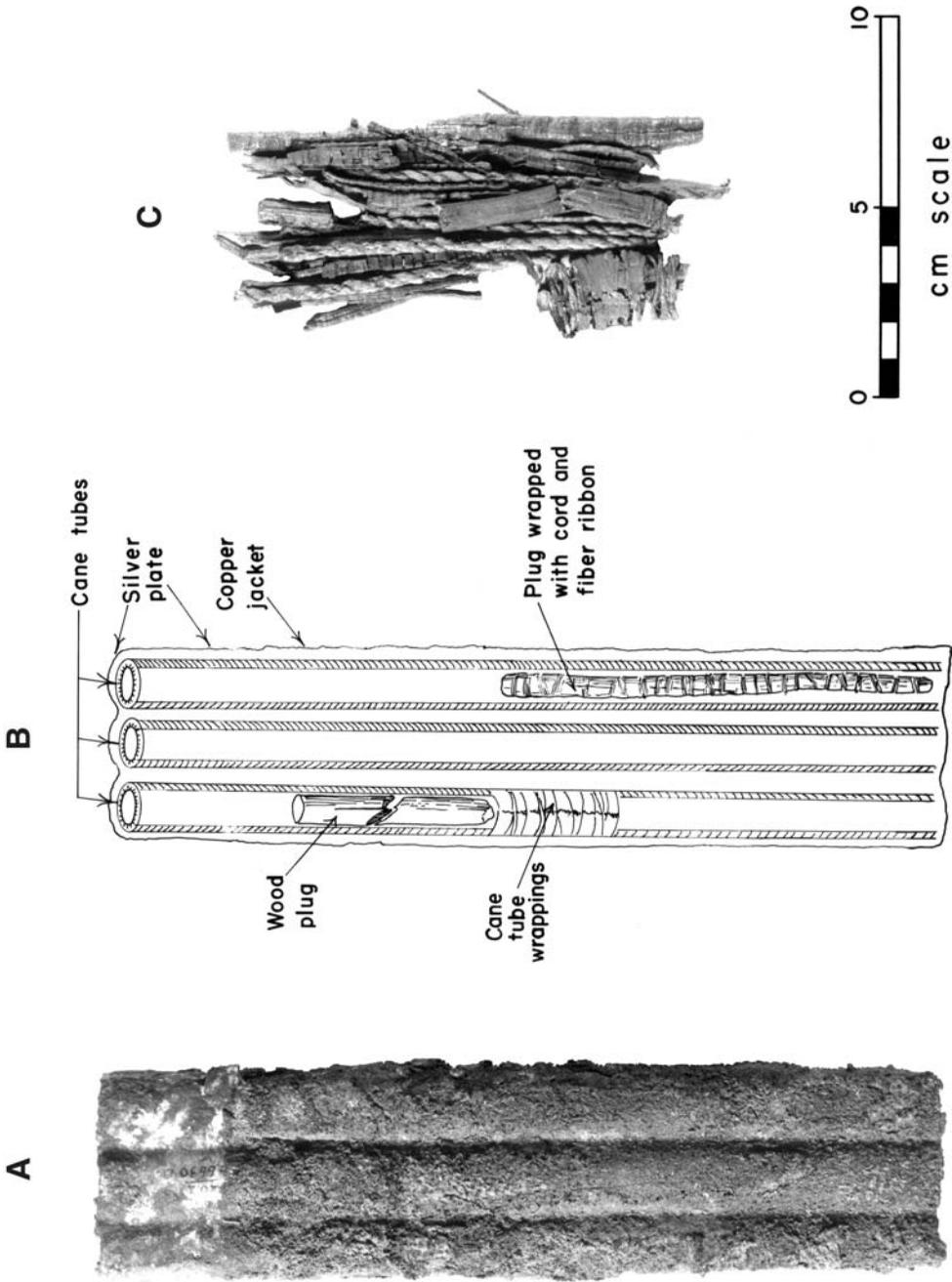
Figure 18.2. (A) Copper and silver three-tube corrugated panpipe from the Helena Crossing site, Mound C, Tomb A, Arkansas. (B) Cutaway view of the panpipe's interior. (C) Organic "stuffing" to hold the canes in place (Ford 1963:16, Figure 10c). Photos and illustration courtesy of the American Museum of Natural History.

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THE FUNCTION OF PANPIPES AND THE SOCIAL ROLES OF THE PANPIPER

This section attempts to reconstruct the role(s) of the panpiper and the organization or "bundling" of that role with others in Hopewellian societies across the Eastern Woodlands. We begin with some limited insights that can be drawn from ethnography, and then turn to contextual archaeological information, which proves to be rich and revealing. Both broad, pan-Woodland patterning in the social roles played by panpipers and diversity in roles among regional traditions are examined.

Ethnographic Information

Panpipes were unknown historically among Native North Americans, and for this reason, ethnohistorical records do not cast especially clear light on the possible functions of Hopewellian panpipes and the social role(s) of the panpiper. The closest analogs to panpipes in historic Native North American societies are flutes and flageolets, the functions of which have been summarized by Hall (1979, 2000).

In the Eastern Woodlands, flutes were associated with a number of activities. One was the hunt. Hall (1979:258) summarizes a variety of ethnographic data that relate flutes to the hunt. A Wisconsin Chippewa folktale tells of a hunter who blew a flute to attract turkeys. This flutist also helped a mythical humpbacked being who is similar in his hump and his insect-shaped face to the Hopi character, Kokopelli—a locust-faced hunter who blows a flute and is a fertility symbol. Further, among the Iroquois, a hunchback was the keeper of game and the welfare of animals (Fenton 1962:294, in Hall 1979:258).

If panpipes were used in hunting, one can ask what kinds of animals might have been attracted with panpipes. From Gloria Young's (1970, 1976) reconstruction of the three-tube panpipe from Helena Crossing, Arkansas (Figure 18.2), it is known with good certainty that the notes produced by this panpipe were high: A-flat one and a half octaves above middle C, A-flat two and a half octaves above middle C, and possibly three overtones—approximately A one-half octave above middle C, D four notes higher, and

B six notes higher. These notes might have been used to imitate high-pitched bird calls, but many other larger animals also produce high-pitched calls in varying circumstances.

Among Native North Americans, flutes were also associated with courtship and sexual potential. Young Kickapoo men traditionally played flutes to woo and win young women as mates (Collaer 1973:100). The Hopi humpbacked flute player, Kokopelli, is a symbol of fertility because he holds seeds in his hump, which he gives as presents to girls he seduces (Barnouw 1977:99). Farther afield, the Desana Indians of Columbia associate panpipes with sexual maturing and provide their male youths with panpipes of more or fewer tubes to acknowledge their degree of maturity. Desana men, like Kickapoo men, play the panpipe as a sexual invitation (Reichel-Dolmatoff 1971:115). They may also play the panpipe on forest trails in order to sexually excite a dwarf Master of the Animals and, thereby, contribute to the fertility of game animals (Reichel-Dolmatoff 1971:112)—a practice analogously told of in Chippewa myth.

A third Native North American use of flutes was in warfare. The Winnebago blew flutes in battle in order to imitate the voices of birds, which were thought to paralyze the running capabilities of the enemy (Radin 1970:394, 502, 1972:117). Such flutes were kept in the war bundles of the Winnebago. Similarly, in the Southeastern United States, small whistles were sometimes blown by warriors on the attack (Swanton 1946:628–629). Catlin observed war whistles among some Native North American tribes that produced two tones from their different ends, one of which signaled attack and the second retreat (Osburn 1946:18, see also Mails 1972:257, 544). On the plains, war whistles were made of eagle bones or turkey leg bones to produce shrill tones resembling the cry of an eagle (Mails 1972:257, 544). Among the Shawnee, flutes were sometimes played outside of the village by a young man who wanted to assemble a war party, and would be joined by other flute players who supported the venture (Trowbridge 1939:39). Flutes also reportedly accompanied the competitive ball games of the Mississippi Choctaws, where they were played by conjurers to help their side win (Hudson 1976:402).

Meeting rituals were a fourth arena in which flutes had a role. In the Southeastern Woodlands during the 16th Century, before the calumet replaced them in their function, flutes were played to greet parties of foreigners:

> Narvaez observed flutes in use in Florida as early as 1527; they were displayed prominently in a number of contacts made by de Soto from Florida to Coosa (northwest Georgia) in the 1540s; and the English even observed Powhatan playing a flute in initial contacts at the turn of the seventeenth century (Bourne 1904:1:81, 90–91; Lankford 1984:14–15; Swanton 1946:547). Jacques LeMoyne provided a vivid description of its use in a 1564 French encounter with the Timucua Indians (Lankford 1984:13).

(quoted in I. Brown, 1989; see also Hudson 1976:402.)

Whistling and whistles have an association with the ceremonial summoning of souls or spirits in both North and South American historic Native American culture and/or their contemporary derivatives (Harner 1980:99; Ingerman 1991:69; B. Johnston 1991; R. Hall, personal communication 2004). The close association of the breath with one of the two souls of humans commonly in historic Native North American thought (Hultkrantz 1953) may have logically encouraged this function. These associations suggest the possibility that Hopewellian panpipes might have been used in mortuary ceremonialism concerned with souls, and in particular with the psychopomp work of guiding souls to an afterlife. However, archaeological evidence suggests otherwise (see below, the Panpiper's Social Roles and Other Roles Bundled with Them; and Carr and Case, Chapter, Table 5.5, Roles 8 and 10).

Flutes, whistles, and panpipes were used for other purposes in the Americas as well. The Yuchi blew their foot-long flutes, which were made of hollowed sections of red cedar with finger holes, on informal occasions (Speck 1909:62). In Lakota Sun Dances, which were highly formal and sacred affairs, eagle wing-bone whistles wrapped with beads are blown by pledgers while dancing (Mails 1978:112). In the Southeastern Woodlands, chiefs who marched in procession in public ceremonies were followed by men playing flutes (Hudson 1976:402).

Among the Kuna of Panama and Colombia, panpipes are played at elaborate dances performed by Kuna dance companies in order to delineate and reinforce social behavior (S. Smith 1984:94). One or both sexes in any age group may play panpipes, although certain restrictions apply, depending on the social occasion (S. Smith 1984). Farther afield, the use of panpipes as musical instruments is well documented for prehistoric and historic Andean cultures, as well as for Chinese and Oceanic cultures (Collaer 1973; Izikowitz 1935; McClain 1979; Pen-li 1963; Zemp 1981).

In contrast to some of the above ethnographic situations, in the Hopewellian case, the amount of human energy needed to produce a metal-jacketed panpipe, the expense of procuring the copper, silver, and/or meteoric iron from which they were made, and their recovery almost entirely from mortuary contexts rather than in habitations speak against their secular use. It is generally thought that panpipes had key symbolic and sacred meanings within Hopewell societies (Greber and Ruhl 1989:276; Prufer 1964a:74; Seeman 1995:136; G. A. Young 1976:5, 7). Grave associations of Hopewellian panpipes with other parphernalia will show that of all the above, ethnographically documented functions of flutes and panpipes, war or hunt divination, and marking of the maturation–aging process fit the archaeological data most closely, but do not exhaust the range of probable uses. (See below, The Age–Sex Distribution of Panpipers and The Panpiper's Social Roles and Other Roles Bundled with Them)

Ownership of Hopewellian Panpipes

In order to infer the role(s) in which panpipes were used and with which they were associated in Hopewellian societies from archaeological data, it is first necessary to establish whether panpipes were owned individually or communally. A panpipe owned individually and placed in the grave of its owner might tell something of its function through its association with other kinds of artifacts owned by that person and placed in his or her grave. The age and sex of the persons buried with panpipes might also be informative. In contrast, a communally owned panpipe buried with an individual or in a ritual deposit need not give

Table 18.1. Archaeological Contexts of Panpipes: Numbers of Grave and Nongrave Deposits with Panpipes and Varying Quantities of Other Artifacts across the Eastern Woodlands

Context and associated artifact quantities	Number of burials
Burials with a huge number of other artifacts	1[a]
Burials with some other artifacts	44
Burials with no other artifacts	10
Burials with an unknown number of artifacts	2
Total number of burials with panpipes	57
Deposits with a huge number of other artifacts	2[b]
Deposits with some other artifacts	2
Deposits with no other artifacts	3
Deposits with an unknown number of artifacts	0
Total number of deposits with panpipes	7
Burial or deposit with unknown number of artifacts	1
Total number of intrasite proveniences with panpipes	65

[a]Ater Mound 1, Burial 51A.
[b]Hopewell Mound 25, Altar 1; Turner Mound 3, Central Altar.

Table 18.2. Number of Panpipes per Grave across the Eastern Woodlands

Number of panpipes per grave	Number of graves
1	49
2	5[a]
3	1[b]
4	2[c]
Total	57

[a]Mandeville Mound B, Burials F3 and F4; Tunacuhnnee Mound D, Burial 18F; Albany Mound 65, Burial 1; Knight Mound 16, Burial 16.
[b]Tunacuhnnee Mound E, Burial 17.
[c]LeVesconte Mound 1, Burials 2C and 4C.

this insight. The association of the panpipe with other artifacts in the burial or deposit might not be functionally relevant.

Two archaeological patterns suggest that panpipes in most if not all Hopewellian traditions were owned by individuals, one per individual, rather than owned communally by some social unit. First, most panpipes are found in graves with persons rather than in nongrave ceremonial deposits that resulted from the decommissioning of paraphernalia after community rituals (Table 18.1). Of 65 intrasite proveniences for which panpipes are documented, 57 (88%) are graves and only 7 (11%) are ceremonial deposits. One is of unclear kind. Second, most panpipes in graves are found one per person. Of 57 graves with panpipes, 49 (86%) have only one panpipe per person, while only 8 (14%) have more than one panpipe per person (Table 18.2). The most direct interpretation of this distribution is that panpipers usually owned or caretook only one panpipe at a time, and that persons buried with a panpipe typically were their owners or caretakers.

Exceptions to the pattern of a person being buried with only one panpipe occur at the sites of LeVesconte, Mandeville, Tunacunnhee, Albany, and Knight (Appendix 18.3). At these

sites, persons with two to four panpipes are known. These exceptions are most easily interpreted in the broader context of Hopewell ritual gatherings (Carr et al., Chapter 13) and do not counter the overwhelming pattern over the Woodlands of burial of individuals with the panpipes they owned. Each case of multiple panpipes in a grave can be interpreted as either one or a few panpipers who each gifted a panpipe to a deceased panpiper, or the remains of a ritual gathering that involved multiple panpipers and the decommissioning of their paraphernalia at the end of the ceremony in a grave of a panpiper or other important individual. The interpretation of a ceremony that involved multiple panpipers who decommissioned their panpipes would also hold for the multiple panpipes deposited in the nongrave provenience of Hopewell Mound 25, Altar 1.

Evidence of such gifting practices, of ceremonies that involved multiple practitioners of a kind, and of the decommissioning of their individually owned or caretaken paraphernalia in a grave or nongrave deposit is very common for at least the Hopewellian traditions in Ohio (Carr et al., Chapter 13). A fine example of this kind of traditional practice is the decommissioning of 60 some copper celts and 90 some copper breastplates and the laying of them in an arrangement over Skeletons 260 and 261 in Mound 25 of the Hopewell site (Greber and Ruhl 1989:93; Moorehead 1922:110; Shetrone 1926:120). Many other examples involving the ceremonial decommissioning of multiple, redundant artifacts that each were owned individually and placed within a grave or ceremonial deposit (e.g., quartz projectile points, obsidian

bifaces, cones/hemispheres, reel-shaped gorgets, earspools, animal teeth) are enumerated by Carr et al. (Chapter 13, Tables 13.2, 13.3). These cases of individually owned or caretaken paraphernalia that were taken out of use and buried in grave and nongrave deposits are distinct from a possible case of communally owned paraphernalia that were decommissioned in the Great Copper Deposit underlying Mound 25 at the Hopewell site (Greber and Ruhl 1989:90–123; Moorehead 1922:109–110; Shetrone 1926:74–75). The geometric copper cutouts in this ceremonial deposit are primarily for ceremonial display, and most are unique in the Hopewell world rather than examples of commonly known symbols that might mark established and widely distributed social roles. In this larger view of Hopewell ceremonial deposits, the few examples of multiple panpipes placed within graves points to the individual ownership or caretaking of panpipes and their occasional gifting or ceremonial decommissioning by multiple panpipers.

Social Recruitment of Panpipers

The Age–Sex Distribution of Panpipers and Age-Related Rites of Passage

Some understanding of the social role(s) played by panpipers can be gotten initially by considering the ages and sexes of those who were recruited into and held those roles. These social facts can be inferred from the age–sex distribution of those who were buried with panpipes.

Appendix 18.5 lists the ages and sexes of all individuals across the Woodlands who were associated with panpipes and for whom demographic information is available. In many cases, age is categorized in the literature as only adult or child, without finer estimation. Panpipes predominate among adults of the age class 13–20 years or older, and among males. The adult:child ratio is 30:5 or 30:6, with an additional 4 young adults (12–18 years) and 20 individuals of unknown age. The adult male:female ratio is 14:4, with 12 adults of unknown sex.

If one assumes that most panpipes in graves were buried with their owners or were gifts to a deceased panpiper from other panpipers (see above), then the adult male-biased, age–sex distribution of individuals with panpipes suggests that recruitment into the social–ritual role(s) of the panpiper was usually by achievement, or by ascribed age and sex within a family line, rank group, or other social unit. Recruitment by family line or rank group, alone, would admit children and women into the role of panpiper more equitably, which is not observed.

There is no apparent regional patterning to where anomalous females and children were buried with panpipes (Appendix 18.5). Adult females with panpipes are found in the central Scioto and Miami drainages of Ohio and in the Point Peninsula and Marksville traditions. Children with panpipes are found in Northern Ohio, possibly in the Muskingum drainage of Ohio, and in the Point Peninsula, Havana, and Southern Appalachian traditions. Similarly, possible adolescents and the elderly from scattered regions were buried with panpipes. Possible adolescents were accompanied by panpipes in the Miami, Goodall, Saugeen, and Marksville regions. An elderly male (50+) was found with a panpipe in Northern Ohio, and an elderly female (45–60) was buried with four in the Point Peninsula area.

It is possible that panpipes sometimes functioned in age-related rites of passage, such as naming, attainment of puberty, menopause, the passing into elderhood, and the death of persons at or nearing such ages. This may have been the case across much of the Hopewellian world, as the wide geographic distribution of children, pubescent youths, and elderly buried with panpipes would imply. However, age-related rites of passage seem particularly evidenced in the neighboring Point Peninsula, Saugeen, and Northern Ohio regions, where panpipes are found at unusually high frequencies with children, adolescents near puberty, and the elderly. Child burials with panpipes occurred at the Cameron's Point and LeVesconte sites in the Point Peninsula area and the Esch site in Northern Ohio. Two males near puberty were buried with panpipes at the Donaldson II site in the Saugeen region. A female estimated to have been between 45 and 60 years old (J. E. Molto, personal communication) was found with four panpipes at LeVesconte, while an elderly male of 50+ years was accompanied by a panpipe at the Northern Ohio site of North Benton (Magrath 1945:44). It may be that the LeVesconte female was given

panpipes in recognition of her menopausal or postmenopausal age, and the North Benton male because of his advanced age.

Some insight into the association of panpipes and age-related rites of passage can be gleaned from ethnographic information on the Desana, a subgroup of the Tukano Indians of Colombia. Among the Desana, panpipes reflect male sexual development and are only played by males. As a boy matures sexually, he progresses from playing a small, three-tube panpipe to a larger, four or five-tube instrument at puberty to the eight or nine-tube panpipe of adulthood (Reichel-Dolmatoff 1971:111–112). Analogously, it is possible that children and adolescents among Hopewellian societies (or Point Peninsula, Saugeen, and Northern Ohio societies, specifically) were viewed as they are among the Desana—as having a closer connection with sexuality, life, and reproduction than we are accustomed to associating with the young in Western culture—and that these personal characteristics should be celebrated as a youth grows up. Panpipes may have been interred with adolescents as signs of their burgeoning sexual powers and possibly with children in recognition of their future sexuality (Turff 1997:20).

The Clan Affiliation of Panpipers

Whether panpipers were recruited from particular clans can be investigated by examining burials that have both panpipes and markers of clan affiliation. Clan affiliation is known to have been indicated, at least in Hopewellian societies in the Scioto region and some historic Woodlands tribes, by animal power parts such as the jaws, teeth, talons, claws, and hoofs of particular species (Thomas et al., Chapter 8). This situation likely applies to other Hopewellian regional traditions, where the range of species of animal power parts placed in the graves of persons corresponds well with the common animal-totem clans found ethnohistorically among Woodland tribes (Thomas et al., Chapter 8). Any Hopewellian clans that had nonanimal eponyms we do not know how to track yet, archaeologically.

There is no evidence that recruitment of persons into the role of the panpiper was through membership or leadership in a specific animal-totemic clan consistently across the East or consistently within any Hopewellian regional tradition. Appendix 18.6 lists the animal power parts found in graves with panpipes in each regional Hopewellian tradition, and the number of graves with those species. A great diversity of animal species is represented across the Eastern Woodlands: mammals, birds, and reptiles; animals of the Upper, Middle, and Lower Worlds; and anomalous animals in Eastern Woodlands lore. The same species diversity holds within some regional Hopewellian traditions. For example, in the Point Peninsula region, bear, beaver, moose, deer, and fox power parts are found in graves with panpipes. In the central Scioto area, specifically in the Ater site, eagle, wolf, beaver, and bear animal power parts accompany a panpipe. In the Southern Appalachian area, bear and deer power parts were found in burials with panpipes. A possible exception to the fluid relationship between the role of panpiper and clan affiliation is found in the Saugeen tradition, where both of the two burials with panpipes included beaver remains, but the data are too sparse to draw a conclusion.

The Panpiper's Social Roles and Other Roles Bundled with Them

Persons who owned panpipes with metal jackets probably filled fairly rare and important social roles, given that metallic panpipes are relatively rare in the archaeological record and are made of materials that—to historic Native Americans—were cosmologically meaningful and powerful, like copper, silver, meteoric iron, sumac, and possibly cedar (see below and Carr and Case, Chapter 5). If panpipes without metal jackets existed in Hopewellian societies, panpipes may have been more widely distributed among persons and used in more common and/or secular activities, such as hunting, courting, warfare, and coming-of-age ceremonies. Ethnographic records and the age–sex distributions of persons buried with panpipes indicate these possible, specific functions of panpipes.

Beyond these limited insights, the specific roles of the panpiper in Hopewellian ceremony and life remain unknown. However, it is possible to infer archaeologically, in great detail, the

social roles with which the role of panpiper was coupled. This information gives a structural view of the panpiper in a system of social statuses and, indirectly and by association, an understanding of the activities in which panpipes possibly were integral.

We begin with role patterning across the Woodlands at large and proceed to distinctions among regional Hopewellian traditions. In these studies, associations between panpipes and other artifact types that mark social roles are considered only for graves, not for other ceremonial deposits. Grave associations, which link artifact types to each other through a specific individual, are more likely to reflect social roles that were combined in a single individual. Artifact associations in a nongrave ceremonial deposit may reflect the roles of many persons who participated in a ceremony and made offerings, whether or not those roles were critically integrated functionally and socially. In addition, the social roles that are taken to be indicated by the particular, associated artifact types are based on the formal and material nature of the artifact types,

ethnohistoric and/or worldwide ethnographic information, and, in a few cases, contextual patterning found in the Ohio Hopewell archaeological record, as discussed by Carr and Case (Chapter 5), Carr (Chapter 7; Carr n.d.), Thomas et al. (Chapter 8), and Case and Carr (n.d.). The social roles attributed to most artifact classes can be reasonably extended across the Woodlands because they are based on formal, material, ethnohistoric, and or worldwide ethnographic criteria. The roles assigned to copper earspools, breastplates, and celts are based primarily on contextual patterning in Ohio, and are less certain for traditions beyond it.

Patterning in the
Eastern Woodlands at Large

Panpipes occur with other artifacts in three-fourths of all the burials in the Eastern Woodlands documented to have had panpipes (45 of 57 burials; Table 18.1). The kinds of additional artifacts found most commonly in burials with panpipes are listed in Table 18.3, ordered by their

Table 18.3. Kinds of Artifacts Found Most Commonly with Panpipes in Graves across the Eastern Woodlands, by Burial Count

Artifact class	Probable Social Role	Number of burials with artifact class
Copper earspools	Sodality membership or achievement	15
Animal power parts	Clan leadership or membership	13
Beads	Prestige	12
Copper celts	Community-wide leadership	7
Conch shells	Shaman-like (all occurrences) public ceremonial leadership	6
Copper breastplates	Sodality membership or achievement	6
Platform pipes	Shaman-like (all occurrences) spiritual work involving trance states	6
Mica sheets	Shaman-like (all occurrences) divination in general	5
Projectile points, not quartz or translucent	Personal	4
Geometric cutouts	Shaman-like (all occurrences) keeper of cosmology and philosophy	4
Pendants and gorgets	Prestige	4
Tubes	Shaman-like (all occurrences) healing	3
Painting equipment	Shaman-like (all occurrences) ceremony	3
Isolated human skulls, mandibles	?	2–3
Raw silver	Shaman-like (all occurrences) manufacture of ceremonial artifacts using exotic raw materials	3
Raw chert	Personal	3
Headplates	Community-wide leadership	0

Table 18.4. Kinds of Social Roles Associated with the Role of Panpiper and Their Frequencies, by Burial Count

Social role	Number of burials with artifacts indicating the social role
Shaman-like roles	
Manufacture of ceremonial artifacts with exotic raw materials	7
Spiritual work involving trance states induced by smoking	6
Public ceremonial leader	6
Divination in general	5
Ceremonies involving painting equipment	4
War or hunt divination	3
Healing	1
Keeper of cosmology and philosophy	1
Nonshaman-like roles	
Personal roles	20
Sodality membership or achievement marked by earspools	16
Prestigious positions marked by pendants and beads	15
Clan leadership or membership	13
Community-wide leadership marked by celts	7
Sodality membership or achievement marked by breastplates	5

commonality (see also Appendix 18.5). The social roles indicated by the additional items and their commonality are presented in Table 18.4. The social roles are very diverse and include: (1) several shaman-like roles indicated by mica mirrors, conch shell containers, geometric cutouts, sucking tubes, quartz points, and painting equipment; (2) sodality membership or achievement marked by breastplates and earpools; (3) community-wide leadership marked by copper celts; (4) other positions of prestige and/or wealth marked by pendants and beads of copper, silver, pearl, conch, and other shell; (5) clan leadership or membership indicated by animal power parts; and (6) personal roles related to tasks and/or sex indicated by utilitarian pottery, whetstones, and hammerstones. Each of the six categories of artifacts and social roles is represented by a more or less similar number of

burials (Table 18.4). Shaman-like roles are represented in 25 of the 45 burials having panpipes and other items; prestigious roles relating to sodalities, leadership, or other positions are indicated for 24 burials; clan roles are marked in 13 burials; and personal roles are represented in 20.

Quite a few burials with panpipes, across many regional traditions, have associated artifacts that are only or predominantly the kinds used by shaman-like practitioners (Carr and Case, Chapter 5; Carr and Case n.d.) (Table 18.3). There seems to be a moderately strong association between panpipes and shaman-like paraphernalia over the East. Burials that best illustrate this pattern are Tunacunnhee Mound D, Burials 18F and F34, in Georgia; North Benton Mound 1, Burial 4, in Ohio; McRae Mound in Mississippi; Knight Mound 16, Burial 16, in Illinois; LeVesconte Mound 1, Burials 4C and 5C, in Ontario; Donaldson Mound II, Burials GE and GF, in Ontario; Newcastle Mound 4, Burial 11, in Indiana; Turner Enclosure, Burial 1a (Saville), in Ohio; Helena Crossing Mound C, Burial 61, in Arkansas; Mandeville Mound B, Burial 3F1, in Georgia; and Franz–Green Mound 1 in Indiana (Appendix 18.5). The shaman-like roles and paraphernalia indicated by these burials include: (1) war or hunt divination marked by quartz bifaces and points; (2) divination in general marked by mica sheets or cutouts; (3) healing indicated by tubes of bird bone or silver-sleeved wood possibly used for sucking; (4) public ceremonial leadership marked by conch shells that could have been used by to distribute drinks, as was the black drink historically in the Southeast; (5) spiritual work in general that involved trance states, indicated by smoking pipes; and (6) manufacture of ceremonial artifacts using exotic, symbolically loaded raw materials. Some other burials with panpipes, beyond those just listed, also have these items (Appendix 18.5), but they are associated with additional kinds of artifacts indicating other social and/or religious roles, and are not especially focused on shaman-like roles.

Over the Woodlands at large, the commonality with which the role of panpiper was associated with different shaman-like roles varies by role, on a burial-count basis (Table 18.4). Of graves having one or more panpipes plus

shaman-like artifacts, the most frequently indicated shaman-like roles, in decreasing frequency, are manufacture of ceremonial artifacts with exotic raw materials, spiritual work in general that involved trance states induced by smoking, public ceremonial leader, and divination in general. Less frequently observed shaman-like roles and activities are ceremony involving paint, war or hunt divination, healing, and keeper of cosmology and philosopher. Key nonshaman-like roles also vary in commonality over the Woodlands as a whole (Table 18.4). Sodality membership or achievement marked by earspools and clan leadership or membership are each twice as common as each of sodality membership or achievement marked by breastplates and community-wide leadership marked by celts.

Implications

The diverse social roles indicated by the graves in which panpipes have been found over the Eastern Woodlands suggests that panpipes probably were not used for one purpose, but were woven into a number of communal and personal, ceremonial and secular activities. The most common associations of panpipes were with persons who filled roles of social importance, as specialized shaman-like practitioners of many kinds, community leaders, prestigious sodality members, and other prestigious persons. The ethnographic association of panpipes with the hunt, in attracting animals and encouraging species fertility, which Hall (1979) emphasized, is borne out in the Hopewellian mortuary data, but only to a minor degree. The same is true of the ethnographic link between panpipes and warfare. Panpipes were associated with equipment possibly used in war or hunt divination in only a few burials (3 of 57) across the Woodlands. The occurrence of panpipes alone in one-fourth of all burials (13 of 57), that is, with persons lacking additional indicators of key social position, and in a significant, additional numbers of burials with only personal items (8 of 57), suggests that the role of panpiper was not, or not always, integrally bundled with other social roles. The panpiper was a role in itself, and panpipes could function independently of other paraphernalia and status markers. In this light, the ethnographic insights

that Hopewellian panpipes may have been a part of age-related rites of passage in at least some Hopewellian regional traditions, or used in courting (see above), remain viable but not specifically substantiated.

The social roles with which the role of panpiper was coupled provides not only some sense of the activities in which panpipes were used, but also a structural view of the position of panpiper in a system of social statuses. The fluidity with which the role of the panpiper was associated with leadership and other key roles of social importance in Hopewellian societies (Table 18.4), both within and among regional traditions, indicates that the social positions that fulfilled these roles were not firmly institutionalized and were probably reworked to some degree situationally.[3] The same conclusion is drawn by Carr and Case (Chapter 5) specifically for shaman-like positions in Ohio Hopewellian societies. They found only a moderate strength of association among kinds of shaman-like paraphernalia that had related functions, could have been used together in ceremony, and sometimes were. The only moderately institutionalized nature observed for key social positions both here and in Chapter 5 is expectable of societies that were in transition from hunting–gathering to horticulture, and from more egalitarian to less egalitarian organization.

In turn, the only moderate degree to which the panpiper and other important social positions in Hopewellian societies were institutionalized suggests that recruitment to these positions was primarily by achievement, which would have encouraged a reworking of social roles, rather than by birthright or rank. This conclusion was also reached specifically for the role of panpiper, with independent evidence from the adult, male-biased age–sex distribution of deceased persons found with panpipes (see The Age–Sex Distribution of Panpipers, above).

Artifact Classes Not Associated with Panpipes

Hopewellian artifact classes that never or seldom associate with panpipes provide insight into the social–ritual roles with which panpipes were not bundled and the social–ritual situations in which they were not used. Some artifact classes that are

fairly common in the Eastern Woodlands and that are dissociated from panpipes, and the roles they possibly indicate, include headplates, crescents, reel-shaped gorgets, and pulley earspools, which indicated different forms of leadership and/or prestige; dark obsidian bifaces, which probably indicated some form of war or hunt divination and possibly were distinct from forms using light quartz and translucent points; plummets used for divination or utilitarian purposes; bone awl sets, which possibly indicated corpse processing and/or psychopomp work; galena, which was sprinkled over most corpses in the Southern Appalachian region when they were processed, and which could have been used to make white paint; and human figurines, which were probably used in both domestic and/or mortuary rituals, depending on the region (Keller and Carr, Chapter 11).

Variations among Regional Traditions

Regional Hopewellian traditions vary among one another in the kinds of artifacts with which panpipes are most commonly associated in burials on a burial-count basis (Table 18.5); more generally in whether panpipes associate more with shaman-like, prestigious nonshaman-like, or clan artifacts on a burial-count basis (Table 18.6); and in the detailed social roles that are indicated by one or more kinds of artifacts found with panpipes (Table 18.7).

Table 18.5 illustrates some of the strongest variations among traditions in the kinds of artifacts that associate with panpipes and simply makes the case for regional variation. For example, in the central Scioto and Muskingum drainages, panpipes are most commonly found with copper earspools and breastplates, whereas in the Point Peninsula and Saugeen regions, panpipes are found most commonly with silver in raw or bead form, *Unio* shells filled with erythrite colorant, beaver incisors, and other animal power parts. In the Crab Orchard tradition, only shell beads are found often with panpipes.

In Tables 18.6 and 18.7, geographic patterns in panpipe associations are revealed. In Table 18.6, one finds that the highest percentage of burials having shaman-like equipment are found largely in Southeastern or Southeastern-influenced traditions: Santa Rosa–Swift Creek, Southern Appalachian, Marksville, Crab Or-

chard, and the Miami drainage–neighboring Indiana region. However, the adjacent northern traditions of Point Peninsula, Saugeen, Northern Ohio, and the Muskingum area also follow this pattern. Traditions that lack or rarely have associations of shaman-like equipment with panpipes are scattered and include the far northwestern Trempealeau tradition, the adjacent Goodall and Central Scioto traditions, and the Porter–Miller tradition.

Table 18.6 also shows that prestigious roles relating to leadership or sodalities, marked respectively by copper celts, and by copper earspools and breastplates, are associated with panpipes most commonly in the central Midwest and southeastern traditions: the Central Scioto, Muskingum, and Crab Orchard areas, as well as the Santa Rosa–Swift Creek, Southern Appalachian, Porter–Miller, and Marksville traditions. Only the far northern Hopewellian traditions lack associations between these prestigious kinds of leadership or sodality items and panpipes: Trempealeau, Goodall, Northern Ohio, and Point Peninsula. The northerly Saugeen tradition is the one exception to the pattern.

Table 18.6 further indicates that clan markers in the form of animal power parts are absent or all but absent from burials with panpipes in the majority of regional traditions. The Muskingum, Northern Ohio, Crab Orchard, Goodall, Trempealeau, Santa Rosa–Swift Creek, and Porter–Miller traditions have no occurrences of clan markers with panpipes, and the Central Scioto and Miami drainage-neighboring Indiana regions have one association each. Traditions that more commonly have clan markers in association with panpipes do not fall in any one geographic province: Havana, Point Peninsula, Saugeen, and Marksville.

Table 18.7 shows, by regional tradition, the detailed social roles that are indicated by one or more kinds of artifacts found in at least one burial with panpipes. Eight shaman-like roles and four nonshaman-like roles are considered.

(1) Items that indicate public ceremonial leadership are found with panpipes in most of the traditions, but not all. The association is found in most Midwestern and Southeastern traditions but is lacking in most of the far northern

Table 18.5. Kinds of Artifacts with Which Panpipes Are Most Commonly Associated in Burials, by Burial Count and by Regional Hopewellian Tradition

Artifact class	Number of burials with artifact class out of total number of burials
Trempealeau, WI	
Chert or chalcedony utilitarian blades or knives	2 of 3 burials
Point Peninsula, Ontario, alone	
Silver, raw or bead form	2 of 4 burials
Unio shell filled with erythrite	2 of 4 burials
Beaver power part (incisor)	2 of 4 burials
Other animal species' power parts	2 of 4 burials
Shell or bone beads	2 of 4 burials
Point Peninsula and Saugeen, Ontario, combined	
Beaver power part (incisor, mandible)	4 of 6 burials
Other animal species' power parts	3 of 6 burials
Silver, raw or bead form	2 of 6 burials
Unio shell filled with erythrite	2 of 6 burials
Beaver power part (incisor)	2 of 6 burials
Other animal species' power parts	2 of 6 burials
Shell or bone beads	2 of 6 burials
Havana, IL	
Real or imitation bear jaw or teeth	3 of 6 burials
Shell beads	3 of 6 burials
Copper earspools	2 of 6 burials
Platform pipes	2 of 6 burials
Crab Orchard, IL, IN	
Shell beads	2 of 4 burials
Central Scioto and Muskingum drainages, OH	
Copper earspools	4 of 10 burials
Copper breastplates	3 of 10 burials
Conch shell container or dipper	2 of 10 burials
Miami drainages, OH, and neighboring Indiana	
Copper earspools	2 of 7 burials
Flake knives	2 of 7 burials
Southern Appalachian (Copena), TN, GA	
Mica sheet or cutout	3 of 8 burials
Copper or large groundstone celt or stone celt	3 of 8 burials
Pipes	3 of 8 burials
Copper earspools	2 of 8 burials
Copper breastplates	2 of 8 burials
Chert projectile points	2 of 8 burials
Santa Rosa–Swift Creek, FL, GA, AL	
Copper, silver, and/or iron earspools	3 of 8 burials

traditions, including the Goodall, Northern Ohio, and Saugeen traditions and perhaps the Trempealeau tradition.

(2) Items indicating manufacture of ceremonial objects with exotic raw materials are also found with panpipes in a good number of traditions, including the Northeastern, ad-

jacent Point Peninsula and Saugeen traditions, the northwestern Trempealeau tradition, and the Midwestern, adjacent Crab Orchard and Miami drainage areas. Panpipes do not co-occur with such artifacts in all three of the deep Southeastern traditions—Santa Rosa–Swift Creek, Porter–Miller, and Marksville.

Table 18.6. General Categories of Social Roles Associated with the Role of Panpiper, by Burial Count and by Regional Hopewellian Tradition[a]

	Number of burials			
Regional tradition	With shaman-like equipment	With nonshaman-like leadership and sodality markers	With clan markers	Where panpipes occur alone
Trempealeau, WI	1? of 3	0 of 3	0 of 3	1 of 3
Goodall, MI	0 of 1	0 of 1	0 of 1	1 of 1
Northern Ohio	**1 of 2**	0 of 2	0 of 2	1 of 2
Point Peninsula, ON	**2 of 4**	1 of 4	**2 of 4**	1 of 4
Saugeen, ON	**1 of 2**	**1 of 2**	**2 of 2**	0 of 2
Havana, IL	2 of 5	2 of 5	**3 of 5**	0 of 5
Crab Orchard, IL, IN	**2 of 4**	**2 of 4**	0 of 4	1 of 4
Miami drainages, OH, and neighboring Indiana	**3 of 6**	2 of 6	1 of 6	2 of 6
Central Scioto, OH	1 of 5	**3 of 5**	1 of 5	2 of 5
Muskingum, OH	**4 of 5**	**3 of 5**	0 of 5	0 of 5
Southern Appalachian, (Copena) TN, GA	**3 of 8**	**4 of 8**	2 of 8	0 of 8
Santa Rosa–Swift Creek, FL, GA, AL	**4 of 8**	3 of 8	0 of 8	2 of 8
Porter–Miller, AL, MS	0 of 2	**2 of 2**	0 of 2	0 of 2
Marksville, AR, LA, MS	**1 of 2**	**1 of 2**	**1 of 2**	1 of 2

[a]Boldface entries are those with high numbers or proportions ($\geq$50%) of burials showing an association between panpipes and the kind of artifacts of concern.

(3) Artifacts indicating divination in general are limited in where they are found with panpipes to primarily the midwestern Miami and Muskingum valleys, and the eastern southeastern Southern Appalachian and Santa Rosa–Swift Creek traditions. The association is lacking in almost all of the far northern traditions, including the Trempealeau, Goodall, Northern Ohio, and Point Peninsula traditions, and in both of the western southeastern traditions, Marksville and Porter–Miller.

(4) Smoking pipes for trance work are limited in their occurrence with panpipes to the adjacent Havana and Crab Orchard traditions, but also the Southern Appalachian tradition.

(5) Artifacts indicating war or hunt divination and those used in healing are each found with panpipes in a few traditions scattered widely and without pattern over the Woodlands.

(6) Painting equipment that could have been used in a variety of ritual tasks is associated with panpipes in only the more northeastern areas of the Muskingum and Point Peninsula.

(7) Items that appear to indicate the shaman-like role of philosopher, such as geometric cutouts possibly representing the cosmos or its constituents, are found with panpipes only in the rich Central Scioto sites of Hopewell, Ater, and Turner.

(8) Copper earspools, which probably symbolized a sodality in Ohio (Carr, Chapter 7), occur with panpipes in most regional traditions. The association is missing from most of the northern regions, including the Trempealeau, Goodall, Northern Ohio, and Point Peninsula traditions. Earspools and panpipes also do not occur together in the Porter–Miller tradition.

(9) Copper breastplates, which also probably marked a sodality in Ohio (Carr, Chapter 7), occur with panpipes in a small subset of the traditions in which copper earspools and panpipes are associated—the adjacent Central Scioto and Muskingum traditions and the neighboring Southern Appalachian and Porter–Miller traditions.

(10) Copper celts, which probably symbolized community-wide leadership in Ohio (Carr, Chapter 7), are found with panpipes again in a subset of the traditions in which copper earspools and panpipes are associated. The association occurs in the adjacent Crab Orchard, Miami drainage, Central Scioto, Muskingum, Southern Appalachian, and Santa Rosa–Swift Creek areas. It is missing from all five northern traditions, including the Trempealeau, Goodall, Northern

Table 18.7. Detailed Kinds of Social Roles Associated with the Role of Panpiper, by Regional Hopewellian Tradition[a]

	Regional						
	Northern Midwest		Northeast			Central Midwest	
Social role	Tremp-ealeau	Goodall	Northern Ohio	Point Peninsula	Saugeen	Havana	Crab Orchard
Shaman-like roles							
Public ceremonial leader	?	−	−	+	−	+	−
Manufacture of ceremonial artifacts with exotic raw materials	+	−	−	+	+	−	+
Divination in general	−	−	−	−	+	−	−
Spiritual work involving trace states induced by smoking	−	−	−	−	−	+	+
War or hunt divination	−	−	+	−	−	−	−
Healing	−	−	+	−	−	+	−
Ceremonies involving painting equip.	−	−	−	+	−	−	−
Keeper of cosmology and philosophy	−	−	−	−	−	−	−
Nonshaman-like roles							
Sodality leadership or membership (earspools)	−	−	−	−	+	+	+
Clan leader or member	−	−	−	+	+	+	−
Community-wide leadership (celts)	−	−	−	−	−	−	+
Sodality leadership or membership (breastplates)	−	−	−	−	−	−	−
Total number of:							
shaman-like roles	1–2	0	2	3	2	3	2
nonshaman-like roles	0	0	0	1	2	2	2
all roles	1–2	0	2	4	4	5	4

[a]Boxed cells indicate similarity among traditions in social roles that do or do not associate with the role of the panpiper. See Table 18.6 for explanation.

Ohio, Point Peninsula, and Saugeen traditions, as well as the western Southeastern traditions of Marksville and Porter–Miller.

Summary of Regional Variation and Implication

The traditions in which panpipes do and do not associate with artifact classes that marked various important social roles, as well as regional patterning in the age–sex associations of panpipes and in whether or not the burial of a person with panpipes served as foci of ritual gath-erings of many panpipers, allow the definition of four, broad regions that are repeatedly distinguished from one another in these several ways (Table 18.8). The distinguishable areas are (1) the northern Midwest—Goodall and Trempealeau traditions; (2) the Northeast—Northern Ohio, Point Peninsula, and Saugeen traditions; (3) the central Midwest and Midsouth—Central Scioto, Muskingum, Miami/Indiana, Havana, Crab Orchard, and Southern Appalachian traditions; and (4) the Southeast—Santa Rosa–Swift Creek, Porter–Miller, and Marksville traditions. These areas appear to differ in aspects of both social

traditions within four broad areas							
and Midsouth				Southeast			
Miami drainages	Central Scioto	Muskingum	Southern Appalachian	Santa Rosa–Swift Creek	Porter–Miller	Marksville	Total number of traditions
+	+	−	+	+	−	+	7–8
+	−	−	+	−	−	−	6
+	−	+	+	+	−	−	5
−	−	−	+	−	−	−	3
−	−	−	+	−	−	+	3
−	−	+	−	−	−	−	3
−	−	+	−	−	−	−	2
−	+	−	−	−	−	−	1
+	+	+	+	+	−	+	9
+	+	−	+	−	−	+	7
+	+	+	+	+	−	−	6
−	+	+	+	−	+	−	4
3	2	3	5	2	0	2	
3	4	3	4	2	1	2	
6	6	6	9	4	1	4	

organization and ritual organization, which are reflected in differences in the functions, role associations, and depositional patterns of panpipes.

The most fundamental geographic distinctions are between more northerly and southerly regions: the northern Midwest and/or Northeast versus the central Midwest and Midsouth versus the Southeast. This north–south variation is distinct from the more commonly recognized east–west dichotomy in material style between, on the one hand, the Ohio, Southern Appalachian, and Santa Rosa–Swift Creek traditions and, on the other, the Havana and Marksville traditions (see Carr and Sears 1985:86 for a summary of references; also Griffin 1967:186). Others of the four

geographic distinctions found here do not correspond with regional differences found in gender roles and relations (Field et al., Chapter 9) and in the natural sources from which silver was procured (Spence and Fryer, Chapter 20). It is clear that the cultural relationships that archaeologists recognize today among various Hopewellian traditions are multiple in kind and must be defined separately and analyzed and interpreted in their own terms: iconography and style, ritual organization, social organization, and material exchange (Carr, Chapters 2 and 16).

A most significant conclusion to be reached from the distinctions among regions in social and ritual organization is that interregional Hopewell was not a unified, social–symbolic system

Table 18.8. Distinguishing Characteristics of Four Multitradition Areas in the Eastern Woodlands, Summarized from Tables 18.6 and 18.7

Northern Midwest	*Trempealeau and Goodall traditions* Lacking association of panpipes with females, children, almost all shaman-like equipment, clan markers, sodality markers (earspools, breastplates), and markers of community-wide leadership (celts). The burial of a person did not served as a focus of a ritual gathering of panpipers.
Northeast	*Northern Ohio, Point Peninsula, and Saugeen traditions* Associations of panpipes with females, children, a few shaman-like roles, and clan markers, but almost never with sodality markers (earspools, breastplates) and markers of community-wide leadership (celts). The burial of a person occasionally served as a focus of a ritual gathering of many panpipers.
Central Midwest and Midsouth	*Central Scioto, Muskingum, Miami drainages, Havana, Crab Orchard, and Southern Applachian traditions* Lacking association of panpipes with females and children. Moderately common associations of panpipes with indicators of the shaman-like roles of public ceremonial leader, manufacture of ceremonial artifacts with exotic raw materials, divination in general, and spiritual work involving trance states induced by smoking. Rare associations of panpipes with indicators of other shaman-like roles. Uniform association of panpipes with earspools as sodality markers. Nearly uniform association of panpipes with celts as markers of community-wide leadership. Moderately common associations of panpipes with clan markers and breastplates as sodality markers. The burial of a person rarely served as a focus of a ritual gathering of panpipers, and then only a few panpipers.
Southeast	*Santa Rosa–Swift Creek, Porter–Miller, and Marksville traditions* Lacking association of panpipes with females and children. Moderately common association of panpipes with the shaman-like role of public ceremonial leader. Rare associations of panpipes with indicators of other shaman-like roles. Moderately common association of panpipes with earspools as sodality markers. Rare associations of panpipes with clan markers, celts as markers of community-wide leadership, and breastplates as sodality markers. The burial of a person occasionally served as a focus of a ritual gathering of panpipers, and only a few panpipers.

(contra Seeman 1995:123). The search for a single explanation of what interregional Hopewell was—an identity for Hopewell—has been a long-standing quest in Eastern Woodlands archaeology. In recent decades, well after interregional Hopewell was no longer thought to have been a single culture or biological stock, Hopewell has been interpreted by various archaeologists to have been a trade network, mortuary cult, religion, worldview, artistic style, Great Tradition, and peer–polity network (Carr, Chapter 16 and references therein). A recent addition to this list is the view that "Hopewell is really the conjunction of two types of cultural systems—one social structural and the other symbolic" (Seeman 1995:123), with the symbolic component implying that "minimally, Hopewell … must be seen as an ideological system" (Seeman, p. 122). The different social roles with which the

role of panpiper was bundled in different specific regional Hopewellian traditions across the Eastern Woodlands, with major cleavages in role bundling patterning and/or age–sex associations of panpipes among four, broad geographic areas of several traditions each, clearly demonstrate that Hopewell cannot be regarded as one kind of social structure. The same conclusion is reached by Field et al. in Chapter 9 with data on regional variation in gender roles.

In addition, the different social uses to which panpipes were put in different Hopewellian regional traditions, based on the artifact classes with which panpipes were associated, suggests that panpipes carried different meanings in different traditions. Interregional Hopewell thus cannot be considered a coherent ideological system—at least not entirely. Instead, it is necessary to distinguish very general,

"canonical" meanings and messages that panpipes may have carried over broad distances over the Woodlands (e.g., the nature of humanness, power) from more locally specific, "indexical" meanings and messages that pertained to immediate local conditions and the particular uses of panpipes by persons in particular roles and ceremonies locally. This distinction in kinds of ideological meaning, the consistent and varying meanings of panpipes, and archaeological data that shed light on these subjects are presented below (see Symbolic Meanings of Panpipes). If interregional Hopewell has one single identity, it is in the realm of canonical meanings and the symbols and styles used to express them, rather than social structure.

THE RITUAL USES OF PANPIPES

One popular interpretation of the material forms, ritual practices, and ideas that were spread broadly over the Eastern Woodlands and that define interregional Hopewell is that they were components of a religious cult (Prufer 1964b: 93). Panpipes, as one of a very limited number of Hopewellian features that were truly pan-Woodland in distribution (Seeman 1979a), would fall under this interpretation.

In this section, we document some of the categories of rituals in which panpipes were used and show that these rituals were not performed throughout the Woodlands as supposed. Consequently, an interregional Hopewell that is, in part, defined by panpipes cannot be considered a single cult.

Remains of rituals that involved panpipes and panpipers vary in four fundamental ways (Appendix 18.5). First is the distinction between a single panpipe simply placed in the grave of its presumed owner and multiple panpipes that were placed in a grave and appear to indicate an assembly of panpipers who gifted panpipes in the course of a mortuary ceremony. The latter instance hints at the possibility of a small ceremonial society or sodality of panpipers. Burial of panpipes with their presumed owners are most common ($n = 48$ graves), while assemblies of panpipers are infrequent ($n = 9$ graves). The assemblies were all small by Hopewellian standards (Carr et al., Chapter 13), having involved

two panpipes ($n = 6$ graves), three panpipes ($n = 1$ grave), or four panpipes ($n = 2$ graves).

A second contrast in the remains of rituals that involved panpipes is in the ages and sexes of those buried with them. Most panpipes were buried with adult males, but a small number of instances of panpipes placed with females ($n = 4$), children ($n = 5$ or 6), and adolescents ($n = 5$) are known. Panpipes buried with females, children, and/or young adults cluster by site and tradition and suggest localized, divergent ritual uses of panpipes (see above, The Age-Sex Distribution of Panpipers and Age-Related Rites of Passage).

A third distinction is between panpipes placed in graves, which indicate a burial ceremony, and those decommissioned in ceremonial deposits lacking skeletal remains, which indicate some other kind of ceremony, mortuary- or non-mortuary-related. Panpipes in burials are most common ($n = 57$ graves), while panpipes in other kinds of ceremonial deposits are not ($n = 7$ deposits).

Fourth, in turn, ceremonial deposits with panpipes vary greatly in their nature and indicate rituals of several different scales and social compositions. Deposits with very large numbers and diverse kinds of ceremonial items, which indicated many persons and many kinds of social roles, are very rare ($n = 2$ deposits). Somewhat more numerous but still rare ($n = 5$) are ceremonial deposits comprised of a lone panpipe ($n = 4$) or a panpipe and a couple of other ceremonial items that could be personal ($n = 1$).

An example of a ritual tradition that involved panpipes, that was restricted to a small locale rather than spread widely across the Woodlands, and that was distinctive is evidenced in the Point Peninsula area of Ontario at the sites of LeVesconte (Kenyon 1986) and Cameron's Point (R. B. Johnston 1968a). The tradition was unique in involving gatherings of multiple panpipers, the burial of panpipes with women and children, and certain kinds of grave goods. At LeVesconte, an old woman of 45 to 60 years and a child each were buried with four panpipes, and a second child with one. Some of the panpipes were of the interregionally rarer, silver-jacketed kind. It is unknown whether the female and children were buried at the same time. If they were, a gathering

of eight or nine panpipers is implied; if not, then two or three gatherings, with one gathering of up to four panpipers, are implied. The gatherings may indicate the existence of a ceremonial society of panpipers in the area, perhaps not unlike the sacred pack societies of historic Algonkian tribes (Callendar 1962:26, 31, 65, 77; Skinner 1915; Tax 1937:267), and perhaps one focused on women and/or restricted in membership to women. At nearby Cameron's Point, a child was buried with a silver panpipe. One possible function of such a society would be the adminstration of age-related rites of passage associated with naming, puberty, and old age. The evidence for this at LeVesconte, Cameron's point, and sites in the closely neighboring Saugeen and Northern Ohio regional traditions has been summarized above (see The Age–Sex Distribution of Panpipers and Age-Related Rites of Passage).

Compared to burials with panpipes in other regional traditions, those at LeVesconte are also distinguished in having an unusually high percentage of associated artifacts that are the power parts of animals: beaver incisors, bear canines, a shark's tooth, moose and deer feet, and red fox's muzzle. Red erythrite pigment in *Unio* shells, which would have been suitable for application or painting of some kind in the course of ritual, also occurs in two burials. The overall picture gotten is that ceremonies involving panpipes at LeVesconte were organized around religious and social concepts, some of which were shared by a limited number of societies in its vicinity and some of which were entirely unique to it.

A second instance of a unique ritual tradition that employed panpipes, was spatially restricted, and involved gatherings of multiple panpipers and the burial of panpipes with children is evidenced at Tunacunnhee, Georgia. There, three panpipes were buried with one adult male, and two with an adult of unknown sex. Two more were buried with two children. Gatherings of two or three panpipers are implied. One of the two panpipes had four tubes and was made of silver, which is rare across the East. Animal power parts, including a drilled bear canine and deer antler, as a well as a human power part (a mandible), were found with the two children. There are elements of this ritual tradition that are similar to ones evidenced at LeVesconte.

Large ceremonial deposits that do not have human skeletal material directly associated with them are limited to two in the Eastern Woodlands, both in Ohio: Altar 1 of Mound 25 at the Hopewell site, and the Central Altar in Mound 3 of the Turner site. The estimated number of gift-givers who attended the ritual gatherings that produced these remains are 514 and 441 persons, respectively (Carr et al., Chapter 13). The kinds of ritual paraphernalia found in each deposit are very diverse and suggest many kinds of social roles, including shaman-like leaders and practitioners of multiple specialized kinds, two kinds of community-wide leaders without clear shaman-like associations, sodality members or high achievers, and members of various clans. Given the great number of leaders and other important persons represented in each deposit, each probably reflects a gathering of multiple communities, with ritual cooperative and/or competitive displays among them (gathering type IA [Carr et al., Chapter 13, Table 13.17]). The role of panpiper, represented by one panpipe in each of the deposits, may have been a very minor component in these ritual gatherings. Both gatherings in which the panpipers participated possibly involved the ritual closure of a mortuary area or some nonmortuary kind of ceremony, rather than burial rites, per se.

All said, panpipes were used in different kinds of rituals in different, limited geographic regions across the Eastern Woodlands. Ritual differentiation in the use of panpipes was more localized than was variation in the social roles with which the panpiper role was bundled. The highly diversified and geographically limited qualities of panpipe rituals documented here do not accord with the nature of cults or the idea of an interregional Hopewellian cult (Prufer 1964b). Cults may be adapted to local purposes, symbolic frameworks, and ritual systems as they spread over a broad area (e.g., Gill 1982:164–171; Wiessner and Tumu 1998, 1999), but the local ritual differentiation witnessed in panpipe use was much more substantial.[4] The diverse rituals described above are all good examples of the concept of "local Hopewell"—a reworking of

select practices from other regional traditions into a local form, where the reworking can be quite intensive and the resulting ritual may be similar to its ancestral forms in only a surficial, partial, and most general way.

THE SYMBOLIC MEANINGS OF PANPIPES

The glistening metals of which panpipes were made, and their musical nature, each evoke the sense of an artifact that must have been laden with meanings for Hopewellian peoples. This section documents the symbolic referents attributed by historic Eastern Woodlands Native Americans to three kinds of materials used to make panpipes—copper, silver, and wood—and explores the possible meanings of the musical quality of panpipes. In turn, these ideological aspects of panpipes are discussed relative to the interregional distribution of panpipes over the Woodlands and their possible utility in interregional social interaction.

Canonical and Indexical Meanings

To reasonably address the question "What did panpipes mean to Hopewellian peoples?" requires a distinction to be made between two kinds of meanings: canonical and indexical. These two forms were originally proposed by Rappaport (1979) in discussing the messages that rituals can communicate to their participants, and are extended by Bernardini and Carr (Chapter 17) to the roles, value, and meanings of an artifact class within a ceremonial system. Canonical meanings are basic worldview assumptions about the enduring aspects of nature, society, and the cosmos. They pertain to things outside of a particular ritual or cultural context and, therefore, are more or less immutable and unfalsifiable. Indexical meanings, on the other hand, are more particular concepts that pertain to immediate conditions and relationships between individuals in a given ritual or cultural context. They consequently can vary dynamically.

In pertaining to very general worldview assumptions, one set of canonical meanings can be the foundation for many different cultural ideologies that differ in their particulars, and can span broad regions encompassing many cultures and linguistic groups. The notion of the *Sprachbund*, "an area of shared understandings of the universe and what to talk about" (Seeman 1995:135), is relevant here, and less directly, the concept of the culture area (Kroeber 1931. 1939; Wissler 1926) as a region of broadly shared lifeways and outlooks. In contrast, an indexical meaning, in concerning a particular cultural context, can be localized geographically to one or a few cultures. It may be the local, richly elaborated and specific manifestation of a general canonical meaning with broader distribution, or a meaning that does not logically follow from a more general canonical one, to the extent that the ideological system of a culture is not fully coherent logically.

In this section, we consider very general canonical meanings such as transformation, power, and humanness, as well as specific indexical meanings such as the various creatures and aspects of nature to which copper referred in specific cultures ethnohistorically.

Difficulties in the Study of Hopewellian Symbolism

Studies of Hopewellian symbolism, specifically the symbolism of copper and silver, are hampered by four problems. First, Hopewellian traditions include both those of the Great Lakes region and those of the Southeast. Historically, peoples of these regions had distinct cosmologies that differed in fundamental ways (see below), although they did share the idea of the shamanic three-tiered universe and used this idea as a basis for the classification of things. It is debatable whether particular materials and animals (e.g., copper, bear) had similar canonical and/or indexical meanings in these two areas. Such variation is expectable, given that at least 27 distinct languages were spoken historically across the area encompassed by the Hopewellian world (Seeman 1995:124). Consequently, it is difficult, if not inappropriate, to talk about "the canonical meaning" or "the indexical meaning" of copper or silver or panpipes over this large area.

A second difficulty in discovering the meaning of Hopewellian symbols is that ethnohistoric information on the religion and symbology of

Native American societies of the Eastern Woodlands is a composite of ideas obtained from later agricultural and earlier hunter–gatherer times. Societies with these two different subsistence bases had different kinds of material and meteorological problems with which to cope; would have had different perspectives on fertility, creation, and reproduction; and, consequently, would have differed in the semantic orientation of their symbols. Which of these diverse meanings are more relevant to Hopewellian societies is unclear, for they existed within a dynamic transition between these two subsistence types, possibly making their symbology more complex or fluid. In addition, the agriculture/hunter–gatherer distinction over time is played out in the geographic Southeastern/Great Lakes distinction over the Hopewellian world, to the extent that agriculture became more central to Southeastern economies. Again, it is difficult, if not inappropriate, to speak of "*the* canonical meaning" or "*the* indexical meaning" of copper, silver, or panpipes over the Woodlands at large.

Third, it appears that Hopewellian symbology was not organized in a simple Levi-Straussian, Western way around polar dualities (e.g., black–white) in the manner interpreted by Greber (Greber and Ruhl 1989:275–284). For example, it is unlikely that copper and mica were complementary opposites with different, distinct sets of meanings as she would have it. Instead, the much more complex and context-dependent organization of symbols called "dual triadic dualism" (Roe 1995) appears to apply to Hopwellian symbology. In this system, an object or material can occur at the intersection of two polar opposites and reflect either pole. The semantic loading of the object/material may be equally balanced between the two poles, or more heavily weighted toward one pole or the other. Thus, an object or material can be seen and assigned meaning more from the point of view of one pole or more from the point of view of the other. The relevant viewpoint will depend on the object's or material's formal context and its context of use. For example, copper might be seen to have both Upper World and Lower World qualities (see below), i.e., to occur at the intersection of meanings of the Upper and Lower Worlds. However, in a

given context, it might be understood to refer more or entirely to either the Upper World or the Lower, its particular meaning depending on the form into which it is rendered and its ceremonial context of use and purpose.

The pertinence of this complex, context-specific form of symbolism to Hopewellian art was made clear by Henry (1994), who demonstrated that there is absolutely no correlation between particular kinds of raw materials and the Upper, Middle, and Lower World creatures into which those materials were rendered in Ohio Hopewellian art. For example, snakes and bears commonly associated with the Lower World (see below), and raptors of the Upper World (see below), are each made of copper and mica, which are proposed by Greber to have been complementarily opposite materials. The context-dependent nature of Hopewellian symbolism makes an identification of "the meanings" of copper, silver, and panpipes to Hopewellian peoples not only difficult, but also inappropriate to discuss in any decontextualized, absolute, universal way.

Finally, studies of the Hopewellian symbolism of copper and silver are hampered by the sparseness of ethnographic references to their meanings.

A General Canonical Meaning of Copper and Silver: Transformation

Copper and silver are two of a large number of raw materials that Hopewellian peoples selected for making ceremonial artifacts and that have the magical quality of changing from light to dark or from shiny to dull, upon being heated or weathered, for instance, as in a ceremonial firing or ceremonial burial in the earth for a time (Carr and Case, Chapter 5, Table 5.3). In many instances, these transformations are reversible. For example, copper corrodes, silver tarnishes, and meteoric iron rusts when weathered and they darken or dull, but each can be made light and shiny again by polishing. Mica turns dark when heated, as does human bone when cremated in a reduced atmosphere and clay when fired under such a condition. In addition, if shiny is equated with light, and dull with dark, as they are in many native classifications (Roe 1995),

then some Hopewellian raw materials are both light/shiny and dark/dull at once. Obsidian is shiny but black, Knife River flint is dark but transluscent when held up to light, and the feathers of some birds, such as mallard ducks, can be irridescent but dark.

It is likely that, to Hopewellian peoples, as with others, the light/shiny and dark/dull poles had many layers of indexical meanings, any or many of which might have been expressed in a particular artifactual form of a particular material in a particular state (e.g., unheated, heated) in a particular ceremonial context in a particular Hopewellian tradition. However, at a more general level, all of the materials that can be either light/shiny or dark/dull have the natural quality of illustrating transformation—a potential canonical meaning. Copper and silver, like many other Hopewellian raw materials, may have been perceived as transformative, may have been selected to make artifacts such as panpipes precisely because they were thought to be transformative, and might have aided in social, personal, or other transformation processes in the course of ceremony. In other words, copper and silver and other Hopewellian raw materials might have been perceived as laying at the intersection between the two semantic poles of light/shiny and dark/dull, and might have taken on specific indexical meanings from either pole or both poles in varying weight, depending on the context. This perception would have made these materials natural transformers.

This canonical meaning of copper and silver makes sense in the context of panpipes in three ways. First, panpipes produce music, which often accompanies ceremony. Cross-culturally, ceremonies usually are transformative in some fashion (Turner 1969; van Gennep 1960), taking an individual from one social status to another (e.g, unmarried to married), or a group or society from one state to another (e.g., war to peace). Further, we found that of the shaman-like social–ritual roles indicated by the kinds of artifacts buried with panpipes, those probably used by public ceremonial leaders were among the most common (see The Panpiper's Social Roles, above). If Hopewellian panpipes were used in public ceremonies, they would have

supported the transformation process, both audibly through the music they produced and visually in having been made of copper and/or silver, which might have actively symbolized transformation.

A second way in which the notion of copper and silver as transformers would have been especially fitting to panpipes is through the use of panpipes in trance induction—a transformation in one's state of consciousness. Musical sound is a commonly used means for entraining and focusing the mind and creating trance states. So, too, is punctuated breathing or puffing, which is the primary means by which a panpipe is played. Further, both musical sound and punctuated breathing in the form of highly repetitive songs are integral to most forms of shamanic work (Harner 1990:50–53, 78–79, 94–95, 109, 152–153; Metcalf and Huntington 1991:85–90; Walsh 1990:173–176; Winn et al. 1989), which are transformative in a variety of ways (Carr and Case, Chapter 5). The copper and silver of Hopewellian panpipes might have visually symbolized the transformation of consciousness that was facilitated by musical sound and punctuated breathing in shaman-like work or other ceremonies involving music. Significantly, Hopewellian panpipes have strong associations with shaman-like equipment in mortuary and other ceremonial deposits (see The Panpiper's Social Roles and Other Roles Bundled with Them, above).

Third, the perception of copper and silver as transformative would have been relevant to panpipes in their use during the manufacture of ceremonial equipment. Manufacturing an artifact from a raw material is a transformative process. It is also a creative process, which can be enhanced with music that focuses the mind (Carr and Neitzel 1995b:452–454). It is possible that panpipes were sometimes played when sacred, symbolically loaded raw materials were being worked, and that the copper and/or silver of panpipes symbolically reiterated and supported the transformative manufacturing process. Relevant to this interpretation is the fact that, of the shaman-like social–ritual roles indicated by the kinds of artifacts buried with panpipes, the role of one who manufactures with symbolically

loaded raw materials was found most commonly (see The Panpiper's Social Roles, above).

We do not know what general canonical meanings the poles of light/shiny and dark/dull, which define the theme of transformation, may have had for Hopewellian peoples. One possibility is the contrast between different worlds, with light/shiny indicating the Upper World, dark/dull standing for the Lower World, and a mix of dark and light perhaps representing this Middle World. This concept accords with, but is not securely inferred from, the fact that copper was mixed in its associations ethnohistorically in the Northeast, referring to both Upper and Lower World creatures of specific kinds (see below). The notion of polar worlds and their mix may also have been represented on Ohio Hopewell copper plaques, which were patinated commonly so as to be dark and light on one side and dark on the reverse (Carr, personal observation).

Life

Closely associated with copper and silver's canonical meaning of transformation and their utility in ceremonies of social and personal transformation may have been the canonical meaning of life, living, and, by extension in Algonkian and Native American modes of thinking generally, personhood and soul (Hallowell 1960). Copper and silver, in corroding and tarnishing, have a life of their own.

The notion of copper and silver as being alive would have been especially suited to panpipes made of these metals. A panpipe produces music when it is breathed into. Breath is strongly associated with one of the two souls of humans in which historic Native Americans commonly believed, and with life (Hultkrantz 1953).

That Hopewellian peoples associated panpipes and their copper with breath is implicated by archaeological evidence. A Hopewellian association of panpipes with breath across the Eastern Woodlands can be seen in the particular placement of panpipes within graves (Appendix 18.7). Panpipes were placed in a variety of locations in the graves of individuals over the Woodlands, but most commonly in locations implying breath: on the chest ($n = 21$) and

around the mouth ($n = 4$). Less frequent placements were by the side ($n = 9$), at the feet ($n = 1$), on the abdomen ($n = 1$), beneath ($n = 1$), and "nearby" ($n = 9$). The common placement of panpipes on the chest or around the mouth on a burial-count basis is reiterated at a larger scale, where 11 of the 14 regional traditions examined here follow the pattern.[5]

A Hopewellian association of copper, itself, with breath may be indicated by three pairs of nostril inserts that were found in Burials 6 and 7 of Mound 25 at the Hopewell site (Shetrone 1926:65–66, figure 24) and in Burial 2 of the Seip–Pricer mound (Shetrone and Greenman 1931:374–375, 408–410, figure 33). The nostril inserts call attention to the breath, and all three were made of copper.

Specific Indexical Meanings of Copper

Historic accounts of Woodland Native Americans provide some information on the specific indexical meanings they attributed to copper. Although it would be inappropriate to assume that these meanings hold across the entire Eastern Woodlands, for the several reasons given above, and although the specific social, ritual, and mythic contexts of the reported meanings are unknown or inadequately understood, the historic data do provide some useful insights.

Copper was highly esteemed by some historic Woodland Native Americans. It was also given personhood, as are many parts of the (to us) inanimate cosmos by Native Americans (C. E. Brown 1939:35; Hallowell 1960; Morrison 1999). Verrazano noted of the Narragensett Algonquians in 1524 that "we saw upon them several pieces of wrought copper, which is more esteemed by them than gold ... which is not valued on account of its colour" (Winship 1905, cited in Hammell 1987:72). A Jesuit observer wrote, "One often finds at the bottom of the water pieces of pure copper, of ten and twenty pounds weight," which were retained as "divinities, or as presents which the gods dwelling beneath the water have given them, and on which their welfare is to depend" (d'Alloues 1666–1667, cited in C. E. Brown 1939:36). Both small and large nuggets were so valued.

In line with the suggestion that copper was seen as transformative, and at the intersection between polar meanings, copper was associated historically by Woodland Native Americans with both the Lower World and the Upper World. It was also associated with their creatures and "persons" (Hallowell 1960): the Horned Serpent, the Underwater Panther, snakes, and bears of the Lower World, and the Thunderers and perhaps the Sun of the Upper World. We explore each of these associations now.

The Lower World and Its Creatures

Copper had natural connections with the Lower World for Native Americans of the Northeast. It comes from down within the earth, appearing to grow from rock within the earth, yet it is not rock. It can be shiny like the waters of the Lower World, which rise to this Middle World in the form of lakes, streams, and springs. Furthermore, copper is found in nuggets underwater and on the beaches around Lake Superior, emerges from the water as islets of nearly pure copper in some locations within Lake Superior, and is found in large deposits on Isle Royale far within the waters of Lake Superior (C. E. Brown 1939:36–38).

More specifically, copper was historically associated in the Northeast with the horned or antlered serpent or panther of the underwater Lower World (Hammell 1986/1987:79; 1987:76). The Potowatomi thought that the Underwater Panther had yellow fur or brassy scales (Howard 1960:217). The Menominee sometimes said that the long tail of the Underwater Panther, which was drawn under its feet and was referred to as the "panther's road through life," was made of copper (Skinner 1921:263). Many Great Lakes tribes believed that the nuggets of raw copper within sorcerers' bundles were the "warts" of the Horned Serpent (Barbeau 1952; Skinner 1915:182–186). This association of serpents and copper is "natural," because both "live" underground/underwater.

In Hopewellian societies, the association of serpents or horned serpents with copper appears to have been context or tradition-specific. A large copper cutout in the overall form of "snake's head" was possibly associated with a copper cutout of a deer antler and represented the Horned Serpent, both of which were found among the mass of copper symbols deposited in Mound 25 at the Hopewell site, Ohio (Moorehead 1922:124, plate 68; see also Greber and Ruhl 1989:113, 279). Several copper antlered headresses, which could have represented the horns of the Horned Serpent, are known from Mound City, Ohio. However, at the same time, mica was used to make a full snake with horns found in the Turner Site, Mound 4, Altar 1, Ohio (Willoughby and Hooton 1922:68–69). Thus, copper was not the only material used to represent Lower World creatures. Additionally, the Mound 25 copper snake head has composed within it Upper World raptor talons and one or more Middle World eared mammals (Carr 1998, 2000a, 2000b). Thus, copper was used to image creatures of all three worlds. These relationships are in line with dual-triadic-dualistic symboling.

Other logically possible aspects of a natural association of copper and serpents are not known to us ethnographically or archaeologically, but can be suggested. For example, it is possible that in some contexts, because of its association with serpents, copper was thought to be associated with the birth of the world and the reenactment of this event. Snakes/serpents come up from the Lower World each spring as they leave their hibernation dens. In addition, mining for copper must have been a highly charged activity for peoples with Hopewellian beliefs. Beyond being a perilous physical activity with the possibility of cave-ins, rock falls, and other accidents, it must have had intense metaphysical overtones. Mining copper was literally taking a journey into the Lower World, where composite creatures (monsters) such as the Horned Serpent and Underwater Panther were thought to reside. This image may have been reinforced at times when snake dens were located in the mining pits.[6]

In the historic Southeastern United States, copper and serpents, and copper and the Lower World, may not have been associated, or perhaps were associated in fewer contexts. The Lower World, harmful creatures in which Southeastern tribes believed were not the horned serpent or horned panther of Algonkian lore but, instead, were creatures with a serpent body, mammal

horns, and bird wings. The Cherokee called these monsters *Uktenas* (Hudson 1976:131). Other tribes told of similar beings, such as the Underwater Cougar, which additionally had a cougar's head (145; see also Fecht 1985). Whereas the Horned Serpent was a combination of Lower and Middle World animal features, and the Underwater Panther had only Middle World animal features, the *Uktenas* and related monsters of the Southeastern tribes were composites of Lower, Middle, and Upper World animals. The monsters triply violated the Southeastern cultural obsession with purity, and were considered very powerful and harmful. Significantly, unlike the copper scales of the Horned Serpent and Underwater Panther, Uktenas had scales of transparent crystals (Hudson 1976:167). Thus, in the Southeast, it may be that copper was not commonly associated with the Lower World and its monsters but, instead, referenced the Sun and the Upper World. The sun, the color red (like copper), the sacred fire, blood, and life and success were each signified by the cardinal direction, East. The color brown, like dulled copper, was assigned the direction upward (Hudson 1976:132).

Among Algonkians, copper from the Lower World was associated not only with underwater serpents/panthers, but also with bears. Bears, like serpents, "live" underground during their hibernation, often in caves and pits like those found or made at copper sources. A historic Chippewa legend told of an underground-dwelling bear with a long tail made "of Copper, or some bright metal" that inhabited the Keweenaw peninsula (Schoolcraft 1853–1857:352, plate 49, cited in C. E. Brown 1939:39). This bear is also depicted in several drawings made by a Chippewa or Cree chief (Brown, p. 39). More recently, local native elders have told how the copper-tailed bear was nearly always in the vicinity of copper deposits (Brown, p. 39). Menominee lore and drawings speak of "the white bear spirit" with silvery hair and a great long tail composed of "bright burnished copper" who guards the deposits of native copper of Lake Superior (Mallery, cited in Brown 1939:39). The Menominee legends and drawings tell of a malevolent Great White Bear that lives underground (Gill and Sullivan 1992:23).

The historic Algonkian association between Lower World bears and copper may have had Hopewellian antecedents. Bear canines are commonly found in Hopewellian sites (Seeman 1979a:371–373), and are occasionally covered with copper. A copper bear headdress was found in Mound 13, Burial 3, at Mound City, Ohio (Mills 1922:451–452, 543, figure 68). However, the association between bear and copper again appears to be context or tradition-specific, and in line with dual-triadic-dualistic symboling: both copper and mica effigies of bears, bear canines, and/or bear claws have been found in Ohio Hopewell sites (e.g., Greber and Ruhl 1989:111; Mills 1916:389; 1922:452–453; Moorehead 1922:110; Shetrone 1926:63, 176, figs. 139, 152[7]; Willoughby 1922:plate 15). Henry's inventory of Ohio Hopewell imagery indicates that the materials from which images of bear or bear parts were made are equally copper and mica: Of the 34 images found to refer to bears, 14 (41%) were copper and 14 (41%) were mica (Henry 1994:36).

In the historic Northeastern Woodlands, special postmortem ceremonies and disposal rituals were performed when a bear was killed (Hallowell 1926). Commonly, these were done in order to appease a great bear spirit or bear chief, who was a "Master of Animals" or "Master of Bears", and governed good hunting of animals at large or bears specifically (Hallowell 1926:63, 70, 137). The historic association of bears with both hunting and copper may have come full circle among northern Hopewellian peoples in their panpipes. Hopewellian panpipes are copper, sometimes were placed in graves with war or hunt divination equipment, and may have been analogous to flutes used historically to hunt in the East (Hall 1979:258).

Historic Southeastern tribes do not appear to have associated the bear with the Lower World, copper, or a Master of Animals. They seem to have related to bears differently. The connection between bears and humans was emphasized in Southeastern mythology (Hudson 1976:160–162), and bears were not seen as having more power than humans (Hudson 1976:157–158; see also 164–165). None of the elaborate Northeastern Indian postmortem customs and disposal

ceremonies for dealing with hunted and killed bears are found among the Southeastern Indians (Hallowell 1926:72). This situation is explained in Cherokee mythology to be the result of the ineptitude and poor cunning of bears (Hudson 1976:157–159).

The Upper World and Its Creatures

Northeastern Woodlands peoples, and Plains Native Americans who had migrated from the Woodlands, believed in the Thunderers, Thunderbirds, or Thunderbeings. These were huge, birdlike beings of the Upper World that were thought to emit lightning from their eyes, to create thunder from the flap of their wings, and to be responsible for rain (Hall 1977:501). Copper had a direct historic association with the Thunderers. Small copper nuggets sometimes found on Lake Superior's beaches were believed by older Native Americans of that region in the 19th Century to be the "eggs or excrement of the Thunderers", and therefore to have "some medicinal value or magic power" (C. E. Brown 1939:40). However, one has the impression that historically, copper was semantically loaded more toward the Lower World than the Upper.

In Ohio Hopewellian sites, the association between copper and the Upper World was not privileged. The relationship appears to have been context-specific, and in accord with dual triadic dualistic symboling. Raptorial birds or their talons are represented in both copper and mica. A talon cutout is found on each of the four corners of a copper breastplate from Mound 26 at the Hopewell site (Shetrone 1926:182), and raptors were embossed or cut out in each of the four corners of both of two copper breastplates from Mound 7, Burial 9, at Mound City (Mills 1922:534–535, figures 62, 63). Two raptor talons are found in cutout designs within the copper effigy snake's head from the Hopewell site, mentioned above. At the same time, two large representations of raptor talons were cut out of mica and deposited in Mound 25, Burial 47, of the Hopewell site (Shetrone 1926:95–97, figure 35).

In the Southeastern United States, among the Cherokee, belief centered on the *Tlanuwas* rather than the Thunderers. The Tlanuwas were huge and savage, falcon or hawk-like birds of prey that were said to come into settlements and carry off dogs and even children (Hudson 1976:129, 136–137). Unlike the Thunderers, the Tlanuwas did not produce thunder, lightening, and rain. Instead, thunder was produced by its own deity, *Kanati* (Hudson 1976:127). We do not know of any historic association between copper and the Tlanuwas analogous to the historic association of copper and the Thunderers in the Northeast. None are listed by Gill and Sullivan (1992). Instead, copper may have been associated with the Sun, an Upper World deity (see above).

Summary

Copper was associated with creatures of both the Lower and the Upper Worlds—the Horned Serpent, Underwater Panther, and bear, and the Thunderers—in the historic Northeast. This double-world association of copper suggests that the particular meanings attributed to copper were context-specific and probably assigned by a dual triadic dualistic symbolic structure, rather than a simple dualistic structure. This also appears to be the case for Hopewellian copper symbolism from Ohio sites, at least. In addition, the double-world associations of copper historically in the Northeast and prehistorically in Ohio suggest that it was perceived as transformative, which would have made its role important in ceremony generally, and in the manufacture and ceremonial use of panpipes in particular. In the Southeastern United States, no firm historic associations of copper with creatures of either world are known to us. However, copper may have been associated with the directions east and/or up, given the similarities of their colors to copper. It is possible that during the Middle Woodland period, Northeastern religious ideas such as those described above and Northeastern copper symbolism spread through various forms of Hopewellian interaction (Carr, Chapter 16) into the Southeast, later to be replaced by or fused with Southeastern concepts and symbolism evident in Mississippian art and historic lore.

To these interpretations of copper symbolism in the Woodlands must be added one final

complexity. In the Northeast, the Upper World and Lower World, with respect to which copper and many other transformative raw materials were probably transitional, were not absolutely complementary poles, themselves. Both worlds had water associations: the Lower World in the form of lakes, springs, and other places where water emerged from the earth, and the Upper World in the form of rain brought by the Thunderers. In addition, the archetypal creatures of the Lower and Upper Worlds—snakes and bird—had similarities. Birds and snakes both hatch from eggs. In the Southeast, snakes are encountered not only in the water and slithering on the earth, but also frequently in the air, hanging from tree limbs (Hudson 1976:144–145). Thus, the poles of Woodland symbolism, themselves, were somewhat fluid, providing ample room for persons to play with the meanings of objects and materials, to vary meanings among contexts, and to connect meanings among contexts. Woodland symbolism was richer, more complex, and more situational than simple Western dualistic symbolism or triadic dualism (Levi-Strauss 1969b, 1973, 1978, 1981).

Some Canonical and Indexical Meanings of Silver

No ideological and cosmological meanings for silver in the Eastern Woodlands can be firmly inferred. Silver was much rarer than copper in Woodland material culture, both historically and during the Middle Woodland, and there is thus less mention of it in ethnohistorical records. However, several notions are relevant here. First, silver is transformative, and reversably so, like many raw materials that attracted Hopewellian peoples. Silver can change from light and shiny to dark and dull through tarnishing, and back again through polishing. Silver is similar to four other common Hopewellian materials in its lightness and/or shininess: mica, galena, meteoric iron, and shell.

Second, it is possible that silver was contrasted with copper, silver being lighter in color than copper when both are polished. This lighter–darker contrast may have been what Hopewellian peoples were deliberately emphasizing

when they placed silver foils over copper artifacts, such as panpipes and earspools. It is particularly noticeable in the rare earspools where silver or meteoric iron were placed in the central depression of the spool, and the surrounding annulus was left in copper, focusing attention on the play of light and shadow in the metals (see Ruhl, Chapter 19). The contrast between lighter, white silver and darker, red copper in panpipes seems to have been intentional in the case of the copper-and-silver panpipe from the McRae site, Mississippi. It was accompanied by two analogously contrasting projectile points that may have been suspended from it: one of clear quartz, the other of red jasper (Blitz 1986:17).

Third, it is possible that the lighter silver/darker copper contrast had many layers of meaning for Hopewellian peoples, just as the light/shiny versus dark/dull contrast within single metals may have had. An association of silver with the Upper World and its creatures and of copper with the Lower World and its creatures is only one logical possibility, and perhaps too dualistic and static.

Fourth, at the same time, Hopewellian peoples may have seen a close association in addition to a polar relationship between silver and copper, for several reasons. Like copper, silver occurs within the earth in rocky areas and often in association with water. At its sources in the Keweenaw Peninsula, silver was found mixed with copper as a minor erratic.[7] The polarity yet association between copper and silver recalls our observation, above, that the Upper and Lower Worlds were not firm opposites but shared in their linkages to water and were related through the similarities between birds and snakes.

Finally, because silver is rarer than copper in its availability and its Hopewellian usage, it is possible that the power attributed to silver was enhanced.

Specific Indexical Meanings of Cedar and Sumac

The materials from which the tubes of Hopewellian panpipes were made are typically either not preserved, or preserved so poorly as to make their species identification impossible or

tentative. However, the inner wooden tubes of one panpipe from the Donaldson II site, Ontario, have been tentatively identified as either staghorn sumac (*Rhus typhia* L.) or willow (e.g., black willow, *Salix nigra* Marsh) (Young 1991). Red cedar wood may also have been used in one or more panpipes from Illinois (B. Hansen, personal communication, 1996).[8]

Cedar wood, among the Cherokee and most Southeastern Indians, was one of a very restricted set of things that represented the highest degree of ritual purity and sacredness, the other things being pine, spruce, holly, laurel, owls, and cougars (Hudson 1976:134; Speck 1909:62). Cedar was used to make the litters on which the highest elite of the Mississippian sites of Cahokia and Spiro were buried. Hall (1977:513), generalizing more broadly for the Eastern Woodlands and eastern Plains, notes that cedar "was used as a fumigant associated with life, immortality, and countermeasures against supernatural powers."

Sumac, too, served as a fumigant when it was used as an ingredient of kinnikinnick—a widely spread group of smoking materials that might be made of the bearberry, manzinita, dogwood, and/or sumac (Hall 1977:513). Also like cedar, sumac was associated with the color red: sumac turns blood red in autumn, and cedar is red and white. Hall (1977:513) noted that "sumac ... has several mythical associations similar to those of cedar and copper in the Eastern U.S.—the ability to counter supernatural power."

Cedar and sumac have natural linkages to panpipes. In referencing purification, which is a form of transformation, through fumigation and/or smoking, cedar and sumac are similar to music, which has the capability to transform (see A General Canonical Meaning of Copper and Silver: Transformation, above). In addition, sumac was smoked for both ceremonial and ordinary purposes (Hall 1977:513), which associated it with breath, as are panpipes, which are blown.

At the same time, another logic is possible. Cedar defies transformation, being resistant to rotting, whereas copper and silver are transformative (see above). If cedar was used to make some Hopewellian panpipes, its use along with copper and/or silver may indicate the attempt

to afford balance to these instruments. Balancing opposites is one of the most fundamental themes of Southeastern Native American cosmology (Hudson 1976:128).

If cedar and sumac were used in the construction of panpipes, it is difficult to specify at this time which of the above characteristics of cedar, sumac, and panpipes Hopewellian peoples might have associated.

General Canonical Meanings of Panpipes: Power and Humanness
Power

Each of the constituents of panpipes described above—copper, silver, and possibly sumac and cedar—had one or more associations with power ethnohistorically, or suggest by their nature their association with power. Powerful creatures or "persons" of the Upper and Lower Worlds, including Thunderers, the Horned Serpent, the Underwater Panther, and the bear, had symbolic ties to copper in the Northeastern Woodlands, and the sun deity may have had in the Southeastern Woodlands. These beings could bestow power on a human with the appropriate ritual or derail one's power if not given due respect. In addition, copper and silver both have a magical transformational nature, as does music, that could have been harnessed in ceremony for a great many purposes and demonstrated power. Also, the power of life and the power of breath are notions that are naturally implicated by copper, silver, and panpipes themselves. Further, cedar was privileged in the Southeast as a representative of highest purity and sacredness, which could not be attained by humans, for their insufficient power. Thus, panpipes may have had the general, canonical meaning of power across the Eastern Woodlands, in addition to their more context-specific, indexical meanings.

It is conceivable that panpipes also may have had the general canonical meaning of being an intermediary to power. Made from materials connected with and having power, they may have served as conduits between the sources of power in the various beings they signified and humans and their ritual tasks at hand. Based on the role analysis made above, these tasks would

have most commonly been manufacturing arti-
facts from symbolically loaded raw materials,
spiritual work in general involving trance states
induced by smoking, public ceremonial tasks,
and divination in general. Panpipes also may
have functioned less commonly as intermediaries
to power in ceremonies aimed at war or hunt div-
ination, healing, and philosophy (see The Pan-
piper's Social Roles and Other Roles Bundled
with Them, above).

An ethnographic analog to the idea that pan-
pipes functioned as conduits between sources
of power and humans is the bird bone whis-
tles blown by Lakota Siouan Sundancers (Mails
1978:100, 1991:30–31, 51). During the Sun-
dance, power is said to flow from *Wakan-Tanka*
(i.e., God) through the sun and the sacred central
tree in the dance ground (i.e., World Tree) to the
Sundancer who blows a hollow bird bone whistle
and is believed to be a hollow tube that can be
filled with that power.

Human Power: The Long Journey for Copper or Silver

Beholding the copper and/or silver of a pan-
pipe would have immediately evoked in a Hope-
wellian person the sense of power of the pan-
pipe's owner. These metals would have recalled
their acquisition by a long-distance journey to
Lake Superior or Upper Lake Michigan deposits
of copper with silver, and/or to Cobalt, Ontario
deposits of silver—challenging feats that demon-
strated the power of the person who undertook
them successfully. Although copper and silver
were available to Hopewellian peoples at a num-
ber of relatively close sources over the East-
ern Woodlands, the distant Upper Great Lakes
and Cobalt sources were chosen to make pan-
pipes and other copper and silver artifacts in al-
most all instances (Spence and Fryer, Chapter
20; Bastian 1961; Clark and Purdy 1982; Goad
1978, 1979; Rapp et al. 1990; Schroeder and
Ruhl 1968); and these sources were far from
all of the Hopewellian regional traditions in the
Woodlands (Brose 1990). Thus, across the Wo-
odlands, copper and silver panpipes would have
evoked a similar general canonical meaning of
not simply power, but power accrued and proven

through a successful long journey (Bernardini
and Carr, Chapter 17)—human power.

Making a journey to mine and bring back
copper and silver would have been a danger-
ous and long endeavor. The trip to the Upper
Great Lakes or Cobalt would have involved trav-
eling through territory that was unknown in its
specific features and inhabited by potentially
hostile strangers who did not speak one's own
language or operate by the same cultural prin-
ciples and norms. The trip to Isle Royale and
other copper-bearing islands within the ofttimes
stormy and foggy Lake Superior was treacherous
(C. E. Brown 1939:35, 36). One historic Native
American name for Isle Royale was "Thunder,"
because it was said to "thunder there all the time"
(Doblon 1669/1670, in, C. E. Brown 1939:37).
Probably more frightening would have been the
prospect of having to deal with Lower World
monsters such as the Horned Serpent, the Under-
water Panther, and/or a bear spirit that guarded
copper deposits (see Specific Indexical Meanings
of Copper, above) during one's travels over water
and while mining. The duration of a canoe trip
to Lake Superior copper or Cobalt silver deposits
from the Central Scioto area in Ohio and back, as
an example, would have taken many months (Lit-
tle 1987). All of these dangers and the endurance
required for the journey would have yielded sto-
ries to tell and prestige to be had upon coming
home. Copper from the Lower World would have
served as proof.

The fear of the Horned Serpent exempli-
fies the danger implicit in long journeys and the
power demonstrated by a successful journeyer.
The Horned Serpent was feared for a variety
of dangers it caused the living and the dead.
It might take an unsuspecting victim who hap-
pened to be near a body of water—an entrance
to the Lower World. It could create stormy wa-
ter and whirlpools with its long tail on bodies of
water when humans were traversing them, and
was responsible for falling through thin ice. In
the lore and near-death experiences of historic
Ojibwa, the journey of the deceased to a Land of
the Dead required crossing over a turbulent river
on an unstable or undulating, fallen tree trunk,
which turns out to be a serpent. Souls that fell
into the river were lost (Kinietz 1947:145; Kohl

1860:218–219, 222–223; S. R. Martin 1999:201; see also Barnouw 1977:18–19, 136).[9]

Although the above, specific, indexical meanings of copper and long journeys to acquire it or silver had limited geographic distributions historically among Native Americans, and also would have had among Hopewellian peoples, these meanings imply a similar, more basic canonical meaning that would have been understood across the Woodlands. Copper, silver, and panpipes made of them would have called up the ideas of the long journey and the human power required by it and gotten from making it.

Manageable Power?

The power represented by panpipes over the Eastern Woodlands was categorically distinct from that represented by some other kinds of Hopewellian ritual paraphernalia. This contrast is evident in the different patterns of decommissioning of panpipes from some other forms of ritual items. Specifically, panpipes were commonly placed in the graves of the deceased, and only seldomly in nongrave ceremonial deposits. Of 64 panpipes with known intrasite proveniences, 57 were found in graves and only 7 in nongrave deposits. Panpipes decommissioned in graves predominate in every Hopewellian regional tradition. Clearly, Hopewellian peoples across the Woodlands did not avoid burying panpipes with their dead. In contrast, in the Scioto tradition at least, almost all examples of worked quartz and obsidian items such as bifaces, cones, and disks, almost all platform pipes, and all large community smoking pipes ("Copena pipes") were decommissioned in ceremonial deposits not associated with the deceased (Case and Carr n.d.).

An understanding of this distinction can be found in how Woodland Native Americans historically perceived of ritual paraphernalia. Very commonly, they attributed ceremonial items with personhood (e.g., Hallowell 1960), and thought them to have the potential for gaining power, like humans, through their use. Long-lived items that had gained much power over time could be equally as dangerous as helpful, and sometimes were taken out of service through destruc-

tion or burial in the earth as a precautionary or necessary measure. That Hopewellian panpipes were not isolated in this manner, while some other forms of ritual paraphernalia were, suggests a fundamental difference in the kinds or amounts of power associated with these different artifact classes and/or whether they were attributed personhood. Whatever the particulars of the difference,[10] the power involved with Hopewellian panpipes was apparently thought to be more manageable and panpipes could be buried with the deceased without fear of repercussions on them. This characteristic of panpipes and their power would have been among their general, canonical meanings recognized by Hopewellian peoples across the Woodlands, given the common pattern of burial of panpipes across the East.

Humanness

The musical quality of panpipes may have had canonical meanings beyond any indexical ones expressed in particular melodies. Through reconstruction (G. A. Young 1970, 1976), it is known that panpipes produced high notes (see Ethnographic Information, above). It is possible that these notes were used to imitate high-pitched sounds of things in nature that were religiously and ritually essential. Birds are obvious candidates, having had a central place in Hopewellian art in several traditions. In addition, in shamanic belief systems, within which Hopewellian belief falls (Carr and Case, Chapter 5; Romain 2000), bird flight is commonly equated with soul flight, which is typically induced with musical instruments (Eliade 1972:168–180; Harner 1990; Walsh 1990:173–175). Other, larger animals also produce high-pitched calls at times (e.g., an elk's bugle), and are candidates for the natural sounds that Hopewellian panpipes might have been used to imitate. Could Hopewellian panpipes, through their sounds, have metaphorically referenced birds or some other animal or aspect of nature that Hopewellian traditions shared in emphasizing?

Empirically, this attractive idea is not supported. Regional traditions vary in whether their panpipes are predominantly long-tube or short-tube (see The Exchange of Panpipes and Panpipe

Styles, below) and, thus, the ranges of notes that these panpipes probably produced and the sounds of nature that they could have imitated. In addition, burials with panpipes do not in total contain the power parts of just birds or just one other kind of animal, but many kinds, which make widely different sounds. Thus, the case for an encompassing, canonical, Hopewellian use of panpipe sounds to imitate some key aspect of nature can probably be set aside.

More convincing is the possibility that the melodies of panpipes evoked for Hopewellian peoples over the Woodlands the notion of the human voice and humanness. Hopewellian panpipes are multinote instruments. All Hopewellian traditions were predominated by three-tube pipes, which would have been capable of producing similar melody structures, although different in pitch. In their multinote vocality, all Hopewellian panpipes resembled the human voice in song and speech and, by extension, referenced humanness, sentience, and personhood—very basic concepts of a canonical nature.

The probable association of panpipes, and the copper from which they were made, with breath and life, and by implication, with personhood in Algonkian and Native American thought systems (Hallowell 1960; see above, Life), would have complemented the musical quality of panpipes in representing humanness.

Implications of the Symbolism of Panpipes for Interregional Social–Ritual Interaction

The general, canonical meanings of power and humanness that panpipes may have had for Hopewellian peoples of the midcontinent are significant to the topics of interregional Hopewellian interaction and the degree of coherency of the interregional Hopewellian world. Seeman (1995) introduced Hopewellian archaeologists to Helms's (1988:23, 31) idea that traditional peoples categorize others over a landscape by their geographic, linguistic, and behavioral distance. "Others" may be "normal people" of neighboring lineages, "close strangers" who share similar social and philosophical–religious principles to some level of detail, and "outsiders" more distant in space and culture, who share only the most fundamental of worldview assumptions and concerns. Whereas close strangers may communicate fairly specific meanings to each other through pidgins or bilingualism fostered by some intermarriage, outsiders who share simply general worldview schemata are left to communicate metaphorically with nonverbal, nonlinguistic, artistic media such as dance, melodies, or material symbols.

Seeman went on to point out that different kinds of Hopewellian artifacts have geographic distributions of varying expanse, implying that they facilitated communication and interaction among different ranges of peoples—normal, close strangers, or outsiders. To this observation we would add that different kinds of artifacts with varying geographic distributions were effective with audiences of different scales *because* they differed in the generality of the meanings they were capable of referencing. The most widely spread artifacts would have referenced very basic social and/or religious principles, and this would have been achieved metaphorically and nonverbally. In this light, one would expect that panpipes, which are distributed across all Hopewellian traditions, facilitated interaction among outsiders of different Hopewellian traditions, and did so by acting as metaphors for very basic, shared, social and/or philosophical–religious concepts—canonical meanings.

In a meeting of persons from distant Hopewellian traditions (e.g., Ruby and Shriner, Chapter 15; Carr, Chapter 16), the copper and silver of their panpipes could have conveyed the canonical message of power and the individuals' personal access to power. Historically, at least, this general message would have been understood across the Eastern Woodlands. This message would have been important to Hopewellian social interaction because it would have fostered quick respect of the meeting parties for each other and smoothed their greetings. Especially significant, the power of the persons would have been communicated independent of any specific social roles that afforded the persons prestige in their own cultures and independent of the tradition-specific material symbols of those roles. Such roles and

symbols might not have been readily understood by strangers from different, distant societies and cultures, as our role analysis suggests (see above, The Panpipers' Social Roles and Other Roles Bundled with Them).

The kind of power(s) perceived by distant foreigners in the copper and silver of each other's panpipes would likely have been different—projections colored by their own, specific, indexical understandings of the powers associated with copper and silver. The particular Worlds, creatures, and kinds of transformations referenced by copper and silver in the local culture of each person would have come to his or her mind when seeing a panpipe. However, the underlying common message understood by both parties would have been power, and the access to power, that both parties had.

In contrast to the copper and silver from which Hopewellian panpipes were made, most of their other visible aspects are not likely to have visually carried metaphorical, culturally fundamental information across the entire East. Our stylistic studies of panpipes (see The Exchange of Panpipes and Panpipe Styles, below) clearly show that they varied systematically from region to region in their most visible morphological attributes: whether they had band or tubular jackets (i.e., overall shape) and tube length (i.e., overall size).

Power referenced through the copper and silver of which panpipes were made may have been one key factor that led to their effectiveness in communication and their wide distribution across the Eastern Woodlands. However, this canonical meaning is not sufficient in itself to explain the pan-Eastern distribution of panpipes. Other copper Hopewellian artifacts, such as celts, breastplates, and headplates, would have had this same meaning, yet their geographic distributions are progressively smaller. Panpipes must have "spoken" effectively in some other way(s).

The musical quality of panpipes is an obvious way in which panpipes differ from other copper artifacts and that could have enhanced their communication potential. Through their multitonal vocality and resemblance to the human voice, as well as their reference to breath and life, panpipes may have metaphorically referenced the humanness, sentience, and personhood of the panpiper. This would have been an absolutely essential message to communicate among meeting Hopewellian parties from distant lands, because not uncommonly in tribal societies, peoples from afar are considered to be less than human and, thus, dangerous, disgusting, or not worthy of interacting with. Panpipe melodies may have thus facilitated the meetings and ritual interactions of Hopewellian foreigners not through their specific forms, but through the general canonical meaning of humanness that they broadcasted, the respect for strangers that they fostered, and the worthiness of interaction that they encouraged. Significantly, announcing one's humanness could have been done musically at a distance, before foreigners met face-to-face.

Summary

Distant peoples of Hopewellian traditions who considered each other outsiders could have used panpipes to communicate metaphorically some very basic concepts to each other when they met. Power and humanness are some reasonable possibilities with empirical support. Although persons from different Hopewellian traditions probably were not able to appreciate all the specific connotations that the copper, silver, and melodies of panpipes had in each other's cultures, they may have been able to grasp core aspects of each other's identities through the playing and presentation of panpipes. These messages would have encouraged mutual respect among Hopewellian peoples who were categorically outsiders and also provided motivation for interacting.

Panpipes, Smoking Pipes, and Calumets

Our reconstruction that panpipes served to mediate and motivate gatherings of Hopewellian foreigners is paralleled by one made by Hall (1977:504–505, 1983:52; 2000:115–116, 120). Hall proposed that plain and effigy platform pipes allowed for peaceful interactions among Hopewellian peoples similar to the way that round-stemmed, Hako-type calumet–pipes did among historic Plains and Woodlands Native Americans. Specifically, Hall proposed that single-hole-type atlatls were used in the

Midwestern United States during the Early Woodland to hold stone or cane smoking tubes. This mental association of the smoking tube and atlatl was developed into the idea of an atlatl–pipe in the Middle Woodland—the Hopewellian platform pipe with an attached flat stem. The animal effigy on the bowl of the pipe was likened to the animal-effigy carving or birdstone on the end of an atlatl that served as a spur to hold a spear in position in the atlatl, and the flat stem of the pipe (perishable and presumed to have been used) was likened to the flat arm of the atlatl (Hall 1977). Alternatively, the platform pipe may have represented the handle end of the atlatl (Hall 1983:48). Because the historic, round-stemmed, Hako-type calumet–pipe can be documented to have openly symbolized both a weapon (arrow) and a peace pipe, Hall suggested that the Hopewellian weapon (atlatl) and pipe combination did so as well 2000 years earlier and had the same function as the calumet–pipe in creating a social context for peaceful interactions over the Woodlands. Hall (1977:505, 1983:37) did not believe that there was direct continuity from the Hopewellian atlatl–pipe to the historic calumet–pipe. Rather, he saw a long, stable Woodlands–Plains tradition of symbolism and symbolic associations that encouraged the weapon–pipe composite form to be invented twice, as opportunities and needs arose (R. L. Hall 1977:515), i.e., in the Middle Woodland period and Mississippian times. The Hopewellian atlatl–pipe, Hall proposed, evolved instead into the historic flat-stemmed tribal pipe and clan pipe of northern Mississippi valley peoples. Historic tribal and clan pipes did not have a weapon association.[11]

Hall's (1977, 2000) interpretation of Hopewellian platform pipes as vehicles for interregional Hopewellian interaction and exchange over the Woodlands is based entirely on formal similarities in artifact forms and ethnohistoric analogies about artifact function. When archaeological information on the context and regional distribution of platform pipes is considered, as well as certain other aspects of their form, the interpretation becomes less convincing. We hold that panpipes served to smooth interregional Hopewellian intercourse and that platform pipes probably did not. Our reasons are four.

First, the species of animals sometimes sculpted on Hopewellian platform pipes, and their placement on the pipes, suggest that these artifacts were meant for personal ritual use rather than communal ritual use such as passing the pipe around in a meeting ritual. Specifically, the animal carvings are most easily interpreted as the personal tutelary animal spirits of individuals who smoked the pipes in order to move into a trance state and travel to the spirit world to talk with, be guided by, and/or merge with their tutelary spirits (Harner 1980:73–88; Hultkrantz 1953:375–376; von Gernet and Timmins 1987:39–40; cf. Grim 1983:144; Mails 1979:50–51). The number of species documented on platform pipes is very large—many more than would represent clans of the Woodlands, as shown by Thomas et al. (Chapter 8)—and in line with individually tailored ceremony and idiosyncratic trance experience. In the small area of the Scioto–Paint Creek confluence, the effigy pipes from the deposits in Mound 8 of the Mound City site and the roughly contemporaneous Great Cache at the Tremper Mound represented at least 36 different species (Otto 1984, 1992). Also, platform pipes were carved so that the smoker had to look at the animal effigy face-to-face while smoking, suggesting the practice of communicating and/or merging with an animal spirit guardian (e.g., von Gernet and Timmins 1987:39–40; Mails 1979:57). In this light, the highly personal and proprietary use of platform pipes would have been out of place in the context of a meeting ritual among foreigners, where emphasis on basic, shared symbols and meanings would have been most effective. The relatively standardized form of the historic calumet–pipe used over the Woodlands and Plains to facilitate peaceful meetings (Hall 1977) stands in marked contrast to the personal and formally diverse nature of Hopewellian platform pipes.[12]

Second, quite simply, there is no archaeological evidence that Hopewellian platform pipes were mounted to a flat extended stem that would resemble the arm of an atlatl. Such arms have not been found archaeologically. No study has revealed systematic wear marks on the smoking end of platform pipes that would suggest that they were repeatedly mounted and unmounted

from an extended stem, as were historic calumet–pipes and stems. I have not noticed such wear on the many platform pipes from Mound City and Tremper that I have held or observed.

Third, platform pipes were not distributed over the entire Woodlands and, thus, could not have been the medium that allowed Hopewellian interaction across that expanse—the scale that Hall (1983:37, 42) envisioned. Platform pipes are known from only five regional Hopewellian traditions, all in the north–central and north-west Woodlands: the Trempealeau, Goodall, Havana, Crab Orchard, and Ohio regions (Seeman 1979a:332, 381). Only one site with a platform pipe is known south of the Ohio River (Seeman, p. 330). Panpipes, on the other hand, are spread over all Hopewellian regional traditions in the Woodlands and could have played the greeting role. If platform pipes did have a place in Hopewellian interregional interaction, it was restricted to the north–central and northwestern Woodlands. Hall's interpretation leaves unaddressed the artifact class or other means that would have facilitated Hopewellian interregional interaction among the midsouthern and southern Woodland traditions, and among these and traditions farther north.

Fourth, archaeological evidence does not support the idea that both panpipes and platform pipes were used to aid interregional interaction among the north–central and northwestern Hopewellian regional traditions, where both artifact classes occur. The two kinds of artifacts are seldom found together in burials over the Woodlands (Tables 18.3 and 18.7), indicating that they probably were not used together as a functional set in meeting ritual. Panpipes and platform pipes are found together in only 6 of 57 burials with panpipes and in only 3 regional traditions. They never occur together in the ceremonial deposits documented. The two large deposits of platform pipes found at the Tremper and Mound City sites, with over 150 pipes in each, did not include a panpipe. The dissociation of panpipes and platform pipes archaeologically in the northern Woodlands cannot be attributed to a temporal difference in when panpipes and platform pipes were used; the two are often found in the same Middle Woodland sites. In addition, it seems unlikely

that both kinds of artifacts would have been used in greeting rituals in the northern Woodlands, but in separate kinds of rituals spread over the same area. A single symbolic system for greeting would have been more effective. Historically, the geographic distributions of wampum, calumets, and flutes, each of which were used in meeting rituals in the Woodlands during the 16th Century, were largely distinct (I. Brown 1989:314, 315). During the 17th Century, after the flute had disappeared from greeting ceremony, the distributions of wampum and calumets remained largely separate.

The conclusion to which the archaeological evidence leads, that Hopewellian platform pipes were probably not the analog of the historic, round-stemmed, Hako-type calumet–pipes, and were not the foundation of interregional Hopewellian meeting ritual, would require that the parsimony of Hall's reconstructed history of Eastern Woodlands meeting rituals be replaced by a more complex one. Hall argued for the repeated invention of one basic form of meeting ritual across the Woodlands at large, during the Middle Woodland and the Mississippi periods, with extension into the Historic period. That ritual form supposedly centered around a pipe–atlatl complex. The archaeological evidence, in contrast, suggests that panpipes were used in meeting rituals during the Middle Woodland, that they fell into disuse coincident with the end of Hopewellian interregional interaction at the end of the Middle Woodland period, and that later the calumet pipe–atlatl arose. According to I. Brown's (1989) archaeological and ethnohistoric reconstruction, calumet pipe–atlatl ceremonialism developed in the upper Mississippi valley and Great Lakes region before European contact, and spread into the southeastern Woodlands some time between the late 16th Century and the mid to late 17th Century. Flutelike instruments were reported to have been used in meeting rituals in the Southeast prior to the spread of the calumet there (see Ethnographic Information, above). It is possible that the flutes observed historically in Southeastern meeting rituals were a continuation and simplification of an earlier, Hopewellian practice that involved panpipes, given the archaeological evidence that panpipes had probably

been used in greeting rituals during the Middle Woodland over much of Eastern North America. Alternately, historic flute greeting rituals in the Southeast may have been a reinvention rather than a continuation of the earlier Hopewellian panpipe greeting ritual.

In the Northeast, as well, Middle Woodland greeting ceremonies that used panpipes may have been simplified and replaced by rituals that involved flutes, but this continuity would have been cut short by the development of calumet ceremonialism in the Northeast prior to European contact.

In all, this proposed history of meeting rituals in the Woodlands makes sense of the use of flutes for such purposes in the historic Southeastern United States, whereas Hall's notion of an early, Hopewellian development of the pipe–atlatl complex and its early spread across the whole of the Woodlands does not.

Implications for Adoption and Reconception Rites. Beyond Hall's very specific reconstruction of Hopewellian plain and effigy platform pipes as weapon-pipe composites that facilitated interregional Hopewellian interaction and that were analogous to the historic calumet-pipe, he has discussed the more general issue of the antiquity of rites of symbolic adoption for establishing friendly relationships among Woodland peoples. Hall (1997:161; 1989:255-256; personal communication 2003; see also 1987; 1997:57) holds that the essential ritual component in social intercourse among distant parties across the Woodlands historically, and probably prehistorically extending back to perhaps 1000 B.C. in both North and Mesoamerica (Hall 1987:39), was not any particular artifact form, but an adoption and reconception rite that created fictive kinship among strangers. Having had its origin in mourning ceremonialism, the rite in its historic Woodland forms symbolically raised a war captive, other stranger, or friend from a ceremonially feigned death and instilled in him or her the spirit of a deceased tribesman or relative, creating a fictive kinship between the raised person and the giver of the ceremony. In the historic Calumet ceremony of the Mississippi valley, Plains, and Prairies, the pipe-weapon was used symbolically to impregnate the person to be raised with the spirit of the deceased. In the lower Great Lakes and the Northeast, wampum belts were used instead to fulfill a similar purpose. Other objects might have sufficed as well: "the entire ceremony could be conducted with some other object to symbolize the impregnating medium" (Hall 1989:256).

Panpipes would be one candidate for an impregnating medium within an adoption and reconception rite that made kinsmen of strangers during the Middle Woodland, if such a rite was known to Woodland Native Americans at that time. The symbolic references that the copper, silver, and music of panpipes may have made to life, breath, life-generating power, humanness, and personhood in a spiritual sense for Hopewellian peoples fit comfortably with the idea of raising the dead in the course of an adoption ceremony. The associations are too loose, however, in our view, to conclude that the roles played by Hopewellian panpipes, in greeting or other ceremonies that smoothed interregional interaction, centered specifically on reconception and adoption. In addition, the diverse role associations, ritual uses, and stylistic norms of panpipes in different regions of the Woodlands, and some deep distinctions in the meanings of copper between northeastern and southeastern Woodland peoples, cast doubt on the idea that panpipes were used interregionally in a single kind of greeting and peace-ensuring rite among strangers—be it reconception and adoption or some other ceremony. Instead, the diverse, local social roles, ritual uses, styles, and meanings of panpipes suggest to us that panpipes functioned in a more general, metaphorical fashion, conveying between strangers from a distance very basic information, such as humanness and power, which motivated social interaction and created the mutual respect necessary for it.

THE EXCHANGE OF PANPIPES AND PANPIPE STYLES

Historically, panpipes have been used by archaeologists to define the uniformity of Hopewellian

cultural features across the Eastern Woodlands. The supposedly identical morphology of panpipes (Caldwell 1964:137), their similar size and construction (Seeman 1995:136), and their uniform capability in eliciting predictable ritualized responses among Hopewellian peoples from distant traditions (Seeman 1995:136) have each been emphasized. These supposedly homogeneous features of panpipes, like other Hopewellian cultural features, are the basis for viewing Hopewell as an interregional system of exchange of goods, practices, and ideas.

In this section, various aspects of the style of panpipes are analyzed and found not to support these basic presuppositions. Panpipes are regionally diversified in their styles, were produced by regionally diversified artisan networks that were inward-looking to a considerable degree, and were seldom exchanged as finished objects. These conclusions dovetail well with our studies, above, of both the social–ritual uses of panpipes in social roles and the indexical meanings of panpipes, which show well-bounded regional diversity.

Data and Theoretical Framework

Data

Five stylistic traits of panpipes are relevant to the issues of whether panpipes were exchanged, the geographic scale of exchange, and the geographic expanse of artisan interaction networks, and at the same time, are known for enough specimens to be fruitfully analyzed. These traits are (1) whether a panpipe has the overall form of conjoined tubes or a band (Appendix 18.3); (2) if a conjoined tube panpipe, whether it is modally long or short (Appendices 18.1, 18.2, 18.3); (3) if a conjoined tube panpipe, the number of corrugated ridges marking tubes (Appendix 18.3); (4) the number of holes found on the reverse side (Appendices 18.3, 18.8); and (5) small, submode variation in panpipe length and width (Appendix 18.3). A sixth stylistic trait—the kind of metal (copper, silver, iron) of which the panpipe jacket was made—is deleted from the analysis. This trait seems to reflect the degree to which various regional populations had access to the different kinds of metals more so than artisan choice among them as equally feasible, alternative, stylistic features.

Style Theory

The issues of whether panpipes were exchanged interregionally and the expanse of artisan interaction networks can be determined using the middle-range theory of material style developed by Carr (1995a). In this framework, a series of stylistic attributes is ordered by their visibility, and each is then linked to a set of technological, social, personal, psychological, physiological, or other processes that functionally correlate with the attribute's visibility. Examples of such processes include active expression of the identity of a society or some segment of it, active communication or passive reflection of a network of interacting artisans or "learning pool," active assertion of the personal self, and passive, idiosyncratic personal variation. The recorded panpipe stylistic traits are appropriate for identifying such past processes, and the social units within which they occur, because the traits range from visible to obscure.

Specifically, the number of holes found on the reverse side of panpipes, being an obscure feature or "nuance of style" (Carr 1995a:192–193; Fredrich 1970), should theoretically track the expanse of close interaction among panpipe makers within active or passive artisan "learning pools." Being obscure, the number of holes might be transferred among artisans only through their working closely together. The learning pools might be geographically coherent, if artisans learned from each other within a limited region, or dispersed, if artisans traveled widely to learn from each other, as was sometimes the case ethnographically in the Eastern Woodlands (e.g., Penney 1989; see also Carr, Chapter 16). Obscure differences in panpipe lengths or widths within modal ranges also are expected theoretically to track artisan learning pools. In contrast, overall panpipe form (band versus corrugated) is a much more visible feature. Theoretically, this feature has the potential to communicate group identity or affiliation for a large social unit, or to symbolize the religious, social, or other ideas

of such a unit. If such a social group interacted with others, the trait of panpipe form could easily have been exchanged widely among groups because it is readily visible (Carr 1995a:192–193, 197; Friedrich 1970). The traits with intermediate visibility—number of tubes per panpipe, and panpipe length—theoretically might reflect either learning pools or social group identity, depending on the typical distances at which panpipes were viewed at gatherings (see Carr 1995a:185–186, 195).

Stylistic Patterns and Their Interpretation

In the following paragraphs, we document panpipe stylistic variability and its cultural meanings, beginning with obscure attributes and proceeding to more visible ones.

Regional and Local Artisan Interaction Networks and Panpipe Exchange

The number of holes found on the reverse side of panpipes (Appendix 18.3) patterns geographically, revealing four largely distinct regional artisan interaction networks. Two-hole panpipes occur almost completely in the Southeastern traditions of Santa Rosa–Swift Creek, Porter–Miller, and the Southern Appalachian, and in the Southeastern-influenced Miami drainage of Ohio ($n = 5$ of 6 panpipes with two holes). Three-hole panpipes are restricted to the northeastern Hopewellian traditions of Point Penninsula and Saugeen ($n = 2$ of 2 panpipes with three holes). Six-hole panpipes are found in the Goodall and Muskingum traditions ($n = 2$ of 2 panpipes with six holes), which neighbor each other. Four-hole panpipes are more widely spread, primarily across the northern and central Midwest traditions of Trempealeau, Goodall, Point Penninsula, Saugeen, Havana, and the Miami drainage ($n = 8$ of 10 with four holes), but also occur in the Southern Appalachian and Marksville regions. These are all Great Lakes and Mississippi drainage-related traditions, in contrast to the Porter–Miller and Santa Rosa–Swift Creek Gulf-related traditions, where four-holed panpipes are lacking. Thus, the Eastern Woodlands can be subdivided into four active or pas-

sive learning pools, each comprised of panpipe artisans who worked together closely in dyads or small groups that overlapped, and who formed a network over space.

A few panpipes, where the number of holes is known, do not fall within the above geographic patterns. They could represent imports or examples of long-distance artisan interactions, intermarriage, or adoption of the kinds Penney (1989) and Carr (Chapter 16) describe. These specimens are the Baehr Mound 1 panpipe from Illinois, which has the Southeastern two-hole form; and possibly the Franklin Mound 1 panpipe from Tennessee and the Helena Crossing Mound C specimen from Arkansas, which have the primarily northern and central Midwestern four-holed form. However, it appears that, for the most part, panpipe importation or artisan interaction was not so wide and frequent across the Eastern Woodlands as to have broken down the geographic–stylistic patterning of regional learning pools.

The existence of very localized groups of artisans who learned panpipe manufacturing norms from each other is evident from obscure, submodal consistencies in panpipe length and/or width within some single and/or neighboring sites. For example, the two complete long corrugated panpipes from the Rutherford mound in Illinois have precisely the same lengths (9.5 centimeters) and widths (4.8 centimeters.). The two complete long corrugated specimens from LeVesconte, Ontario, have very similar lengths (12.5 and 12.6 centimeters) and widths (4.5 and 4.3 centimeters). The three band panpipes from Dane County, Wisconsin, have close widths, ranging from 5.47 to 6.88 centimeters. Two panpipes from Tunacunnhee, Georgia, have lengths of 10.25 and 11.25 centimeters, and one panpipe from another Southern Appalachian site—the Franklin site, Tennessee—is 11.25 centimeters long.

In other instances, panpipe dimensions vary more widely in size within a given single site. This suggests multiple, localized learning pools: either several artisans within a given site who did not conform to any one local norm, or importation of panpipes from neighboring sites whose artisans had somewhat different norms,

or intermarriage among the two local groups and relocation of some panpipe makers. For example, the two complete long corrugated panpipes from Donaldson II, Ontario, have the diverse lengths of 13.4 and 19.7 centimeters. The shorter specimen falls close in its length to those of the two complete corrugated panpipes from neighboring LeVesconte, possibly revealing two distinct localized learning pools at the two sites and localized exchange of panpipes or intermarriage.

The conclusion that panpipes typically were not exchanged widely across the Woodlands, and that their style distributions reflect local and regional learning pools, is reached when considering not only the number of holes in the reverse sides of panpipes, but also their tube lengths and number of tubes. These latter traits broadly correspond with each other in distinguishing two different learning pools over the Eastern Woodlands: a smaller one comprised of the neighboring northerly traditions of Trempealeau, Havana, Goodall, and Point Peninsula, as well as the outlying Porter–Miller tradition, and a larger one comprised of the remaining peripheral traditions. These two learning pools crosscut the four revealed by the number of holes found on the reverse side of panpipes, suggesting the workings of different processes of interaction and spread of these three stylistic attributes. One reasonable interpretation would be passive interaction among panpipe makers in the spread of the number of holes per panpipe as an obscure trait, and active interaction among panpipe makers in the spread of tube length and tube number as more visible traits. Passive interaction is any of a set of less structured but close kinds of contacts among artisans that are not especially controlled by them and that lead to casual learning and diffusion of obscure stylistic attributes. Active interaction includes controlled kinds of close interactions among artisans, such as intermarriage, adoption, and joint participation in intimate rituals, which lead to the active learning and diffusion of obscure to moderately visible stylistic attributes. Active interaction often takes the form of stylistic mimicry in an attempt to integrate or interact with another group (Carr 1995a:176–177, 192–198; Pryor and Carr 1995:260–261).

The specifics of these distributional patterns are as follows. Short-tube panpipes occur commonly in only the neighboring Havana, Goodall, Point Peninsula, and Trempealeau traditions and the outlying Porter–Miller traditions. In the first three traditions, short-tube panpipes are found in fairly even mixes along with long-tube ones. In the Porter–Miller tradition, short-tube panpipes predominate (3 or 4 of 4 panpipes). This tradition is surrounded by others where long-tube panpipes predominate or are the only kind found. It is possible that within the contained Porter–Miller area, the shortness of a panpipe's tubes and the relatively high notes that it probably produced actively signified an individual's region of residence and cultural identity, given the high proportion of short-tube panpipes there and their contrast with long-tube panpipes in surrounding traditions. This is not likely the case for short-tube panpipes in the Havana, Goodall, Point Peninsula, and Trempealeau traditions, which are widely spread geographically. However, across these four traditions, short-tube, high-note panpipes may have expressed broadly shared and exchanged religious, social, or other ideas.

Four-tube panpipes, which are rare compared to three-tube panpipes that occur across the entire Woodlands, are missing from the Trempealeau, Havana, Goodall, Point Peninsula, and Porter–Miller traditions. These are the same traditions in which short-tube panpipes are common, and suggest an inward focus to this artisan network and its active rejection of the four-tube and short-tube stylistic traits from outside traditions. In addition, four-tube panpipes are missing from neighboring traditions, including the Miami, Muskingum, Northern Ohio, and Southern Appalachian traditions.

Four-tube panpipes are restricted primarily to the northern and central Midwest: the Saugeen (1 of 2 panpipes), Central Scioto (2 of 13 panpipes), and Crab Orchard (2 of 7 panpipes) traditions. However, they are also found in low proportions at two large Southeastern sites, where they may indicate importation or long-distance artisan interaction, intermarriage, or adoption: Mandeville (3 of 13 panpipes) in the Santa Rosa–Swift Creek area, and Tunacunnhee (1 of

11 panpipes) in the Southern Appalachian area. This Southeastern connection is significant, because Mandeville and Tunacunnhee stand out among southern Hopewellian sites in their linkages to Midwestern Hopewellian sites and particularly to Ohio Hopewellian sites in a number of ways (Ruby and Shriner, Chapter 15; B. A. Smith 1979:184–186; see also Carr and Sears 1985:86; Goad 1979:244–245; Jefferies 1976, 1979:170). In the northern and central Midwest, four-tube, four-note panpipes are not so localized as to indicate that they communicated social group affiliation. Four-tube panpipes are spread out from southern Ontario to Ohio to southern Illinois. The panpipes may, however, have been used to express broadly shared and exchanged religious, social, or other ideas over this area through their form and four-note melodies.

Long-tube panpipes predominate or completely comprise the panpipes found in each of the traditions in which four-tube panpipes occur: Saugeen (2 of 2 panpipes), Central Scioto (11? of 14 panpipes), Crab Orchard (4 of 4 panpipes), Santa Rosa–Swift Creek (10 of 13 panpipes), and Southern Appalachian (10? of 13 panpipes), as well as Northern Ohio (2? of 2 panpipes). They also predominate or completely comprise the panpipes found in neighboring traditions: the Muskingum (4? of 6 panpipes), Miami/Indiana (7? of 10 panpipes), and Marksville (3 of 3 panpipes). Like four-tube panpipes, long panpipes are not localized enough to indicate that tube length communicated social group affiliation, but long tubes and the relatively high notes that they produced may have symbolized broadly shared and exchanged religious, social, or other ideas over this territory.

Regional Group Identity and Panpipe Exchange

It is with the most visible contrast between band panpipes and corrugated panpipes that active symbolization or passive indication of the social group seems most probable. Band panpipes occur in four geographically separated traditions of the northern and central Midwest: the Trempealeau, Muskingum, Miami/Indiana, and Southern Appalachian traditions. They are most common in the Trempealeau area (7 of 11

panpipes in 5 of 7 sites), and may have communicated the identity of this cultural tradition and its people to those of other traditions. In contrast, in the Miami/Indiana, Muskingum, and Southern Appalachian areas, band panpipes occur less frequently (3 of 11 panpipes, 1 of 6 panpipes, and 1 of 11 panpipes, respectively) and in only one site per area (Turner, Connett, Tunacunnhee respectively). Because the Miami/Indiana, Muskingum, and Southern Appalachian areas are nonadjacent to each other and to the Trempealeau tradition, and because band panpipes in these areas comprise a minority of the band panpipes there, they are most easily explained as imports or cases of long-distance artisan interaction, intermarriage, or adoption.

Broader Patterns and Implications

The copper, silver, and multitonal voice that panpipes across the Eastern Woodlands shared with each other probably evoked general, canonical meanings such as power, humanness, sentience, and personhood to Hopewellian peoples who met from afar. However, these technological and semantic global uniformities to panpipes should not blind us to the regionalism also expressed in panpipes. Regional variations in the social–ritual uses of panpipes in differing social roles, and in the specific indexical meanings of panpipes, have already been discussed. To these kinds of variations can be added four regionally bounded networks of passive/active interaction among panpipe makers; two regionally limited networks of active interaction among panpipe makers; perhaps the actively communicated, distinct cultural identity of peoples in the Porter–Miller tradition and in the Trempealeau tradition; and a few broad areas of shared religious, social, or other ideas marked by the number and length of panpipe tubes. The regionally diverse styles of panpipes, at several levels, reveal these contrasts across the Woodlands.

Correspondences between regional variations in the social roles in which panpipes were used and regional differences in aspects of panpipe style that track passive and active social interactions are hard to make on a tradition-by-tradition basis. Information on the one stylistic trait that best monitors close artisan

interaction—the number of holes on the reverse sides of panpipes—is too sparse to allow this. However, certain regional traditions do usually pair in the social role and stylistic dimensions of their panpipes, including the number of holes on the reverse sides of panpipes, the number of tubes, and the tube length. At the tightest scale with most consistency, these traditions are: (1) the northwestern and north–central Trempealeau and Goodall traditions, (2) the northeastern Saugeen, Point Peninsula, and Northern Ohio traditions, (3) the midwestern central Scioto, Muskingum, and Crab Orchard traditions, and (4) the southeastern Santa Rosa–Swift Creek, Southern Appalachian, and Marksville regions. The Havana, Miami/Indiana, and Porter–Miller traditions each do not correspond well, multivariately, to any one of these clusters of traditions. From the perspective of panpipe social use and style, interregional Hopewell was well differentiated into several multi-tradition subareas.

Finally, the regional stylistic distinctions documented here show that panpipes were seldom exchanged as finished products. Possible cases of exchange of either panpipes, or the distant marriage or adoption of a panpipe maker, are limited to a few panpipes in Baehr Mound 1, Illinois; Franklin Mound 1, Tennessee; Helena Crossing Mound C, Arkansas; Mandeville and Tunacunnhee, Georgia; and Turner and Connett, Ohio— that is, a total of only 11 panpipes from 7 sites, of the 105 panpipes from 55 sites reported here.

THE ORIGINS OF PANPIPES

We end our chapter with a speculative section on the area of origin of panpipes. The rich empirical details reported in the previous sections provide some foundation for making such an educated guess, and we take on that challenge aware of the tentative nature of our conclusion.

The regional tradition with the greatest concentration of panpipes is Ohio, with over one-fourth of all Hopewellian panpipes known from the Eastern Woodlands ($n = 28$ of 105) and one-fourth of all Hopewellian sites with them ($n = 14$ of 55). By the logic that the area of origin of a cultural feature is that region with the greatest concentration and/or diversity of the feature—an extension of the old age-area hypothesis (Wissler 1926; see also Harris 1968:374–377)—Ohio should have been the place where panpipes were first developed. However, this may well not be the case.

Panpipes that have the simplest construction and that are made of the simplest of materials are band panpipes. They lack corrugations for placing tubes and are made only of copper, lacking silver. Panpipes of the band form are most concentrated in the Trempealeau region ($n = 7$ of 11 panpipes), are found at low frequencies in a couple of central Midwestern traditions (Muskingum, $n = 1$ of 6 panpipes; Miami/Indiana, $n = 3$ of 11 panpipes), and are almost entirely absent from Southeastern traditions, where corrugated forms are found, excepting one band panpipe from Tunacunnhee. In complement, panpipes having the most complex construction, with four-tube corrugated jackets, are not found in either the Trempealeau or the neighboring Goodall traditions, but are found farther south and east. This clinal distribution of simple to complex forms of panpipes, from northwest to south and east, suggests a northwestern Upper Great Lakes location of origin of panpipes. As the idea of panpipes and their uses spread southward and eastward, simple band panpipes would have been elaborated into and replaced by more complex, corrugated three and four-tube panpipes.

An Upper Great Lakes origin for panpipes is supported in two additional ways. First, the copper from which the majority of chemically assayed panpipes were manufactured comes from the Upper Great Lakes rather than other accessible sources (Bastian 1961; Clark and Purdy 1982; Goad 1978, 1979; Rapp et al. 1990; Schroeder and Ruhl 1968). Southeastern Woodlands sources of copper were used in the Southeast to make some panpipes, but even there, Upper Great Lakes copper predominates (8 of 14 panpipes [Goad 1978:136–148]). The concept and uses of panpipes could have spread from an Upper Great Lakes area of origin southward and eastward through the journeys that peoples from various parts of the Woodlands made to the Upper Great Lakes to obtain copper and through the southward and eastward exchange of copper.

Second, the proposed movement of the idea of panpipes from the Upper Great Lakes southward and eastward was apparently not an isolated process but, instead, seems to have been reiterated in the spread of the belief in the Horned Serpent. Specifically, Northern Algonkian tribes of the Upper Great Lakes were the heart of beliefs about the Horned Serpent and the harm and death it could cause to humans (Barbeau 1952:117; Kohl 1860:422–425; Lovis 1999; Skinner 1915:182–186). These beliefs spread southward and eastward by at least the Middle Woodland period. Horned Serpent imagery and snake imagery have been found at the Turner and Hopewell sites in Ohio,[13] implying the connection. Classic Hopewell ware ceramics with crosshatched snake imagery on their rims appeared in the Illinois valley before they did farther east in Ohio (Griffin 1952a, 1964:239; Prufer 1964a:57–58). It is reasonable that the concept of the panpipe made of copper, which was historically associated with the Horned Serpent, spread along the same network of ties as did stories and imagery of the Horned Serpent and raw copper itself.[14] It is possible that copper, the concept of panpipes, and beliefs about the Horned Serpent all were brought back hand-in-hand from the Upper Great Lakes by Hopewellian people who journeyed there.

Our conclusion that panpipes originated outside of the Ohio region, where they are most abundant, is mirrored in an analogous conclusion by Ruhl (Chapter 19) on the origin of earspools. Although earspools are most abundant in Ohio, she finds their origins in the Havana or Southern Appalachian traditions. Both of these artifact classes, as well as Hopewell ware that was developed earlier in the Havana region than in the Ohio area, point to Ohio as a place of elaboration of artifact forms, ideas, and rituals drawn from elsewhere as much as it was a place of initial innovations.

CONCLUSIONS

The search for a unitary identity to interregional Hopewell is as alive today (Seeman 1995:123, 138) as it was 40 years ago when the concept was being formalized (Caldwell 1964; Prufer

1964b; Struever and Houart 1972) or during much earlier phases of its recognition (Deuel 1952:255–256; Hooton 1922; Setzler 1933:6; Shetrone 1930:5–22; Shetrone and Greenman 1931:304–306, 322). Although interpretations of interregional Hopewell have varied and been debated (for summaries see Carr, Chapters 2 and 16; and Seeman 1979a:240–248), the complex network of partially overlapping material similarities found across the Eastern Woodlands during the Middle Woodland period, as well as some remarkable instances of nearly identical artifacts and practices in widely separated regions (Carr, Chapter 16; Penney 1989), have continued to capture the human mind's drive to order and simplify into singular explanations—in this case, into one identity for interregional Hopewell.

Panpipes serve as a critical form of Hopewellian archaeological remains for probing the wisdom of monolithic explanation in the case of interregional Hopewell and the veracity of the particular interpretations proposed: panpipes are one of a very few Hopewellian material forms and practices distributed throughout all of the recognized Hopewellian regional traditions over the Eastern Woodlands (Seeman 1979a:381). Panpipes also have been thought to be very similar, if not duplicated in form, from tradition to tradition (Caldwell 1964:137; Seeman 1995:136).

Through the eyes of panpipes, as one important component to the definition of an interregional Hopewell, most unitary understandings of interregional Hopewell evaporate. This chapter shows in empirical detail that panpipes in different regional traditions were associated with different social roles, were used in different kinds of rituals, had systematically differing styles, and, consequently, evoked different indexical meanings. Interregional Hopewell was not a unitary, shared social organization, cult, artistic style, exchange system, musical form, or meaning system. It is only in their possible canonical meanings of transformation, supernatural power, human power, manageable power, and humanness that panpipes *may* have been recognized alike by Hopewellian peoples across the Woodlands, and these uniformities are inferred here but not demonstrated archaeologically. The fairest statement that can be made

from the empirical evidence brought to bear in this chapter is that panpipes were similar enough in their forms and musical qualities to have uniformly allowed Hopewellian peoples in different regional traditions to have projected *some* meaning(s)—canonical or indexical, more or less local—onto them, thereby creating familiarity and some common basis for meetings and gatherings of interregional scope. The meanings projected onto panpipes by persons from different regional Hopewellian traditions when they met and gathered may have differed somewhat from each other. Foreigners would not have known or understood the logic of all the specific indexical connotations that panpipes, their copper, and their music had in each other's cultures, and they may not have been able to grasp some core worldview assumptions when the meeting parties came from the northeastern and southeastern Woodlands. However, roughly similar worldviews and beliefs across the Woodlands, rooted in shamanic ideology and practices, would have guaranteed that the meanings were "close enough" to have served as an effective context for interaction. In addition, different gatherings of Hopewellian peoples, which involved participants from differing dyads or sets of regional traditions, may have differed in the ranges of meanings that were projected onto panpipes. In this most fundamental view, interregional Hopewell rests in neither consistent material forms and practices nor consistent meanings across the Woodlands, but in forms and practices that were "close enough" to allow some significant meanings, also "close enough", to be read into them by meeting parties through the process of mental projection and in the context of a broadly shared history of religious ideology.

Many specific empirical patterns that have been documented here lead us to this most basic conclusion.

(1) The role of the panpiper was, at least ofttimes, one in its own right, as shown by the lone occurrence of panpipes in graves about a quarter of the time. However, panpipes were systematically associated with a diversity of other social roles, both within and among regional traditions. Many of these roles involved shaman-like tasks, including, in decreasing order of commonality, public ceremonial leadership, manufacture of ceremonial items with exotic raw materials, trance work of unspecified kinds involving smoking, divination in general, war or hunt divination, healing, and philosophizing. Other key nonshaman-like roles, in decreasing order of commonality, included sodality membership or achievement marked by earspools, clan leadership or membership, sodality membership or achievement marked by breastplates, and community-wide leadership marked by copper celts. Important roles that never appear with the panpiper include community-wide leadership marked by headplates and other roles marked by crescent-shaped gorgets, reel-shaped gorgets, and obsidian bifaces.

(2) The fluidity with which these roles were bundled with that of the panpiper shows that they were not firmly institutionalized and, by extension, were recruited primarily by achievement. The occurrence of panpipes with largely adults and males reinforces the latter conclusion.

(3) Four broad regions of the Eastern Woodlands were distinguished from each other in social organization, as indicated by the roles with which that of the panpiper did and did not associate, by patterning in the age–sex associations of panpipes in graves, and by whether panpipers gathered and gave panpipes for burial at the death of another panpiper or other person. The four areas are: the northern Midwest, the Northeast, the central Midwest, and the Southeast. The distinction of these areas shows that interregional Hopewell was not a single kind of social or social–symbolic system (contra Seeman 1995:123).

The particular disjunction, between Hopewellian communities in northern and eastern Ohio and those in the central Scioto valley (as one part of the distinction between Northeastern and central Midwestern regions), is also borne out by analyses of the varying social roles and importance of women in Ohio Hopewellian societies (Field et al., Chapter 9), by the geographic distributions of silver obtained from different natural sources in the Woodlands (Spence and Fryer, Chapter 20), and by mortuary architecture, artifact categories, and styles (Magrath 1945; Seeman 1996:306–308).

At the same time, other distinctions found here among regions in panpiper roles, age-sex associations, and rituals do not correspond to disjunctions found in the gender and silver studies and in the distribution of ceramic styles across the Woodlands (Griffin 1967). These crosscutting patterns suggest that cultural relationships among Hopewellian traditions across the Woodlands were of multiple kinds, and that these need to be defined separately and analyzed and interpreted in their own terms.

(4) Panpipes were used in a variety of kinds of rituals across the Woodlands. These varied in whether panpipes were buried in a grave or another kind of ceremonial deposit lacking human remains, indicating a contrast between ceremonies directly and less directly related mortuary tasks; whether multiple panpipers gathered and gave gifts to a deceased person, possibly indicating a local panpipe ceremonial society; whether a child or very old person was anomalously buried with a panpipe, which may indicate age-related rites of passage; whether a female was anomalously buried with a panpipe; and the size and role diversity of gatherings that resulted in the ceremonial deposits containing panpipes. The quite diverse and geographically bounded nature of these rituals indicates that interregional Hopewell, or at least the element of it that involved panpipes, was not a single cult (contra Prufer 1964b).

(5) Panpipes were regionally diversified in their styles, and in particular, in fine details that indicate distinct artisan networks that were inwardly focused in their interactions and learning of panpipe manufacturing. Four regionally bounded, largely nonoverlapping artisan networks of passive interaction are definable. An additional two networks of possibly active interaction among artisans are reflected in more visible panpipe attributes. These geographic divisions in the styles of panpipes correspond to a moderate degree, to the extent that the data are available, to distinctions among regions in the social roles with which panpipes were associated. The divisions indicate the local reinterpretation of panpipe manufacture and use as the idea of panpipes spread across the Eastern Woodlands, rather than a single, standardized

medium for pan-Woodland interaction. In fact, the unique, band panpipe form common in the Trempealeau area may have served to communicate the regional cultural identity and distinction of Trempealeau peoples from persons of other cultural traditions. Likewise, Porter-Miller short-tube panpipes, which predominate there and contrast with long-tube panpipes in surrounding traditions, may also have signaled cultural identity.

(6) Panpipes were seldom exchanged as finished products across Hopewellian regional traditions. Stylistic markers of the locations of production of panpipes indicate this situation. Only 11 panpipes of the 105 studied here, from 7 of 55 sites, possibly evidence either the exchange of panpipes across traditions or the distant marriage or adoption of a panpipe maker. These panpipes were found at Baehr Mound 1, Illinois; Franklin Mound 1, Tennesse; Helena Crossing Mound C, Arkansas; Mandeville and Tunacunnhee, Georgia; and Turner and Connett, Ohio. The infrequency of interregional exchange of panpipes over the Eastern Woodlands, in conjunction with the same finding for copper celts (Bernardini and Carr, Chapter 17) and copper earspools (Chapter 19), corroborates Struever's (1964:88) early insight that Hopewellian interregional exchange involved primarily raw materials and stylistic concepts and seldom finished goods. The findings do not agree with Struever and Houart's (1972) later view that finished goods were also exchanged widely.

(7) Panpipes certainly had diverse indexical social and ritual meanings that varied among regional Hopewellian traditions, given the diverse social roles and ritual forms in which panpipes were used. Panpipes also probably had diverse religious indexical meanings that were localized to various degrees, but especially segregating the northeastern and southeastern Woodland traditions, given ethnohistorical documentation of the religious beliefs of Woodland peoples. The copper from which most panpipes were made was historically associated in the northeastern Woodlands with creatures of both the Lower and the Upper Worlds, including the Horned Serpent, Underwater Panther, bear, and Thunderers. In the southeastern Woodlands, copper may have

been associated historically with the sun deity and, by extension, the sacred fire, blood, life and success, the color red, and the East symbolized by red. Copper also may have been associated with the color brown, which corresponds to the direction upward and the Upper World, the home of the sun deity, and, by extension, the remainder. Copper was not associated in the Southeast with the Tlanuwas, which were correlates of the Thunderers, nor the Uktenas, which were correlates of the Horned Serpent, nor the bear, as far as we know. These deep distinctions between the northeastern and southeastern Woodlands in the ethnohistorical, indexical meanings of copper suggest that it is unlikely that panpipes communicated shared specific religious ideas among Hopewellian peoples of these two areas. The aspect of interregional Hopewell represented by panpipes does not indicate it to have been a single religion (Caldwell 1964) or system of meaning or an interwoven social structural–symbolic–ideological system (Seeman 1995:123).

At the same time, it is possible that panpipes, and their copper, silver, and melodies, evoked for Hopewellian peoples across the Woodlands certain basic qualities that spoke to the nature of the panpiper when foreigners met. These qualities could have been power, power obtained by long-distance journeying, power of the panpiper in his/her ability to manage power, and/or humanness. These fundamental dimensions, beneath whatever more specific and differing indexical meanings that foreigners who met might have read into a panpipe, would have fostered mutual respect among them and a motive for interacting. It is unlikely that panpipes were used across the Eastern Woodlands in any single, specific kind of greeting ceremony, such as reconception or spirit adoption, given the varied social roles, ritual uses, styles, and indexical meanings of panpipes and their materials over this area.

The most essential conclusion reached here is that interregional Hopewell, or at least the aspect of it that involved panpipes, was not a single kind of social, religious, artistic, or semantic phenomenon but, instead, a fluid material–projective process that allowed the different meanings significant to individuals of different traditions each to be mirrored back to them through roughly similar artifact forms. This process allowed long-distance journeying and other forms of interregional interaction (Carr, Chapter 16) to occur, and from the looks of it, effectively and probably fairly peacefully.

This conclusion could not have been reached by focusing directly on the interregional distribution of panpipes and interregional Hopewell. Instead, the understanding was *generated* from *locally contextualized* and *personalized* studies of panpipes in each of a number of local Hopewellian traditions—the themes of this book. Panpipes were contextualized and personalized by examining their local social role associations, local uses in rituals, local stylistic norms, and how all of these were similar or different across Hopewellian traditions. To the extent possible, ethnohistorical records of religious beliefs connected to panpipe materials were considered by region rather than homogenized over the Woodlands. In this way, a diverse notion of interregional Hopewell has been constructed on its own terms, for what it was and was not, from the bottom up. Panpipes, as subtle projective media, are just as amenable to archaeologists problematically reading their own unitary, paradigmatically preferred meanings into them as panpipes were successful for Hopewellian foreigners who read their own culturally bound, significant meanings into them. However, by viewing panpipes from their many local perspectives, bottom up, in a personalized and locally contextualized manner, the archaeologist's dilemma is minimized, and the truer and multiple colors of interregional Hopewell begin to be seen.

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Any errors or omissions are entirely our own.

NOTES

1. From Roseman (1995:8).
2. The Bowman site, Logan County, Ohio (Converse 1979: 100; Galitza 1978), yielded a copper three-conjoined-tube panpipe with a morphology entirely expectable for Hopewellian panpipes from the area. However, the mortuary characteristics of the site and certain of its artifacts align it well with Glacial Kame cemeteries of the terminal Archaic. Burials were placed in relatively deep pits or shafts, one with a mass of red ocher. Clam shells filled with red ocher were found with several burials. Most temporally diagnostic, a sandal-sole gorget accompanied one burial. The panpipe is clearly out of place in the context of this site, perhaps representing an intrusive, Middle Woodland burial.

3. The fluidity with which the role of panpiper was combined with other roles and the only moderate degree of institutionalizing of these roles are also evidenced in Table 18.3. Specifically, at the well-documented Scioto sites of Hopewell, Seip, and Ater, individuals with copper earspools are much more common than individuals with copper plaques or celts, and these persons are much more common than ones with copper headplates (Carr, Chapter 7). This seems to be true in other regions having these artifact types as well (Seeman 1979a). Paralleling this sequence, of these four kinds of copper artifacts, the types found most commonly with panpipes on a burial-count basis are earspools, followed by celts and plaques; no instance of association with a headplate is known. This pattern is equivalent to the placing of panpipes randomly among burials having one or another of these four kinds of artifacts, resulting in the proportional representation of burials having those different artifact types among the set of burials with panpipes. In other words, Hopewellian peoples showed no preference for or avoidance of burying panpipes with persons specifically ornamented with earspools, plaques, celts, or headplates.

4. For example, the Sun Dance, as a cult, varied to some degree in its form and purpose among Plains tribes, but consistently involved the use of a pole and buffalo skull within a circular enclosure and had one of two goals—obtaining a vision of the death of an enemy or earth renewal (Hall 1998:55–56). These variations are modest compared to the variations among Hopewellian regional traditions in the ages and sexes of those buried with panpipes, in whether or not panpipers gathered at the graves of the deceased, in whether panpipes were involved in gatherings not directly related to burying the deceased, and in the size of such ceremonies not directly tied to burial. The implication would be that the aspect of interregional Hopewell that involved panpipes was not a cult.

5. At the same time, and on a more practical level, the chest positions of panpipes may also indicate that panpipes were strung and suspended at the chest. Holes found on the reverse side of panpipes (see Definition and Morphology of Panpipes, above, and Appendices 18.1 and 18.3) could have been used for their suspension.

The placement of panpipes within graves is usually consistent within sites, is often consistent within Hopewellian regional traditions, and varies among some traditions. Placement on the chest of the deceased is common in the central Midwestern traditions (Central Scioto, Northern Ohio, Miama/Indiana, Crab Orchard, Havana) and in two Southeastern traditions (Southern Appalachian, Marksville). In contrast, placement near the mouth or at the side occurs in the more northeastern traditions (Muskingum, Point Peninsula, Saugeen) and one Southeastern tradition (Porter–Miller).

6. Copper may have been associated with snakes also because its corrosion is poisonous, like snake venom. The Menominee sometimes poisoned the tips of their arrows with copper corrosion (Hoffman 1896).

7. Spence and Fryer (Chapter 20) present both distributional and manufacturing evidence that two concepts of silver circulated in the Hopewellian world, one associated with silver that occurs as erratics in copper from the Keweenaw Penninsula and another associated with silver that occurs in pure veins in Cobalt, Ontario.

8. Budd Hansen is an amateur archaeologist in Moline, Illinois. He excavated one panpipe from the Putney Landing site (confirmed through a photograph sent to Turff) and a second, possibly from the Albany site, Illinois, with wooden tubes that he has identified as red cedar (unconfirmed). He told Turff that he thought that red cedar was commonly used in manufacturing panpipes and earspools, in the area in which he collected.

9. The Horned Serpent was also a source of power that could sometimes be harnessed by humans who petitioned it (Emerson 1989:59; Howard 1960:222). The Horned Serpent was often invoked and appeased through rituals prior to water voyages by northern Algonkians (Lovis 1999). The historic Wyandot Fish clan claimed themselves to be protected by the Horned Serpent, and their priests called themselves snake men and wore deer antlers on their heads (Barbeau 1952:117). Sorcerers of the Menominee and other northern Great Lakes Indians were said to receive power from the Horned Serpent upon delivering the lives of their family to the waters (Kohl 1860:422–425; Skinner 1915:184, in Penney 1983).

10. One possibility is that the power of panpipes was thought to be more manageable than that of certain other ritual paraphernalia because the copper and/or silver of which they were made was established evidence of a successful long-distance, treacherous, Great Lakes journey by the panpipe owner and the successful attainment and taming of power associated with copper and silver. Hence, panpipes could be buried with their owners without endangering them. In contrast, the manufacture of platform smoking pipes commonly did not involve a similarly dangerous Great Lakes long-distance journey to obtain pipestone that would have demonstrated a pipe smoker's ability to manage power (but see Weets et al., Chapter 14, Postscript; and Emerson et al.[2002]). Travel to the Rocky Mountains for obsidian was very infrequent (Carr, Chapter 16 and references therein), was done by few persons, and again did not show a control over power for those who came to use obsidian bifaces. The same may have been true of large quartz crystals (from Arkansas? [Struever and Houart 1972]), which were worked into projectile point forms.

Thus platform pipes, obsidian bifaces, and quartz crystal projectile points were rarely buried with their owners, and instead were isolated in ceremonial deposits.

11. Hall has published several renditions of his proposal that Hopewell platform pipes were analogous to historic calumet–pipes. These versions differ in whether he distinguishes plain and effigy Hopewellian platform pipes from each other. Initially (1977:504), he focused on effigy platform pipes, and the equation of the effigy with effigy spurs on atlatls. Later (Hall 1983:37, 42, 46, 2000:120), he concentrated on plain ("monitor") platform pipes and their origins in cigar or tubular smoking pipes that were hypothesized to have been held with single-hole atlatls. Platform pipes were equated with the grip end of atlatls. However, he also equated both plain and effigy platform pipes with the historic calumet–pipe (Hall 1983:51).

It is unclear, archaeologically, that these two forms of Hopewellian platform pipes were distinct conceptually to Hopewell peoples. Both the large cache of pipes in Mound 8 of the Mound City site and the Great Cache of pipes and other ceremonial items in the Tremper mound included good balances of plain and effigy platform pipes, physically mixed together.

12. The reason that platform pipes were deposited in large numbers in Mound 8 of the Mound City site and the Great Cache at the Tremper Mound during two multicommunity rituals, in spite of the personal nature of the pipes, is explained by the developmental history of alliance-making in the Scioto–Paint Creek area, described in Chapter 13. Alliance-making in the area began with an emphasis on a network of relationships among dyads of individuals, expressed in both of the pipe deposits, and only later became dominated by relationships among leaders who spoke for their communities.

13. At Turner, a mica effigy of a snake with horns engraved on it was found in Mound 4, Altar 1 (Willoughby 1922:68–69). At the Hopewell site, in Mound 1, a stone tablet in the form of a rattlesnake was found by Squire and Davis (Moorehead 1922:88–89). In Mound 25, a copper antler effigy and a copper effigy that resembles the head of a snake were both found in the great copper deposit of symbols above Burials 260 and 261 (Greber and Ruhl 1989:279). The two effigies may have been associated so as to represent the Horned Serpent, based on holes that would have allowed them to be strung together.

14. Ties between the Upper Great Lakes and points farther south and eastward have time depth. During the Late Archaic and Early Woodland, Indiana hornstone was traded south-to-north as far north as central Wisconsin and may have been exchanged for copper that was moved south during those times (R. Hall, personal communication).

Hopewellian Copper Earspools from Eastern North America

The Social, Ritual, and Symbolic Significance of Their Contexts and Distribution

Katharine C. Ruhl

Hopewell ritual is preserved today only in the physical remains encountered archaeologically. The variety and complexity of such remains suggest that a number of kinds of ritual practices were observed by Hopewell peoples. In order to reconstruct even some aspects of these rituals, their remains should be studied on many different levels. One approach is through detailed analyses of specific ritual objects.

In recent studies (Ruhl 1996; Ruhl and Seeman 1998), I have considered one particular class of objects: the bicymbal copper earspool. An earspool consists of two circular disks, roughly 40 mm in diameter, joined by a central stem (see below, Figures 19.3 and 19.4). Components are formed from native copper sheet. Earspools have been found in Hopewellian traditions throughout Eastern North America, and in several different kinds of ritual contexts. The conditions under which earspools would have been seen and their roles in ritual occasions are suggested by these contexts.

In this chapter, I make stylistic and contextual studies of a very large sample of currently curated, copper earspools from Hopewellian mounds in Eastern North America. The earspools total 686 and derive from 64 sites in the northern Scioto, Havana, Goodall, Crab Orchard, and Trempeleau Hopewellian traditions, as well as the southern Copena, Miller–Porter, and Marksville traditions. The chapter begins with a brief review of earlier studies of earspools by others. I then summarize significant variation in the contours of earspools as a similarity seriation, which is found by independent lines of dating to be chronologically sensitive. The seriation extends a previous one, limited to earspools from Ohio and the Southeast (Ruhl and Seeman 1998), with new information on earspools from the Havana, Crab Orchard, Goodall, and Trempeleau traditions. The seriation results imply the regular sharing of styles and symbols across the East over several centuries, and the contemporaneity of eastern and western variants of the Copena Hopewell tradition. The seriation also suggests that earspools may have had their stylistic and symbolic origin in the Havana or Copena areas rather than Ohio, although Ohio is the center of concentration of earspools by number. Later, stylistic drift and perhaps loss

of meaning of the earspool form appear to have occurred in the Southeast, again, rather than in Ohio.

Next, I compare poorly visible attributes of earspool morphology and construction within and among regions and sites. Differences in these attributes among regions indicate localized production networks and minimal exchange of earspools, themselves, across regions. A discussion of the symbology of earspools and its consistency over time and across regions ensues. Although earspools differ formally in some ways among regional traditions, they nevertheless invariably display the same, visually apparent, symbolic image of a ring, and a contrast of light and darkness seen in many kinds of Hopewellian material culture. These and other visible stylistic attributes also follow time trends that are similar across all studied regions. This fairly continuous integration of linguistically distinct societies over the regions and over centuries of time, yet without much earspool exchange, suggests a metaphorical, nonverbal form of interregional communication using a material symbol of some very basic worldview theme(s) (see Seeman 1995; Carr and Turff, Chapter 18).

Finally, intrasite contexts of deposition of earspools are described and interpreted, leading to understandings of the social and ritual significance of earspools. Contextual analyses suggest the conspicuous consumption of earspools in Ohio in ceremonies of cooperation and/or competition, beyond the marking of social position found there and in other Hopwellian traditions. Ceremonies of several kinds and scales are evidenced. Changes in the size and durability of Ohio earspools over time may reflect a shift in the use of earspools from long-term wear to short-term conspicuous display in ceremony, and the increasing size of audiences at rituals over time. Contextual patterns also suggest that earspools in Ohio marked membership in some kind of corporate group with particular social rights and duties, beyond individual prestige.

PREVIOUS STUDIES

The first investigations of mounds and burials in southern Ohio uncovered earspools, which initially were identified as the remains of historic artifacts. Caleb Atwater (1820) reported silver-covered "bosses" from Marietta to be ornaments from a sword belt, although they had been found at the head of a burial. Likewise, Squier and Davis (1847) excavated crushed earspools at Mound City near Chillicothe and described them as ornamental bosses joined in pairs. In the late 19th Century, ceramic figurines of people wearing bicymbal ear ornaments were excavated by a Harvard investigation at the Turner site near Cincinnati. The director, Frederick Ward Putnam, realized that the copper artifacts found at the same site were in fact earspools (Putnam 1882, 1883). Putnam (1883) was also the first to examine earspools for evidence of construction methods, but Charles C. Willoughby, Putnam's successor, made a more thorough study of earspool fabrication techniques. Using "primitive" methods, Willoughby (1903, 1916) also experimented with producing copper sheet and replicated part of an earspool. However, he did not attempt to evaluate the relative frequencies of the various techniques, nor did he analyze variability in the size and surface contours of the artifacts. Decades later, after examining earspools from the Snyders and Knight mounds (Braun et al. 1982; Griffin et al. 1970), Griffin (1979:277) suggested that further investigation of temporal and regional variability in these artifacts would be warranted.

My initial study (Ruhl 1992) of earspools focused on ones from Ohio, totaling 544 from 20 sites. The study distinguished between "construction" variables, as discussed by Willoughby, and other variables that seemed to relate primarily to the appearance of earspools. Based on the latter, I defined nine stylistic types, arranged in sequence from a funnel-shaped surface contour, through a smooth concave–convex profile, to one in which the concave–convex transition becomes increasingly abrupt. A chronological significance was postulated for this sequence. When sites were arranged according to their median earspool stylistic type, the resulting order of sites corresponded quite well to that suggested by other criteria (Prufer 1964a; Seeman 1977b). I concluded that earspool style could, in fact, be useful to infer a relative chronology

for Hopewell sites and, for a few sites, some internal proveniences. Temporally sensitive contour change was shown to correlate with increasing earspool diameter, with changes in some construction details, and with the provenience of earspools within burials.[1] In addition, when earspools of the same stylistic type were compared among sites or drainages, I found significant variation in some construction variables and secondary stylistic details.[2]

More recently, I further investigated patterns in the variability of earspool morphology over both space and time (Ruhl 1996), expanding the sample size and areal coverage to 634 earspools from 47 sites in Ohio and the Southeastern United States. Data on the morphology of earspools from the Southeast were drawn from Carr and King (n.d.). The results of this investigation supported, refined, and extended many of my previous conclusions. I also suggested some social implications for these patterns. A more detailed presentation of this portion of the study is given by Ruhl and Seeman (1998), but I now review some main points.

MORPHOLOGICAL VARIATION THROUGH TIME

By focusing on the chronological variation of a select variable—contour form—I constructed a continuous similarity seriation of individual earspools. Following a theoretical approach to stylistic analysis proposed by Carr (1995a), I first identified and ranked the formal and technological attributes of copper earspools according to their degree of visibility. Of those attributes that are independent of the availability of exotic raw materials, the most visible is the contour of the outer surface of the earspool disks—a convex annular ring with a concave central depression. A change is observed in this particular contour through measured time, from a gradual transition between the concave and the convex areas of the disk surface to an increasingly abrupt intersection between these surfaces. I arranged the artifacts in my sample accordingly, and arrived at a seriation of 430 earspools in 346 ranked categories (Ruhl 1996:appendix B). For the present

study, 38 additional artifacts have been incorporated within this seriation. The proveniences, morphological traits, and ranks of the entire earspool sample are presented in Appendices 19.1 through 19.4. Procedures for achieving this kind of similarity seriation are discussed by Rouse (1967). Some other highly visible attributes of earspools correlate with the seriation (Ruhl and Seeman 1998:table 2). For example, the diameter of the earspool disks increased over time, as did the convex area of the disk surface relative to the concave area. Less visible attributes that also changed through time include details of construction, such as the use of twine and adhesives, which relate to the development of easier methods of fabrication.[3]

The temporal sensitivity of the earspool seriation described above is demonstrated by comparing profile rank with independent evidence for relative chronological placement of artifacts from sites in Ohio and the Southeast. In Figure 19.1, ranked earspools from dated proveniences, either within sites or from neighboring sites, are compared in groups of two. Taken as a whole, Figure 19.1 also illustrates that temporal tendencies in contour shape are similar between sites over a wide area. A recent study by Greber (2003) compares my earspool seriation with a large number of radiocarbon dates from sites in Ohio. Greber finds a significant correlation between these two sets of chronological data.

Applications of the Earspool Seriation

Chronological evidence from the earspool seriation has general utility for Hopewellian studies. For example, Butler and Goad (Beck 1995b) have both observed differences in the nature of Hopewellian remains within the Copena area, which are patterned as an east–west distinction within the Tennessee River drainage, with the division occurring approximately at the Elk river (Figure 19.2). They suggested that this distinction corresponds to a difference in time, although they disagreed as to the chronological priority of eastern or western sites (Goad 1978). In contrast, Beck considered the east–west division to reflect an ethnic boundary, with differing burial

Site	Provenience	Rank Order	
References	Date		Earspool Profile
Mandeville	Feature 5	340	
Smith 1979	A.D. 420		
	Feature 4	31	
Tunacunnhee	Mnd E, Burial 17	334	
Jeffries 1976			
	Mound C	235	
Seip	Conjoined Mound	323	
Greber 1979			
	Pricer Mound	153	
Copena Sites	Walling Feature 40	87	
Walthall 1973			
	Wright Mound 2	19	
Mound City	Mnd 13, Burial 3	15	
James Brown, personal communication 1994	A.D. 180±80		
	Mound 1 altar	8	

20 mm

Figure 19.1. Pairwise comparisons of earspool profiles for which independent chronological information is available. Earspools within pairs are shown in their rank order in the seriation.

practices implying some differences in social structure between contemporary groups. A Wilcoxon rank-sum test of the median earspool ranks for each site in the Copena region shows no chronological difference between the eastern and the western divisions of the Tennessee drainage, although chronological differences do seem to exist between individual sites. Thus, earspool style supports Beck's conclusions.

Using the seriation, interregional chronology can also be investigated. Table 19.1 summarizes the relative chronological order of sites within and across regions in Ohio, the Midwest, and the Southeast. Each site is represented by the median rank of its earspools relative to the ranks of all other earspools in all the studied sites. No significant differences are found between drainages or regions, according to a Kruskal–Wallis test of these site ranks. Thus, the time-sensitive ranking criterion of earspool surface contour is evidently independent of drainage and region. Furthermore, all studied regions, with the possible exception of Crab Orchard, utilized earspools to some degree throughout the entire
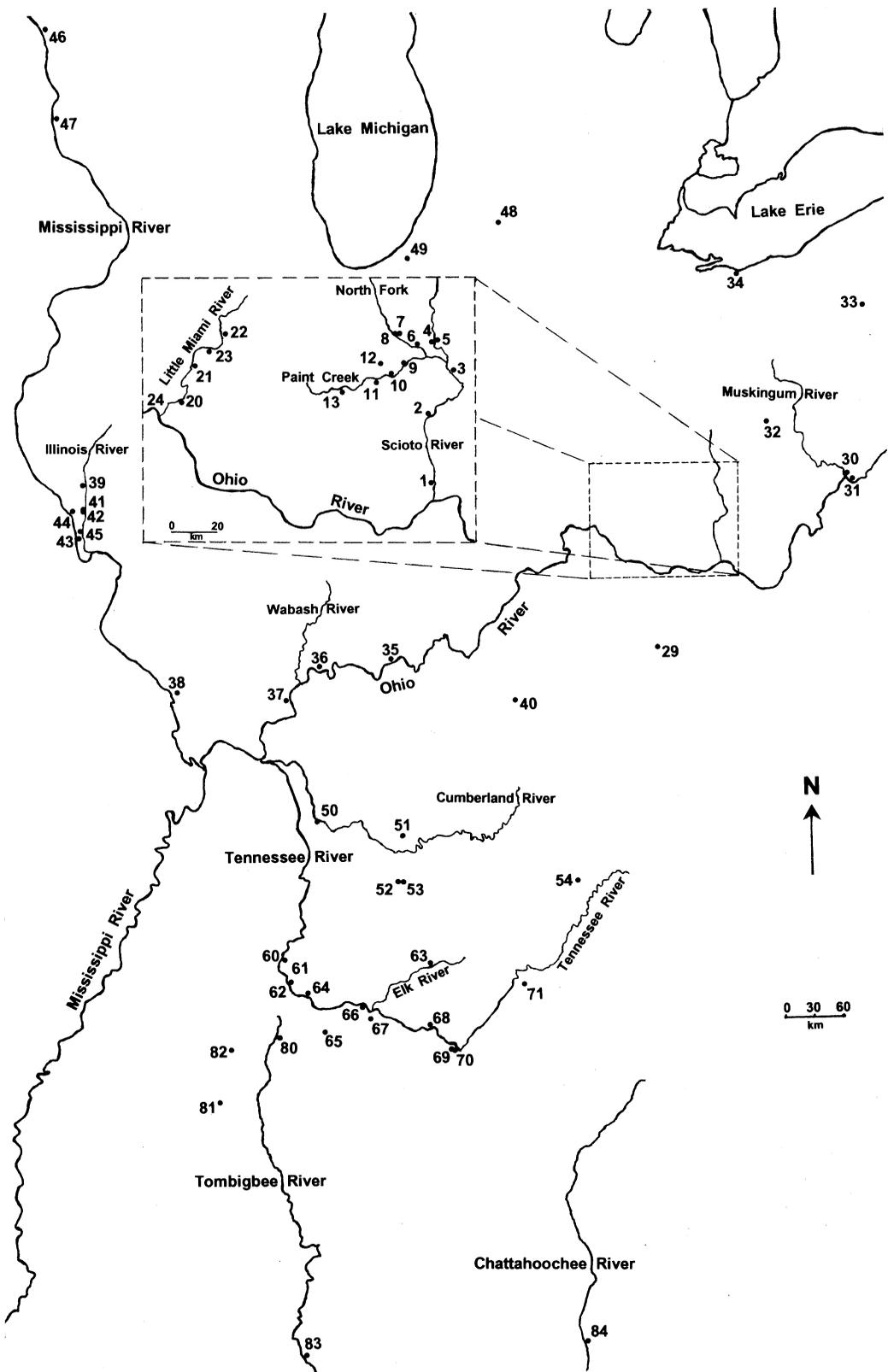
Figure 19.2. Locations of sites with earspools included in this study. Site numbers are identified in Table 19.1 and Appendix 19.1.

time span. The parallel changes in earspool surface morphology in the various regions over the centuries imply a fairly continuous integration of the regions within the Hopewell Interaction Sphere over a long period of time, at least with respect to the visual effect of earspools and their associated symbolic meaning(s). Otherwise, different morphological trends might be observed among different regions. Seeman (1995:134–138) explained similar patterns of spatial continuity in other artifact types (celts, panpipes) as an indication of nonverbal intergroup communication through the means of symbols with widely coherent meanings. This concept is examined more fully later in this chapter, in Turff and Carr's (Chapter 18) stylistic analysis of metallic panpipes from across the Eastern Woodlands, and in Bernardini and Carr's (Chapter 17) study of copper celt morphology across the Woodlands.

EARSPOOL ORIGINS AND DECLINE

Earspools have been considered diagnostic of affiliation within the Hopewell Interaction Sphere, and are widely distributed over it (Seeman 1979a:table 12). In terms of numbers, however, earspools are concentrated in southern Ohio. Five sites have yielded more than 50 earspools each, whereas outside this central region only five sites have produced more than 10 (Table 19.2). By the simple logic that the area of origin of a cultural feature is that region with the greatest concentration and/or diversity of the feature, copper earspools should have originated in Ohio, where they are most numerous, and spread from there. However, my chronological seriation of copper earspools suggests that this was probably not the case.

Earspools appear in Ohio Hopewell sites as fully realized, carefully crafted copper artifacts without obvious antecedents in earlier assemblages. Although one was found in the upper levels of the Metzger mound (Moorehead 1895), an Adena mound located on Deer Creek north of Chillicothe, Ohio, this artifact could not be located for study. Its diameter was reported to be an inch (about 25 millimeters), much smaller than

any Hopewell earspools, with the exception of miniatures for figurines.

Copper earspools that appear to be earlier than any surviving Ohio examples have been found in both Copena and Havana sites.[4] A number of the Copena earspools have funnel-like profiles of the obverse disk that fall near the beginning of the profile evolutionary sequence. A flat reverse disk is strongly associated with such early profiles ($p < .01$), and this combination is found in 27% of the earspools from the Copena region. Three sites in Ohio with earspools that share these characteristics—Fort Ancient, Tremper, and Hazlett[5]—have also produced reel-shaped copper gorgets. These forms date to the Early Woodland and early Middle Woodland, and are similar to Copena reel-shaped gorgets. The funnel-shaped profiles of two pairs of earspools from the Snyders site in Illinois place them at the very beginning of the seriation. They also have flat reverse disks, but are much larger in diameter than early earspools from Ohio and the Southeast, and are formed from very heavy-gauge copper sheet. Braun et al. (1982:64–65) considered them "a local style predating" those from other Illinois sites nearby and associated them with early ceramic types. Quimby (1944) described earspools from two early Goodall Focus sites as comparable to the artifacts from the Tremper mound in Ohio, based on flat reverse plates. The earspools from the Goodall site, itself, do *not* have a flat reverse plate and compare with somewhat later Ohio artifacts from sites such as Harness, but those from the Marantette site in Michigan fall very close to the Tremper artifacts in the seriation. They are small and carefully crafted of heavy-gauge copper sheet, with reverse plates that are nearly flat.

The Southeast may have witnessed the decline of the earspool form. At the end of the profile series are some very large, almost flat earspool plates from Miller and Coral Snake, evidently the outside coverings for wooden ear ornaments. These specimen seem to represent a departure from the clear ring image formed by the disk contours of all other earspools throughout the Hopewell world, suggesting that a loss of symbolic value allowed stylistic drift.

Table 19.1. Site Seriation by Median Earspool Rank

Scioto Region			Little Miami Region			Other Ohio and KY Regions			Crab Orchard Region		
No.	Site name	Rank	No.	Site name	Rank	No.	Site name	Rank	No.	Site name	Rank
						30	Marietta	341			
						33	North Benton	333	37	Rutherford	326
						34	Esch	331			
2	McKenzie	318							35	Crib	317
9	Bournville	265	20	Turner	277	40	Knott collect.	266	36	Mann	290
5	Hopeton	248							38	Vogel	265
11	Rockhold	203	23	Stubbs	193	29	15Mm137	205			
6	Hopewell	165									
7	Ater	161									
10	Seip	153									
8	Porter	143									
3	Harness	117									
4	Mound City	16	21	Eartle Farm	20	32	Hazlett	17.5			
12	Lower Twin Rd.	10	24	Hill collect.	18						
13	West	10									
1	Tremper	3.5									

Some other copper covers for wooden ear ornaments from the Southeast differ markedly, in that the outer plate is flat, with a *raised* central boss and concentric circle. Such artifacts are Late Woodland in date (Goad 1978:85), and were excluded from the present study.

MORPHOLOGICAL VARIATIONS OVER SPACE AND THE ISSUE OF EARSPOOL EXCHANGE

Theoretically, poorly visible morphological attributes of an artifact are likely to correlate with artisan networks (Carr 1995a). Only the Ohio sites provide large enough samples to permit statistical testing of patterns that might indicate such networks within and among sites (Ruhl and Seeman 1998). Within-site patterns at Turner, on the Little Miami River in southwestern Ohio (Figure 19.2, site 20), indicate that artisans who supplied earspools to different social groups at this ceremonial center worked closely together. Although some minor differences in proportion can be seen, both overall appearance and the techniques of construction were shared. In contrast, the neighboring centers of Hopewell, Porter, and Ater, on the North Fork of Paint Creek in south–central Ohio (Figure 19.2, sites 6–8), apparently maintained separate earspool workshops from one another, where different techniques of construction were preferred.[6] Comparisons of earspools from the Little Miami and from the Scioto drainage, overall, show that even more attributes vary significantly between these two larger regional units.[7]

Table 19.2. Sites and Numbers of Earspools Excavated

Ohio sites	No. of earspools	Other sites (state)	No. of earspools
Hopewell	>672	Mann (IN)	>19
Turner	95	Tunacunnhee (GA)	15
Liberty–Harness	>88	Mandeville (GA)	14
Seip	72	Mt. Vernon (IN)	13
Porter	58	Wright (AL)	11

Table 19.1. (*continued*)

Havana			Cumberland			Tennessee River			Deep South		
No.	Site name	Rank	No.	Site name	Rank	No.	Site name	Rank	No.	Site name	Rank
39	Bedford	336.5	50	Williams	343	63	Yearwood	342	82	Miller	344.5
						66	Tick Island	338	80	Pharr	336.5
42	Gibson	320				71	Tunacunnhee	334	91	Coral Snake	332.5
41	Pete Klunk	318.5	52	Glass	311.5						
44	Knight	299									
45	Merrigan	259				70	Guntersville	233			
									84	Mandeville	157.5
46	Schwert	144				60	Savannah	92			
						61	Hardin Co.	90.5			
49	Goodall	104	54	Grassy Cove	89	68	Walling	87			
47	Flucke	86	55	TN	88	67	Lauderdale	86	90	Crooks	85
						64	Wright	19			
			53	Franklin, TN	20.5	69	Hampton Cave	11			
48	Marantette	6	51	Denny	12	65	Hester	2	83	McQuorgodale	7
43	Snyders	0				62	Fisher	1			

The numbers of extant earspools from the Southeast and Midwest are too few to permit an analysis similar to that performed for the Scioto–Little Miami region, but a few qualitative observations are possible. Although many earspools from these sites would seem equally "at home" in Ohio, others have distinctive characteristics. Cotter and Corbett (1951) report the use of galena, or a mixture of clay and galena, as a variation on clay filling between the plates of earspools from Bynam in Mississippi and those from some Copena sites in Alabama.[8] Clay filling is never used in the Havana and Crab Orchard regions. Five artifacts from Schwert Mound 18 in Wisconsin are single plates only, with no sign of previous attachment to a stem assembly. They must have been attached and supported at the ears by means of a different device of perishable materials. However, they would have presented a very similar appearance to the bicymbal artifacts when in place. Traces of large pearls are retained in the center hole of two of these ornaments. Although some exceptional earspools from Crystal River in Florida were not located for this study, they are described by Moore (1903:408–411). One pair, made up of pierced copper plates joined by fish vertebrae as stems, displays a complex design, in-terpreted as combining the quartered circle with bear symbols (Figure 19.3a). More conventional in construction, another pair is embellished with crescent-shaped cutouts in the overlay of silver on copper (Figure 19.3b). The illustrations imply profiles that would fall very late in the seriation.

All of these interregional and intraregional variations, in attributes of all levels of visibility, suggest that many earspools were produced by local artists for local use. Furthermore, extensive exchange of artifacts between groups, which would have smoothed out regional variation, probably has been overestimated in past models of the Hopewell Interaction Sphere (Struever and Houart 1972). Production by itinerant craft specialists, which would have resulted in a similar smooth pattern, is also unlikely. At the same time, artists were attempting to conform to a widespread set of norms, which dictated the visual effect necessary to convey a specific symbolic message. Similar conclusions about the local production of widespread artifact forms have been reached for platform pipes (Farnsworth 1997; Hughes et al. 1998), celts (Bernardini and Carr, Chapter 17), and panpipes (Turff and Carr, Chapter 18).

<div align="center">A   B</div>
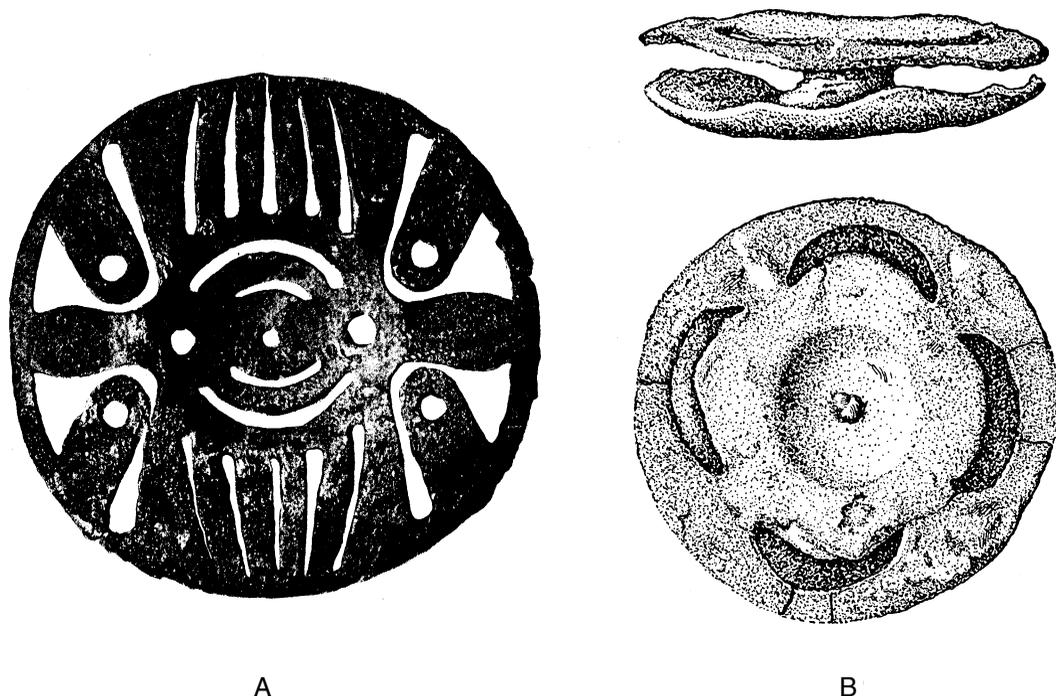
Figure 19.3. Earspools from Crystal River, Florida, as illustrated by Clarence Moore. (A) "One of four copper discs, forming a pair of ear-plugs." Mean diameter, approximately 90 millimeters (Moore 1903:figure 54). (B) "Silver-coated ear-plug of copper." Mean diameter, approximately 73 millimeters (Moore 1903:figures 57 and 58).

MORPHOLOGICAL SIMILARITIES OVER SPACE: EARSPOOLS AS SYMBOLS OF INTERREGIONAL COMMUNICATION

While earspools were evidently mostly local productions that varied in fabrication details from region to region, they invariably present the same symbolic image of a ring. In visual terms, this "ring symbol" is depicted through the plate contours; that is, a two-dimensional image is created by the play of light on a three-dimensional surface, analogous to relief sculpture. The convex surface area forms a bright ring image in contrast with the dark concave central depression. The quality and degree of this contrast are controlled by the character of the convex–concave transition, which I have previously shown to be chronologically significant. Early in time, a smooth transition gives the ring symbol roundness and volume, whereas in later earspools an abrupt intersection throws the two surfaces into

sharp contrast, rendering the symbol in a linear, graphic manner. Evidently Hopewell artists wished to emphasize and dramatize the ring symbol increasingly through time.[9]

The color of the ring symbol is that of polished copper or, alternatively, "white" metal (silver or iron), probably an important symbolic distinction.[10] Other variation or elaboration is quite rare, but late in the series, when the profile transition was abrupt, a white metal overlay was occasionally applied to the cup of the earspool only. This results in a striking bicolor effect, which further accentuates the contrast of the abrupt profile transition and, hence, the visual distinction of the ring symbol. The examples of such earspools in this study are from widely separated sites. One pair, from Esch in northwestern Ohio (Figure 19.2, site 34), has silver in the center; another pair, from Tunacunnhee in Georgia (Figure 19.2, site 71), has iron.[11] A third pair, from Mound 4 of the Bedford site in Illinois (Figure 19.2, site 39), is the

most spectacular example of the earspool artifact class I have seen. The silver overlay in the cup is supplemented with irregular patches of silver on the annulus, formed by hammering out small silver nuggets. The average diameter of the obverse plates is 74.5 millimeters—the largest in my sample. The craftsmanship is superb (Figure 19.4).

The pulley or "napkin ring" ear ornament, as worn by the pipe figurine from the Adena mound (Chapter 5, Figure 5.4), is another version of the ring symbol. This form, in stone, bone, and ceramic, is also found in Hopewell contexts. Webb and Snow (1945) point out that a similar visual effect is produced by both pulley ear ornaments and bicymbal copper earspools, with the advantage for the bicymbal version that a smaller perforation of the ear is required. In the Midwestern United States, some Havana sites yielded only pulley earspools. Other sites in the Scioto, Crab Orchard, and Havana regions contained both forms of ear ornaments. In contrast, stone and ceramic earspools have not been found in sites of the southeastern United States (Seeman 1979a), although a wooden version came from the late Mound E at Tunacunnhee (Jeffries 1976).

The accumulated data suggest that the most visible aspects of earspool morphology and the symbolic message conveyed by the annular image were continuously shared over a large region during an extended period of time. Change in each of these attributes followed a similar trend in all studied areas. The interactive continuity implied by these patterns in earspool style recalls and supports Seeman's (1995) concept of Hopewell as a symbolic system, in which linguistically distinct societies shared basic understandings about the universe. Symbols and styles in material culture were media of intergroup communication of these shared understandings, and transcended economic, social, and linguistic divisions. Seeman (1995:137–138) suggested that panpipes, which have a very widespread distribution, represent a form of communication that was understood in the most far-flung corners of the Hopewell Interaction Sphere, even beyond the range of a *Sprachbund*. The combined distribution of copper and pulley earspools is simi-

larly extensive. The ring element as an ear ornament was evidently a widely used and understood symbol in Hopewell iconography, by which metaphorical connections and communications were made among distant Hopewellian societies.

Frequent export of crafted objects from a central source, implying a hierarchy among groups within a sphere of interaction (Helms 1993; Struever and Houart 1972), is a model of Hopewell relationships that now seems questionable. Although the center of earspool consumption lay in southern Ohio, this was evidently neither the source of earspools for other regions nor the point of origin of the artifact form. Instead, the idea of a ring-shaped symbol at the ears, remarkably consistent in space and time, surely spread through interaction between Middle Woodland groups and was incorporated into their own local ritual and mortuary practices. It appears that the details of fabricating the symbol were of secondary importance, leaving local artists freedom to innovate and improvise their own techniques.

The idea of earspools and their symbolism could have been exchanged in several ways. Some artifacts probably did change hands and subsequently may have served as models for local interpretations. At ceremonial encounters between groups, which may have been local, regional, or interregional in their scope (see Chapters 7 and 12 through 15), artists could have shared designs or bought rights to the manufacture of designs (Penney 1989). Alternatively, earspools glimpsed from a distance might have been recreated with different techniques, while retaining the essential symbolic form. Depictions of earspools in perishable media are another means by which the symbolic image and use of earspools might have spread among people who participated in Hopewell ceremonial practices.[12]

Such an ongoing exchange of ideas contrasts with evidence for more episodic acquisition of some raw materials such as obsidian (Hatch et al. 1990). Clearly the Hopewell Interaction Sphere must be understood as a variety of mechanisms of social interaction and material dispersal, with different social and ritual goals and contexts (Carr, Chapter 16).[13]

Figure 19.4. (A) Earspools from Bedford Mound 4, Pike County, Illinois. Mean diameter, approximately 74.5 millimeters. (B) The components of the Bedford earspools. From left to right: obverse plates, with applied silver patches; inner plates and stem assemblies; reverse plates. Photos courtesy of the Gilcrease Museum, Tulsa, Oklahoma.

This study has not attempted to identify other manifestations of the ring symbol in other media or locations, or to evaluate the co-occurrence of earspools with other types of artifacts or symbolic forms. Consequently, the ability to interpret the specific, emic, symbolic meaning(s) of earspools in ritual and religious practices is limited. The ring symbol/ear ornament is but one element in a complex, largely unknown iconography that required elaborate costumes, accessories, and activities for its complete expression. Additional study of these media would help to broaden our understanding of the use, symbolism, and meaning of earspools in ritual practice and communication within the Hopewell Interaction Sphere.

CONTEXTUAL INFORMATION

Earspools are encountered in several ritual contexts at Hopewell sites, but none have been reported from domestic or manufacturing areas. Braun (1979:67) considered this to be characteristic of strictly social–symbolic artifacts. A deposit of fragmentary and incomplete earspools with a cremated individual in Mound 3 at the Turner site could be interpreted as workpieces buried with a craftsperson.

For the sites represented in the study (Appendices 19.1 and 19.2), contextual information was obtained from the site reports. Table 19.3 summarizes the locations of earspools within burials overall and as they vary between regions. Earspools are found with persons buried as cremations, bundles, and in extended layout. Regional differences in burial practices are no-

ticeable: a preference for cremation in the Deep South, for example, and the prevalence of bundle burials in Crab Orchard. With extended burials, the artifacts may be located in a number of positions. Only 12% occur at the ears. Seventeen percent are in the hands; palm prints are preserved in the corrosion on some of these artifacts. Other locations of deposit on or near the body, which account for 27%, include the forehead, under the chin, and on the chest of the deceased, as well as in groups or rows nearby. Grave 7 in Mound 25 at the Hopewell site was outlined with a row of more than 50 earspools (Shetrone 1926). See Carr (Chapter 7), Carr et al. (Chapter 13), and Note 14 for information on whether earspools belonged to the deceased or were gifts to them, and for the age–sex distribution of burials with earspools.

Although exact counts are not available, the great majority of all known earspools are from deposits without associated human remains. These deposits often included other luxurious artifacts and materials, and probably marked climactic ceremonial events, distinct from burial itself, in Hopewellian ritual practice (Greber 1996; Carr et al., Chapter 13). Earspools occur in some very large deposits at Turner and Liberty, but in the greatest quantity in "Altar 1" of Mound 25 at the Hopewell site. Moorehead (1922:116) estimated the number of earspools in this feature at about 2000, although this large number cannot presently be confirmed.[15] Small deposits that contained earspools include 13 crushed artifacts from Mound City and 12 from Fort Ancient. At Porter Mound 15, an elaborate arrangement of 21 earspools was found between copper plates

Table 19.3. Location of Earspools in Burial Contexts

Region/drainage	Cremation	Bundle	Ears	Extended hands	Deposit	Total
Scioto	>176 (49%)	1 (0%)	34 (9%)	41 (11%)	>107 (30%)	>359
Little Miami	10 (22%)	0	2 (4%)	22 (49%)	11 (24%)	45
Ohio and Kentucky	0	0	2 (20%)	2 (20%)	6 (60%)	10
Crab Orchard	0	9 (38%)	1 (4%)	10 (42%)	4 (17%)	24
Havana	0	0	15 (75%)	4 (20%)	1 (5%)	20
Mid South	7 (44%)	0	3 (19%)	3 (19%)	3 (19%)	16
Deep South	14 (61%)	0	5 (22%)	4 (17%)	0	23
Total	>207 (42%)	10 (2%)	62 (12%)	86 (17%)	>132 (27%)	>497

along with shell beads, the whole having been wrapped in bark and fabric (Moorehead 1892). A very small deposit, consisting of a pair of earspools and a tetrapodal Connestee Series jar, was discovered in Montgomery County, Kentucky (Figure 19.2, site 29), associated with botanical remains (Richmond 2001; Richmond and Kerr 2002). At the Hopewell site, the Copper Deposit in Mound 25 included two pairs of unique earspools. One pair shows a quartered circle motif, while the surface of the other pair is decorated with 14 raised dots. The main component of this deposit is a number of symbolic shapes cut from sheet copper. The assemblage is thought to be the components of one or more costumes, with a highly complex iconography (Greber and Ruhl 1989:100–123, 278–282).

Depositional contexts of the kinds discussed above were tested for correlation with morphological variation in specific earspools. One informative comparison is between earspools deposited with cremated burials and those with inhumations. Considering earspools from across the entire East, the seriation ranks and related dimensional variables differ significantly for these two types of burials ($p < .01$; median test, $n = 163$). This result indicates that cremation was more frequently an early practice, whereas inhumation predominated later on. Local exceptions to this trend may be cited readily, but Prufer's (1964a) similar conclusions, based on different criteria, are confirmed by change in earspool style.

My initial study (Ruhl 1992) found significant differences in profile type between earspools placed in the hands of extended burials and earspools placed at the ears, suggesting a temporal change in earspool usage and/or burial concepts within Ohio. This pattern was not confirmed by the present study, using the seriation of individual artifacts and a broader geographical sample. However, the two placements do vary significantly in their relative frequencies across space for several different geographic scales of comparison, ranging from between neighboring sites to between regions. For example, 75% of earspools with extended burials were found at the ears in the Havana region of the Midwest,

whereas in the Scioto drainage, this is true for only 9% of the artifacts (Table 19.3).

Although earspools were found in the burials of both males and females, the data are insufficient to determine differences in morphology by sex.

Comparisons were also made between the earspools in very large ceremonial caches and those with burials at the same sites. Some significant morphological differences exist among the artifacts from these different contexts. An overlay of silver or iron on the earspool disk surface occurs more frequently on earspools from the large deposits, which also typically contain other elaborate artifacts and exotic raw materials. On the other hand, several expedient construction techniques are more common for earspools buried with individuals. These include assembly of the component metallic parts using adhesive, twine, and clay, rather than metal-to-metal joints, which would have been more exacting and time-consuming for the artisan.

Information about the ritual use of earspools is obtained from their depiction on figurines, as well as from artifact contexts. The Wray figurine (Chapter 5, Figure 5.2B), in the collection of the Ohio Historical Society, offers a glimpse of a situation in which earspools play two roles. Earspools are not only part of the seated figure's bearskin costume, but also the severed head in his lap wears them. Earspools were appropriate for both the living and the dead in Hopewell ritual practice. The Wray figurine recalls a "trophy" skull, with earspools, in Burial 48 at Seip. The skull had been curated and buried with cremated remains and the body of a child (Seeman 1988; Shetrone and Greenman 1931). For other possible interpretations of the Wray figurine, see Carr and Case (Chapter 5).

Miniature copper earspools, perhaps for a multimedia figurine, were also found at Seip. At the Turner site, several of the terra cotta figurines from the Mound 4 deposit show persons wearing earspools, and a pair of tiny copper earspool disks was probably found in the same provenience. In addition, a complete miniature earspool came from the Mound 3 deposit at Turner.

A point of interest to early researchers was whether earspools were inserted in pierced ears or were suspended from them by cords. A fragmentary head of one figurine from the Turner Mound 4 deposit has a pierced earlobe, and Putnam (1883:354) reported an earlobe preserved between the plates of an earspool. At the same time, leather straps, looped around the stems of earspools, also are preserved occasionally. Suspension straps around the ears would have relieved some weight from the pierced earlobe.

In summary, evidence for the ritual role of earspools has been obtained from the contexts in which they were deposited and their depiction in figurines. These data show that Hopewell people used earspools in various ways. (1) They were worn at the ears as an element of costume by various individuals in both life and death. (2) They were placed in burials as a part of funerary ceremony, in numbers ranging from 1 to more than 50. Location within the grave showed considerable variation. Earspools in burials tend to be more expedient in construction than those placed in large ceremonial deposits. (3) Earspools were used as the structural or decorative elements of at least one tomb (Hopewell site, Mound 25, Burials 6 and 7). (4) They were included in other deposits of various sizes and composition that lack burials, during ceremonial events that might have had quite diverse and nonfunerary functions. These deposits sometimes included other elements of costume, exotic materials, and/or finely crafted objects (e.g., Hopewell site, Mound 25, Copper Deposit). Large deposits tended to have well-crafted earspools and more earspools with white metal overlays.

CONTEXTUAL INTERPRETATION: THE SOCIAL AND RITUAL SIGNIFICANCE OF EARSPOOLS

Despite regional variation in the specific conditions of use and display of earspools (Table 19.3), they probably indicated a special social role for the individual when included in grave fur-

niture (Greber 1979). Earspools in the hands or near the body in extended burials imply a meaning beyond that of personal ornamentation. Greber's analysis of artifact distributions in burial contexts at the Seip and Hopewell sites found that earspools were associated with high, but not the highest, individual status (Greber and Ruhl 1989:61). Earspools with burials could have indicated membership in a particular corporate social group, with particular social rights and duties, rather than individual prestige. Furthermore, some earspools in the "Altar 1" deposit at Hopewell Mound 25 were bound in bundles with heavy cord, possibly indicating a group offering rather than individual contributions to the deposit (Greber and Ruhl 1989:figure 4.63). A higher standard of quality for earspools placed in mass deposits than for those placed with burials also suggests the precedence of a group over the individual in the ceremonial use and deposition of earspools. Earspools within burials and ceremonial deposits have been interpreted more specifically as indicating membership or achievement within a sodality (Carr, Chapter 7; Carr et al., Chapter 13).[16] The religious meanings of earspools remain more obscure.[17]

Although widely distributed, earspools are more heavily concentrated in numbers in the Scioto and Little Miami drainages. This distribution pattern is directly related to the fact that earspools appear in several additional contexts in Ohio. In other regions, only a few earspools are found at any given site and, with the possible exception of the Mt. Vernon site (Seeman 1995:128), these are always associated with individual burials. In Ohio, in addition to similar burial contexts, earspools are deposited in larger numbers within particular burials and as part of ceremonial assemblages without associated burials. Such deposits may represent a localized practice of prestige-related "conspicuous consumption" in the course of ceremonies aimed at building solidarity and/or expressing competition within and among groups. Copper earspools were costly, both in material and in manufacturing time and skill. Thus, they may have served a distinct political–economic function in Ohio, in addition to their more widespread social and

symbolic functions throughout the Hopewell Interaction Sphere.

The earspool form developed from relatively small, sturdily constructed objects to ornaments that, while progressively larger and more spectacular, were less robust in construction. These changes in size and durability possibly indicate a shift in the primary use of earspools from frequent and/or long-term wear to short-term display and ritual deposit. The decreased durability of earspools through time also may indicate some kind of time or material stress on their production. Escalation in cooperative and/or competitive displays, and disruptions in earspool manufacture or copper supply, are among the possibilities.

The increasing visibility of earspools, due to the increasing size and contrast of their symbolic concave–convex outer plates, suggests an increase in the distance at which earspools were viewed. This, in turn, implies an increase through time in the size of groups in attendance at rituals in which earspools and their wearers figured significantly. An increase in local population density and/or the geographic breadth of social interaction are possible interpretations. The changes in earspools could also reflect change in the nature of the ritual occasions in which earspools and their wearers were prominent—from rituals involving small gatherings to those meant for a larger audience. All of these possibilities are also relevant to the sizes and contents of ritual deposits, as analyzed by Carr et al. in Chapter 13. Further research is needed in order to clarify the questions of group size and related implications.

SUMMARY AND CONCLUSIONS

In a previous study (Ruhl 1996), I developed a chronological seriation of 430 copper earspools from 47 sites in several regional traditions in Ohio and the Southeastern United States. This sample has now been augmented by an additional 38 earspools from 17 more sites in Midwestern traditions. The seriation is based on differences in the morphology of the outer plates and is supported by independent chronological data. Some other attributes of earspools were found to vary

with the seriation, many of them highly visible (Ruhl and Seeman 1998). The seriation of artifacts allows an ordering of sites within and across river drainages, according to the median rank of earspools (Table 19.1). A comparison of contextual information with the artifact seriation resulted in two examples of significant culture-historical findings. First, cremation may predominantly have been an earlier practice than inhumation during the Middle Woodland period across the Eastern United States. Second, supporting Beck (1995b), the eastern and western variants of the Copena regional tradition likely represented contemporaneous ethnic differences rather than a chronological difference.

The essential and doubtlessly symbolic message conveyed by earspools—that of a gleaming metallic ring—remained very consistent over the centuries and across Hopewellian traditions of the Eastern Woodlands. Seeman (1995) explained this kind of time–space patterning as indicating a form of pan-Hopewell communication, which transcended social and linguistic boundaries through the medium of symbolic artifacts, even as other aspects of life maintained a local character. In the case of earspools, artisans in different sites and drainages used different, localized technical strategies to achieve the widely meaningful visual effect. There is little evidence of the exchange of earspools, or of terra cotta human figurines that depict earspools (Keller and Carr, Chapter 11), across regions, which would imply that the time–space continuity of the ring symbol did not result from such exchanges. The image of the Hopewell Interaction Sphere as a network of artifact distribution (Struever and Houart 1972; contra Struever 1964:88) requires revision.

Formal changes to earspools through time suggest two concurrent trends. (1) A decrease in the mechanical integrity of the artifacts implies changed requirements for durability in use, possibly from long-term ear wear to shorter-term ritual display and deposit, and/or pressure to reduce the labor represented by each earspool. (2) Increasing size and contrast in the ring image suggest an increasing viewing distance for ceremonial activities that involved earspools. Perhaps the size of groups attending ritual gatherings

increased through time. Another possibility is that the role of earspools in ritual, or the nature of the rituals themselves, changed. Data from other investigations may help shed some light on this issue.

The contexts of earspools within burials suggest that these ornaments may have signaled a corporate social group with particular social rights and duties, rather than prestige achieved by or ascribed to an individual. Large offerings of earspools, as seen in Ohio sites, reinforce the sense of group ownership and sacrifice, especially when the spools were bound in bundles. Earspools in these large deposits also appear to be of better workmanship than those in burials. (See Carr, Chapter 7, and Carr et al., Chapter 13, for a sodality interpretation of earspools.)

Beyond marking social positions, earspools were used in rituals of varying kinds and scales. They were interred with individuals in varying numbers either as personal property or as gifts to the deceased. In Ohio, earspools were deposited in small to large numbers outside of graves during ceremonies that might have had quite diverse and nonfunerary functions. The larger collections suggest conspicuous consumption in the course of building solidarity and/or expressing competition within and among groups; elsewhere in the Woodlands these practices were infrequent.

Although Ohio was the center for earspools in terms of numbers, their stylistic and temporal extremes are observed elsewhere. Very early copper earspools appear in the Havana and Copena areas. Very late Hopewell earspools in the Southeast began to lose the clear ring symbol form that had been maintained so consistently across regions for a long period. These late artifacts may indicate a weakening of the symbolic message of earspools and subsequent stylistic drift. They appear to have been a transitional form that ultimately led to very different Late Woodland styles of ear ornaments.

NOTES

1. The earspool construction details that were found to correlate with stylistic change, that is, with time, are: the presence or absence of stem wrap, the material of the stem wrap (cordage versus copper), and the joining technique used to fasten the outer plates in place (crimping versus the use of adhesive). The location of deposition of earspools within burials changed through time, from roughly equally by the ears or in the hands to in the hands (Ruhl 1992:53).
2. Construction variables that varied significantly among sites or drainages include: the technique used to join the inner and outer plates (crimping versus adhesive) and the presence or absence of a clay filling. Stylistic details that varied significantly among sites or drainages are: the obverse disk diameter and the frequency of center holes (Ruhl 1992:54).
3. Attributes that correlate with the seriated contour of the disk, in decreasing order of visibility, include, for the obverse disk: the mean diameter, frequency and diameter of a center hole or dimple, cup diameter, and annulus-to-cup area ratio. For the reverse disk they are: the mean diameter, contour, presence–absence of a center hole or dimple, and cup depth. Less visible attributes correlated with time are: the stem wrap material, plate joining mechanism, and rivet form (Ruhl and Seeman 1998:table 2).

4. Although Griffin (1946) considered Copena to be a late manifestation of the Hopewell complex, Walthall (1979) has shown that Copena corresponds to Ohio Hopewell in its time span. Earspools from Copena sites are arranged along the entire sequence of the profile evolution.

5. Fort Ancient appears to have been occupied as early as 100 B.C. (Connolly 1996). Tremper is one of the earliest Ohio Hopewell earthwork-mound complexes, by multiple criteria (Prufer 1964a). Neither the absolute nor the relative age of Hazlett has been estimated until the present earspool seriation.

6. Earspool attributes that differ significantly among the sites of Hopewell, Porter, and Ater include: the frequency of overlay on the obverse disk, annulus-to-cup area ratio, total spool thickness, rivet design, and presence or absence of a clay filling between plates (Ruhl and Seeman 1998:table 2, column C).

7. Earspool attributes that differ significantly between the Little Miami and the Scioto valleys include 11 of the 23 attributes studied, visible and obscure: for the obverse disk, the nature of the concave–convex transition, presence–absence of a center hole or dimple, cup diameter, annulus-to-cup area ratio, and kind of overlay material; for the reverse disk, the presence–absence of a center hole or dimple; as well as the thickness, obverse-to-reverse diameter ratio, use of stem wrap, kind of plate join, and presence or absence of plate filling (Ruhl and Seeman 1998:658 and table 2, column F).

8. *Editors:* This practice may be related to the uniquely Copena tradition of sprinkling galena over corpses at their burial (Beck 1990).

9. *Editors:* Hopewell artists also may have wished to accentuate the contrast between light and darkness—a fundamental worldview theme of Ohio Hopewell people (Carr 1998; Carr and Case 1996; Greber and Ruhl 1989:275–284).

10. *Editors:* Red versus white is a fundamental symbolic contrast found among historic Native Americans of the Southeastern United States. Many meanings were attributed to the contrast (Hudson 1976; Lankford 1992).

11. *Editors:* The normal light, shiny exterior and dark, shadowy interior of the ring symbol on copper earspools was reversed in these two instances by placing light, shiny silver or meteoric iron in their centers. This reversal was probably significant, symbolically.

12. *Editors:* Terra cotta human figurines, which sometimes depict earspools, probably did not serve as transported models of earspool use, as they largely were not exchanged among regions (Keller and Carr, Chapter 11).

13. *Editors:* The few, very distantly separated examples of copper earspools with white metal applied to their cups, like other rare but striking similarities in the Hopewell world (e.g., Ruby and Shriner, Chapter 15; Kellar 1979:186; Kellar et al. 1962; Penney 1989), may indicate other mechanisms of dispersal of ideas about earspools beyond those mentioned. Carr (Chapter 16), Hall (1987, 1997), and Penney (1989) in combination have suggested the possibilities of intermarriage, spirit adoption, and the buying of religious prerogatives, each at the interregional scale.

14. *Editors:* In Ohio, most burials with earspools have two, suggesting in these circumstances that they probably belonged to the deceased rather than were given as gifts to the deceased (Carr, Chapter 7; Case and Carr n.d.). At Mound City, cremation Burial 12 in Mound 7 appears to have been interred with various elements of a ritual costume that included a pair of copper and silver earspools, a human effigy copper headplate, a copper breastplate, a turtle-effigy copper rattle belt, more than a dozen 11-pointed copper stars for suspension, two copper cutout webbed duck feet for suspension, and several necklaces of pearl beads, bear claws, and fossil shark's teeth (De-Boer 2001, Mills 1922:316–319). At the same time, Ruhl notes that morphological confirmation of any two spools in a given burial as having actually been a pair is wanting in many cases, and in other cases it is quite clear that they are not. Only 42 pairs have been securely identified from all contexts in Ohio sites,

The age and sex distribution of deceased persons with earspools from Ohio is known through modern compilations and assessments of extant physical anthropological data on the Ohio Hopewell (Case and Carr n.d.). The distribution is biased toward males over females 2 to 1 and toward adults over subadults 20 to 1, considering 112 burials with earspools, from 13 sites across Ohio. The sites considered are Ater, Bourneville, Edwin Harness, Hazlett, Hopewell, Marietta, Martin, Mound City, North Benton, Rockhold, Seip, Tremper, and Wright. Burials with earspools included 20 males or probable males, 7 females or probable females, and 82 of unknown sex; 4 subadults, 79 adults or probable adults, and 29 of unknown age. See also Carr (Chapter 7, Appendix 7.2) for more detailed information by site.

15. It is likely that some of these earspools were not recovered (samples from the mound floor contained earspools), while others were dispersed as intermuseum "trade" items or their provenience has otherwise become uncertain.

16. *Editors:* Carr (Chapter 7) found, through mortuary analyses of multiple Scioto Hopewell cemeteries, that earspools have a number of contextual characteristics that jointly suggest them to have been symbols of sodality membership or a level of achievement within a sodality. These include the age and sex distributions of earspools within the cemeteries (see Note 14), the spatial distributions and frequencies of earspools within the cemeteries, and other contextual patterns. Greber (1979) suggested that the specific nature of the group identified with earspools may have varied by earthwork center and/or region. This idea now seems unlikely for centers in the Scioto region, given archaeological evidence and considering ethnologically how culturally related local communities tend to be organized symbolically at a regional scale (Carr, Chapter 7).

17. *Editors:* Variation in the placement of earspools within graves may have had religious significance that is difficult to decipher in the particular. A cross-cultural study of the determinants of mortuary practices (Carr 1995b:136–137) found that the spatial positioning of artifacts within a grave most commonly indicates beliefs about the nature of the soul, a journey to an afterlife, and universal ordering principles. Placement was occasionally found to be related to gender, and never to other dimensions of vertical or horizontal social differentiation. The variation found among regional traditions in patterns of placement of earspools in graves (Table 19.3) may thus indicate differences among the traditions in religious beliefs. In this light, Hopewell would not have been an interregionally homogeneous religious–stylistic system that was shared by economically, socially, and politically diverse local traditions, as envisioned by Caldwell (1964). (See Carr, Chapter 16, Coda: So What Was Interregional Hopewell? for a more detailed discussion of this issue.)

Chapter *20*

Hopewellian Silver and Silver Artifacts from Eastern North America

Their Sources, Procurement, Distribution, and Meanings

MICHAEL W. SPENCE AND BRIAN J. FRYER

The "Hopewellian Interaction Sphere" is characterized above all by the wide appearance, through much of eastern North America, of finely crafted items made from a variety of exotic raw materials (Seeman 1979a; Struever and Houart 1972). In the past, these items have generally been viewed as prestige goods that circulated in a system of elite exchange and status display, often embedded in rank societies (e.g., Goad 1978; Prufer 1964; Struever 1964; Struever and Houart 1972). More recent analyses suggest a much broader array of mechanisms for the procurement and circulation of these goods (Carr, Chapter 16; Bernardini, Chapter 17; Turff and Carr, Chapter 18; Carr and Sears 1985; Griffin 1965; Ruhl and Seeman 1998; Walthall 1981), and have expressed reservations about the sociopolitical complexity of the societies involved (Braun 1979; J. A. Brown 1981; Pacheco 1996).

One particularly informative methodology for closing with these questions is material source analysis. James B. Griffin was the first to undertake a thorough source analysis of a Hopewellian material, obsidian (Griffin et al. 1969; see also Hatch et al. 1990). Building on that important contribution and employing a variety of techniques, others have since conducted studies of galena (Walthall 1980, 1981), copper (Goad 1978), meteoric iron (Carr and Sears 1985; Kimberlin and Wasson 1976), pipestone (Emerson et al., 2002; Farnsworth 1997; Hughes et al. 1998; Wissemann et al., 2002), and ceramics (Ruby and Shriner, Chapter 15; Carr and Komorowski 1995; Fie 2000; Stoltman 2000; Stoltman and Mainfort 1999). Each of these studies has provided important and well-grounded information for a discussion that had previously been based more on assumptions than on data.

Presumably, then, Hopewellian archaeology would benefit from a similar analysis of the native silver that was widely, though sparsely, represented in the interaction sphere. To this end, we designed a project to test and source as many silver specimens as possible. Institutions with major holdings were visited (Royal Ontario Museum, Field Museum of Natural History, Ohio Historical Center, and Peabody Museum of Archaeology and Ethnology), and their

collections were examined and sampled. Other institutions were contacted to solicit samples and photographs of the material in their collections. Fortunately, cooperation was excellent and we were able to obtain and test samples from most of the Middle Woodland sites with artifacts of native silver. The trace element compositions of 53 samples from silver-bearing artifacts and raw silver pieces from 26 Hopewellian sites across the Eastern Woodlands, and of 18 samples of silver from six potential or comparative source areas, were determined by spark source mass spectrometry, flame atomic absorption spectrophotometry, and/or inductively coupled plasma mass spectrometry. The samples and contributing institutions are listed in Table 20.1, with thanks due to many researchers (see Acknowledgments).

This chapter begins with a description of two silver sources found to have been used by Middle Woodland peoples—the Keweenaw area of northern Michigan and the Cobalt region of northern Ontario—as well as the apparently unused sources at Silver Islet, Lake Superior, and Gowganda, Ontario. Middle Woodland archaeological sites with raw silver and silver artifacts sampled for analysis are also tabulated and described (Appendix 20.1). Next, the three chemical methods that were used to assay the silver specimens and the assignment of specimens to source are presented. The chemical and geographic-distributional results indicate that only two sources of silver were repeatedly used by Hopewellian peoples: the region of Cobalt, Ontario, and the Keweenaw area of northern Michigan. Cobalt silver was used exclusively by communities of the Rice Lake area, Ontario, the Point Peninsula tradition of New York and Pennsylvania, peoples in Ohio peripheral to the large earthwork communities in the Scioto and Little Miami valleys, and residents of the areas of the deep Southeastern Hopewellian centers of Tunacunnhee and Mandeville. At least one Illinois Hopewell community also used Cobalt silver. Keweenaw silver was used exclusively by communities in the Scioto and Little Miami region of Ohio. Certain communities in Illinois, Wisconsin, and Louisiana also used Keweenaw silver.

The chapter proceeds to consider certain facets of the meaning of silver that can be assessed archaeologically, and their implications for understanding the pattern of circulation of silver over the Eastern Woodlands during the Middle Woodland period. We noticed that in some regions, silver was frequently combined with copper to make artifacts, whereas in other regions, silver was used by itself to make artifacts. We suggest that two concepts of silver were distributed in a complementary fashion among Hopewellian peoples of the Woodlands. A view of silver as a material in its own right was derived from its pure occurrence in the Cobalt area and was held by peoples in some regions, while a concept of silver as bound in some essential way to copper was based on their natural co-occurrence in the Keweenaw area and was held by other peoples in other regions.

The production of silver artifacts is next explored, providing insight on the various means by which silver was procured. Within the cultural context of both the procurement and the meaning of silver, the geographic distributions of silver items from the Keweenaw versus Cobalt sources become interpretable. In particular, the economics of distance to silver source and archaeologically known social connections among traditions explain much of the geographic patterning, but do not help one to understand the exclusive use of the Keweenaw source by Scioto and Little Miami communities. These communities were linked to peoples of the Point Peninsula tradition, who had access to Cobalt silver. Moreover, the heavy demand for exotic raw materials by Scioto and Little Miami Hopewellian communities would have been more easily satisfied by exploitation of the Cobalt source, where silver is much more plentiful. We offer the interpretation that Scioto and Little Miami travelers to the Keweenaw area, where they directly acquired copper and occasionally silver anomalies, could have introduced to their homeland the concept of silver as essentially associated with copper. Silver that circulated without copper, or silver from an area without copper, that is, from the Cobalt region, may not have been considered silver or a ritually acceptable form of it. In addition,

Table 20.1. Results of Analyses

No.	Provenience	Item	Cluster	Source	Curator/institution[a]
1	Aspen, CO	Source material	A	Colorado	HU
2	Calumet & Hecla mine, MI	Source material	A	Keweenaw	MTU
3	Adventure mine, MI	Source material	A	Keweenaw	MTU
4	O'Brien mine, Ont.	Source material	B	Cobalt	SC
5	Converse, MI	Panpipe	B	Cobalt	PM
6	Cameron's Point, Ont.	Bead	B	Cobalt	ROM
7	Mandeville, GA	Panpipe	B	Cobalt	UG
8	Turner, OH	Sheet fragment	A	Keweenaw	PM
9	Marietta, OH	Panpipe	B	Cobalt	PM
10	Squawkie Hill, NY	Gorget	B	Cobalt	AR
11	LeVesconte, Ont.	Panpipe	B	Cobalt	ROM
12	Serpent Mounds, Ont.	Bead	B	Cobalt	ROM
13	Tunacunnhee, GA	Panpipe	B	Cobalt	UG
14	Converse, MI	Sheet	B	Cobalt	PM
16	Elk Lake, Ont.	Source material	B	Cobalt	SC
17	Converse, MI	Smaller nugget	B	Cobalt	PM
19	Tunacunnhee, GA	Panpipe	B	Cobalt	UG
20	Aspen, CO	Source material	A	Colorado	HU
21	Lewiston, NY	Ear ornament	B	Cobalt	NYSM
22	Turner, OH	Sheet fragment	A	Keweenaw	PM
23	Converse, MI	Larger nugget	B	Cobalt	PM
24	Mound City, OH	Bead	A	Keweenaw	OHC
25	Esch, OH	Panpipe	B	Cobalt	OHC
26	Hopewell, OH	Button	A	Keweenaw	OHC
27	Converse, MI	Larger nugget	B	Cobalt	PM
28	Right of Way mine, Ont.	Source material	B	Cobalt	SC
29	Tunacunnhee, GA	Panpipe	B	Cobalt	UG
30	Converse, MI	Larger nugget	B	Cobalt	PM
31	Marietta, OH	Panpipe	B	Cobalt	PM
32	Hopewell, OH	Earspool	A	Keweenaw	FM
33	Hopewell, OH	Button	A	Keweenaw	FM
34	Seip, OH	Button	A	Keweenaw	OHC
35	Mound City, OH	Bead	A	Keweenaw	OHC
36	Hopewell, OH	Sheet fragment	A	Keweenaw	FM
37	Pharr, MS	Panpipe	B	Cobalt	SEAC
38	Hopewell, OH	Blended sheet	A	Keweenaw	OHC
39	McRae, LA	Panpipe	A	Keweenaw	USNM
40	Knight, IL	Pendant	B	Cobalt	UMMA
41	Robinson, OH	Panpipe	B	Cobalt	USNM
42	Robinson, OH	Panpipe	B	Cobalt	USNM
43	Irvine, PA	Sheet fragment	D	Cobalt	USNM
44	North Benton, OH	Teardrop ornament	B	Cobalt	OHC
45	Harness, OH	Button	A	Keweenaw	OHC
46	Hopewell, OH	Button	A	Keweenaw	FM
47	Mound City, OH	Earspool	A	Keweenaw	OHC
48	Calumet & Hecla mine, MI	Source material	A	Keweenaw	MTU
49	Turner, OH	Sheet fragment	A	Keweenaw	PM
50	Hopewell, OH	Blended sheet	A	Keweenaw	OHC
51	Terra Ceia, FL	Earspool	A	?	USNM
52	Pachuca, Mexico	Source material	A	Mexico	ROM
53	Mandeville, GA	Panpipe	E	Cobalt	UG
54	Hopewell, OH	Button	A	Keweenaw	DM
55	Pharr, MS	Earspool	F	Cobalt	SEAC
56	Gowganda, Ont.	Source material	A	Gowganda	CMNH
57	Turner, OH	Sheet fragment	A	Keweenaw	PM

Table 20.1. (*continued*)

No.	Provenience	Item	Cluster	Source	Curator/institution[a]
58	Hopewell, OH	Button	A	Keweenaw	DM
59	Hopewell, OH	Button	A	Keweenaw	DM
61	Bonanza mine, Ont.	Source material	G	Cobalt	SC
62	Calumet & Hecla mine, MI	Source material	A	Keweenaw	MTU
63	Liverpool, IL	Bead	A	Keweenaw	RKMC
64	Minong mine, MI	Source material	A	Keweenaw	ROM
65	O'Brien mine, Ont.	Source material	B	Cobalt	SC
66	Silver Islet, Ont.	Source material	C	Silver Islet	OMNR
67	Liverpool, IL	Bead	A	Keweenaw	RKMC
68	Fort Ancient, OH	Inclusion in copper	A	Keweenaw	OHC
70	Bonanza mine, Ont.	Source material	B	Cobalt	SC
71	Gowganda, Ont.	Source material	B	Gowganda	DMC
72	Liverpool, IL	Bead	A	Keweenaw	USNM
73	Silver Islet, Ont.	Source material	C	Silver Islet	OMNR

[a]AR—Rochester Museum and Science Center; CMNH—Cleveland Museum of Natural History; DM—Dayton Museum of Natural History; DMC—Dennis Meloche collection; FM—Field Museum of Natural History; HU—Harvard University; MTU—Michigan Technological University; NYSM—New York State Museum and Science Service; OHC—Ohio Historical Center; OMNR—Ontario Ministry of Natural Resources; PM—Peabody Museum of Archaeology and Ethnology, Harvard University; RKMC—Richard K. Meyer collection; ROM—Royal Ontario Museum; SEAC—Southeastern Conservation Archaeological Center, Florida State University; SC—Suffel collection, University of Western Ontario; UG—University of Georgia; UMMA—University of Michigan Museum of Anthropology; USNM—Smithsonian Institution, United States National Museum.

the plentiful, pure nature of Cobalt silver may have encouraged its association with the place in which it was found, personal stories about journeys to obtain it, and the identity of the journeyer, which may have limited circulation of pieces of it to others, including the Scioto and Little Miami Hopewell. Keweenaw silver, found fortuitously and in small quantities within copper deposits, may not have been so characterized and constrained in its circulation. Methods of working Cobalt versus Keweenaw silver support this contention.

Finally, distributional and technological studies of silver are used to infer three possible cultural mechanisms of its dispersal across the Woodlands: vision/power questing, pilgrimage, and exchange. Different regional Hopewellian traditions relied on different mixes of these mechanisms to acquire their silver.

SOURCE SAMPLES

Samples were obtained for analysis from various silver sources that might conceivably have been exploited by Middle Woodland peoples. Fortunately, potential sources are not very common and samples were available from most.

Conventional archaeological wisdom had it that Hopewellian silver came from the same deposits around Lake Superior that provided much of the copper circulating in the Middle Woodland period (Griffin 1961b:75; Seeman 1979a:293; Struever and Houart 1972:66, 68). However, we were aware that silver ore found by Walter Kenyon in an Ontario Middle Woodland burial mound had been identified by a geologist as being from the Cobalt region of northern Ontario (Walter Kenyon, personal communication, 1964). We were thus particularly anxious to sample these two regions. The source areas from which we obtained samples of silver are listed in Table 20.1 and mapped in Figure 20.1. The source areas and the numbers assigned to these samples [in brackets] are as follows.

(1) *The Keweenaw area of northern Michigan.* This area is located on the Keweenaw Peninsula of Michigan, on the south shore of Lake Superior. The same geological deposit also occurs on Isle Royale, in the north-central part of the lake. The area was exploited extensively for its copper, both before and after the arrival of Europeans (Griffin and Quimby 1961; Levine 1999:186–187; S. R. Martin 1999). Silver is present as occasional and erratically distributed,

Figure 20.1. Map of natural sources and archaeological sites with silver.

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minor inclusions in the copper (Griffin 1961b:75, 1961b:133). Its procurement there would have been a fortuitous by-product of the exploitation of the area's copper resources. Samples from the Keweenaw Peninsula were obtained from the Adventure Mine of Ontonagon County [3] and the Calumet and Hecla Mine of Houghton County [2, 48, 62]. A sample from the Minong Mine on Isle Royale [64] is also included here, because it clusters in our analysis with the Keweenaw Peninsula samples and both areas share the same geological formations (Levine 1999:186).

(2) *The Cobalt area of northern Ontario.* Cobalt is located near Lake Timiskaming on the Quebec–Ontario border, some 400 kilometers north of Lake Ontario. The source has been exploited by Canadian miners since 1903 for its silver deposits. These were rich and easily accessible. As Angus and Griffin (1996:9) note, "Cut into the hills were rich veins of silver, discoloured with the pinkish bloom of cobalt. In his official report, [the provincial geologist] noted that silver lay on the ground like 'stovelids and cannon balls.'" Samples were obtained from the mines of O'Brien [4, 65], Right of Way [28], Elk Lake [16], and Bonanza [61, 70] in the area.

(3) *Silver Islet, Ontario* [66, 73]. This source is located by the tip of the Sibley Peninsula in northern Lake Superior, north of Isle Royale. The Silver Islet samples clustered separately from all of the other source and artifact samples, so the area was apparently not exploited by the Middle Woodland peoples involved in the Hopewell Interaction Sphere.

(4) *Gowganda* [56, 71]. Gowganda is a rich silver area about 80 kilometers northwest of Cobalt.

(5,6) *Aspen, Colorado* [1, 20], and *Pachuca, Mexico* [52]. These two other sources were sampled to broaden the range, but there was no reason to suspect that any of the artifacts were actually derived from them.

An attempt to track down a source rumored to be located in Ohio was fruitless. Apparently it does not exist. Sources in southeastern Ontario require extensive processing and would not have been accessible to people with a Middle Woodland technology (S. Lumbers, personal communication, 1978).

ARTIFACT SAMPLES

Table 20.1 lists all the artifact samples by our sample number. Also provided are their archaeological site proveniences, a brief identification of form and/or function for each item, the letter of the cluster to which each specimen was assigned in our analysis, the probable source of the silver, and the curating institution. The locations of the archaeological sites are shown in Figure 20.1. The artifact morphological–functional types are taken from the literature. In some cases (e.g., panpipes, earspools, bracelets, "tinklers") these forms are widely agreed upon (e.g., Figure 20.2). Other items are rarely encountered (e.g., the tubular objects of North Benton and Irvine) and cannot be given a function on the basis of present evidence. Also, a large and heterogeneous group of items has variously been referred to as button covers, ear ornaments, or even beads, although some investigators are aware of the ambiguity of these identifications (McKern 1931:217–218). In this report, we adopt the terms used by the investigator or the institution's catalog, with the caution that these do not always designate a single, uniform category.

The series of silver samples, the artifacts or raw pieces from which they were derived, and their intrasite proveniences, where known, are described in detail in Appendix 20.1.

METHODS AND RESULTS

Three analytical techniques were used over the course of the study: spark source mass spectrometry (SS-MS), flame atomic absorption spectrophotometry (AAS), and inductively coupled plasma mass spectrometry (ICP-MS). Their use was successive, in the order presented, each adding further refinements to the analysis. It is the ICP-MS values that form the basis for the statistical analyses and interpretations discussed below; the data are presented in full in Appendix 20.2.

Figure 20.2. Silver artifacts: (a) Converse sheet [No.14]; (b) Marietta panpipe [Nos.9, 31]; (c) Converse panpipe [No.5]; (d) Turner Mound 3 bracelet; (e) Marietta earspool.

SS-MS allowed the simultaneous assessment of a suite of several elements: Hg, Bi, Br, As, Sb, Fe, Ni, Co, Cu, and Zn. This technique was applied to most of the specimens, excepting those from Irvine, Fort Ancient, the GE mound, the McRae mound, Pharr, Terra Ceia, and most from the Hopewell Group. Samples 36 and 46 from Hopewell were assayed, however. The purposes of this initial study were to obtain a general idea of how the samples clustered and to determine which elements would be most informative in further analyses.

The next technique applied was AAS. Virtually all of the samples, excepting only the Nicholls mound and the GE mound specimens, and a bit of silver from ore recovered at LeVesconte, were included in this analysis. Five elements were analyzed at this point: Ag (percentage, by weight), Co, Cu, Ni, and Zn. The silver (Ag) data reported in Appendix 20.2 are from the AAS analysis.

The final technique used was ICP-MS, applied to the same samples—indeed, the same sample solutions—that were used in the AAS analysis. Details of the application of ICP-MS have been published elsewhere (Longerich et al. 1987). The technique offers a number of advantages over the others (Longerich et al. 1987:107–109). SS-MS does not give results that can be as easily and precisely quantified. AAS is better but suffers two drawbacks: it is time-consuming, and accurate determination of some elements requires the consumption of relatively large amounts of material. Otherwise, its results are comparable to those of ICP-MS (Longerich et al. 1987:table 4). ICP-MS is rapid, consumes only a limited amount of material, and provides quantitative results. In the present application, it provided data on a larger suite of elements than did AAS, and with more precision in several cases (Appendix 20.2).

These data, and the AAS results for Ag (expressed as percentages), were then subjected to single linkage cluster analysis. The results of the cluster analysis are reported with the analytical data in Appendix 20.2, and the final source determinations, alone, are presented in Table 20.1. Two main clusters, constituted by 34 and 29 samples, resulted from the 69 artifact and source

samples analyzed. The other five clusters, with a total of six samples, are made up of a single two-sample cluster (Silver Islet source) and four one-sample clusters. The latter either are impure specimens (<50% silver) or have some element concentrations that deviate from the probable source examples that we analyzed. Only three artifacts fall outside of the two main clusters; the other three outliers are source samples.

A simple binary plot (Figure 20.3) of antimony (Sb) versus bismuth (Bi) clearly separates the Keweenaw-sourced artifacts from the Cobalt-sourced ones. Of the three artifacts that constitute separate clusters in the cluster analysis, two (Mandeville, Georgia, No.53, cluster E, and the Pharr site, Mississippi, No.55, cluster F) plot in the Cobalt corner when corrected for their low silver contents (Figure 20.4). The other single artifact cluster (Irvine, Pennsylvania, No.43, cluster D) already plotted with the Cobalt samples before correction, when considering only antimony and bismuth (Figure 20.3). The only artifact that does not fit neatly into the two geochemical data groups, even correcting for different levels of purity, is the specimen No.51, cluster A, from Terra Ceia, Florida. This result may not be surprising. Its location near the Gulf of Mexico opens up a number of options for communication and procurement. It may be from a source not included among our samples.

There are some additional analyses of silver artifacts that are important to consider. Maurer et al. (1976) analyzed a panpipe from Albany Mound 65, Illinois (Bluhm Herald 1971:90, fig. 37g), by neutron activation analysis. It contains very high (>10,000 ppm) Sb, suggesting that it was derived from the Cobalt source area. Maurer et al. also analyzed two hemispherical button covers from the Nicholls mound and Schwert Group in the Trempealeau focus of Wisconsin. The covers have very low Sb contents, characteristic of the Keweenaw sources. In fact, the Nicholls mound specimen that they analyzed was the same one that we analyzed by SS-MS (Appendix 20.3, Figure 3; McKern 1931:305, lower-left corner). Its geochemical content indicates a Keweenaw origin. Since Maurer et al. (1976) concluded that the silver of the Nicholls
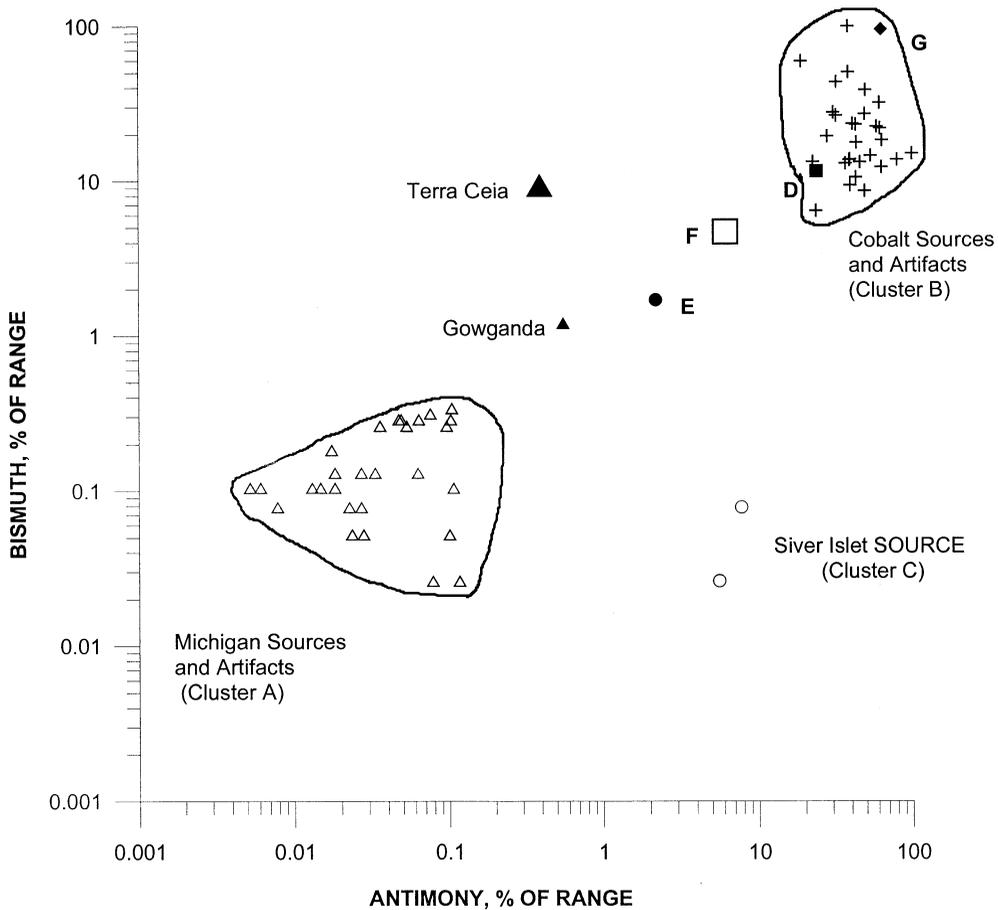
Figure 20.3. Antimony and bismuth contents of the silver artifact and source samples plotted as the log of the percentage of the range determined in this study. The data are uncorrected for the purity of the silver.

and Schwert specimens derived from the same source, one can conclude that the silver of the Schwert item also came from the Keweenaw source area.

Two samples from the GE mound, Indiana, were analyzed by ICP-OES—an instrument with less sensitivity than the ICP-MS that generated the data used in this study. A silver foil specimen (IDT-M454) has the characteristic high Sb of the Cobalt source area, but a silver cover for a copper earspool (IDT-M453 [Tomak 1994:fig. 27]) has low Sb (but high Bi, unlike the Keweenaw source material). The GE mound may be an example of silver from the two source areas having been found together in one site, but further work would be necessary to establish that the second artifact is indeed an odd example of

the Keweenaw source, given its unusual high Bi content.

DISCUSSION

Chemical Context of the Silver Specimens

The chemical analyses of the silver specimens carry with them a signature of the source materials from which they were obtained. However, the interpretation of the analytical results is complicated by two separate processes: (1) The "silver" originally collected may have been a mixture of silver and other included minerals, termed here the *geological factor*, and (2) during processing or subsequent burial, the "silver" may have been
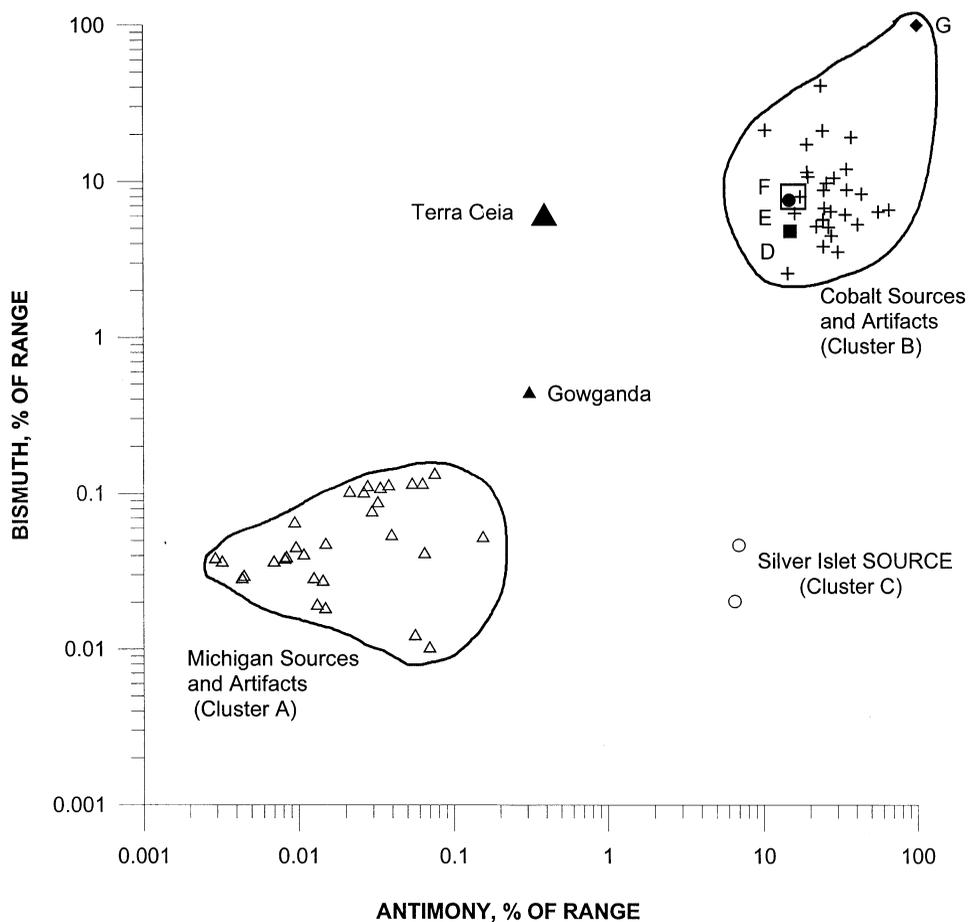
Figure 20.4. Antimony and bismuth contents of the silver artifact and source samples plotted as the log of the percentage of the range determined in this study. The data are corrected for the purity of the silver.

contaminated by other materials, termed here the *artifact factor*.

The geological factor will give rise to variations in the element proportions from specimen to specimen due to the presence or absence of mineral inclusions in the silver. It is likely that the erratic concentrations of elements like arsenic in some of the specimens are due to random inclusions of arsenic-rich minerals. As a consequence, arsenic is not a good element to use to differentiate sources. Other elements, like nickel and cobalt, likely vary for similar reasons, as can be seen in specimen No.61, a Cobalt source sample. Arsenic, cobalt, and nickel are all very high in it, suggesting that Co–Ni–As mineral(s) are present. This, itself, may be diagnostic of the source area, but it makes working with the data

much more complicated and may confound rigorous statistical analysis.

The artifact factor relates to how the artifacts were manufactured and to their burial. During manufacture, different pieces of silver could have been physically combined into a single artifact or the silver may have been applied over another material, for example, copper. With burial, the surface of the silver may have become contaminated with the other material or the soil. A close examination of the chemical data presented in Appendix 20.2, sorted by statistically defined clusters, demonstrates the clear separation of the Keweenaw and Cobalt source areas. Antimony (Sb) and bismuth (Bi) are consistently high in Cobalt sources (cluster B) and low in Keweenaw (cluster A). However, other elements that might

be equally diagnostic without the artifact factor do not uniquely separate the sources because of this factor. For example, copper (Cu) tends to be much higher for the specimens in cluster A (Keweenaw source) than for the specimens in cluster B (Cobalt source), but some cluster B specimens do have high Cu. Indeed, high Cu concentrations appear to set two artifacts (Mandeville No.53 and Pharr No.55) into separate clusters (E and F, respectively), despite the fact that their Sb and Bi content should place them both squarely in cluster B (see Figure 20.4). Contamination by the copper parts of these artifacts—an artifact factor—is suspected.[1]

For the purpose of this analysis, we have concluded that the Sb and Bi contents of the silver samples provide the clearest and most unambiguous classification of the specimens.

The Meaning(s) of Silver

No doubt, silver had some fairly specific concepts and meanings attached to it by the Hopewellian peoples who used it. However, for a variety of reasons it would be very difficult to identify these (Turff and Carr, Chapter 18). The greatest obstacle is the long lapse in its use throughout the Late Woodland period. In fact, silver was reintroduced to indigenous peoples by European explorers and traders, and any concepts linked with it ethnographically would come tarnished, as it were, by these more recent associations.

Hopewellian peoples may have equated silver with meteoric iron because of their brightness and light color, contrasting them with copper (Turff and Carr, Chapter 18). The striking visual contrast between silver and copper was probably one of the reasons for their frequent juxtaposition in artifacts, as in the copper earspools with silver in their central depressions at Esch and Tunacunnhee (Ruhl, Chapter 19; Ruhl, 1992:52–53) and the string of separate copper and silver beads at Cameron's Point. However, silver can occur alone in artifact form and, occasionally, covers a clay, wood, or even meteoric iron core. It is more often associated with copper, as an outer cover over the copper, but in many of these cases it totally covers the object, effectively hiding the copper from view. The frequent association of the two metals, then, may have been based on a perceived relationship more profound than visual appeal alone. Two artifacts in particular point to such a relationship: the pendants from the Knight Mound in Illinois and the Marietta earthwork in Ohio. Both are of copper, but with fragments of manufactured sheet silver deliberately incorporated in them. The silver in the Knight specimen was from the Cobalt area (sample 40). The silver sheet embedded in the Marietta plummet was not tested, but a silver panpipe in the same burial proved to be of Cobalt material (samples 9 and 31).

The conceptual association of these metals may have grown out of their natural co-occurrence in the Keweenaw source area, where silver is distributed as small inclusions through the copper deposits. However, copper does not naturally occur with the silver in the Cobalt source area, so those who directly exploited that source may have considered the two metals to be distinct. In sites in the Rice Lake area, which were linked together closely by biological and cultural relationships (Spence et al. 1984) and which contain Cobalt silver, there copper and silver were sometimes placed together in burials but were not usually joined in the same artifact. The silver did not serve as a cover for the copper panpipes and beads at LeVesconte or Cameron's Point. At Converse, the co-occurrence of copper and Cobalt silver nuggets in the same burial suggests the recognition of some link between the two metals, but not to the point that copper and silver were combined in a single artifact. Even in some of the sites accepting Cobalt sheet but more removed from the source area, like Lewiston, Irvine, and North Benton, the silver occurred separately or was applied to a wood or cane rather than a copper core.[2]

In other areas, silver was used to cover a copper core more frequently. The people in these communities may have thought of the two metals as being more intimately related, following a Keweenaw-derived model. The piece of raw copper with naturally embedded Keweenaw silver in the Anderson collection from the Fort Ancient site (sample 68) seems to represent this concept.[3]

Thus, there may have been two rather different conceptions of silver that circulated among

Hopewellian communities, each having arisen out of the material's natural occurrences and having affected to some degree how it was used. In one concept, the silver was apparently viewed as an important material in its own right, while in the other its identity was merged to some degree with that of copper. These distinct understandings of silver were probably not mutually exclusive in their circulation. Certainly pure-silver and silver-over-copper artifacts both have broad and extensively overlapping distributions.

Turff and Carr (Chapter 18) also point out that Hopewellian peoples often bypassed nearer and more convenient material sources to exploit distant ones. They suggest that this may reflect some particular ideas or qualities attached to these sources that gave them a singular importance. Although silver was not widely available in a form accessible to Middle Woodland peoples, the two sources where it was exploited, especially the singularly silver-bearing Cobalt source, may well have been examples of "place", not simply points in space where a desired material was available. Indigenous concepts of the material and the locale may have become intertwined to create a place of special significance—an instance of the "conceptualized landscape" of Knapp and Ashmore (1999:11)—and a suitable focus for pilgrimage or quests (for a general discussion of pilgrimages and quests, see Carr, Chapter 16).

In this light, silver obtained on these quests would have assumed a special meaning—one that incorporated elements of the material itself, of the special locale, of that particular quest, and of the identity of the pilgrim/initiate/seeker. It would have been infused with a story and an identity that would have traveled with it as an integral part of the material. Such items would not have circulated anonymously as simple commodities in a trade network (Appadurai 1986; Gregory 1982; Malinowski 1922b; Mauss 1967). In fact, their circulation would have been constrained to some degree by this adherent personal quality.

This would be particularly true of Cobalt material, which could be procured only through a long journey in the rugged and distinctive country of the Laurentian Shield. It would, perhaps, be less true of Keweenaw silver, which was pro-cured as a by-product of the quest for copper—a quest that probably occurred more regularly and among a wider range of peoples. The significance of this silver, and the stories attached to it, may have been colored by the stories of the copper found with it—the objective of the expeditions.

The Procurement of Silver and Production of Silver Artifacts

Evidence from the LeVesconte Site

A few sites allow some insights into the procurement of silver. Foremost among these is the LeVesconte burial mound, on the Trent River in south–central Ontario (Kenyon 1986:24–40). The mound started with the creation of two pits and the deposition of offerings and human skeletons (or parts of skeletons) in and beside the pits. The more easterly pit contained two clusters of grave goods. Each cluster was said by Kenyon (1986:35–36) to have been associated with the articulated or partially articulated skeleton of a "young child". Unfortunately, there are some inconsistencies in the site records and maps, so the number and nature of the associated burials are not entirely clear (J. E. Molto, personal communication, 2001). Here, we follow Kenyon's published description, with the proviso that it may not be completely accurate.

The more easterly cluster (cluster 4) in the eastern pit contains a drilled moose phalanx, three schist adzes, five beaver incisors, a deer metacarpal, a bone awl, a large (14.2-centimeter-long) *Unio* shell (a fresh water bivalve) filled with erythrite, a silver panpipe cover, and an incompletely processed piece of sheet silver (Kenyon 1986:35–36). The *Unio* shell was propped upright against the child's cranium. The erythrite had fallen out of it but retained the shape of its container. Erythrite, or "cobalt-bloom", is a hydrated cobalt arsenate—a weathering product of cobalt ores. It is a peach-red to crimson-red powder and would serve nicely as a pigment. Erythrite is available and easily collected along with the silver in the Cobalt source area (Angus and Griffin 1996:9), and in fact, the propinquity of the two materials may have enhanced the value of the erythrite to its collectors.[4] The silver panpipe cover with the child was very thin and

poorly preserved. The incompletely processed sheet item is small (about 4 centimeters in diameter, weighing 6.7 grams), and irregular in form, with some matrix still adhering to both surfaces.

The westerly cluster (cluster 5) in the same pit, with the other child, included 7 antler and bone points, a bear canine, 3 pointed whetstones, an antler bead, a beaver incisor, a perforated shark's tooth, facial elements of a fox, a worked deer metatarsal, a bone pin, an unidentified bone object, 18 mammal bone fragments, 2 flint chips, a copper pin, a copper panpipe cover, 4 *Unio* shells (1, the largest, is 10 centimeters long and filled with erythrite), and a variety of silver items (Kenyon 1986:36–38, plate 37). Based on Kenyon's original analysis and on Spence's later analysis of this material, the silver items were:

(1) three small pieces of unprocessed ore with a good deal of silver visible in them (Kenyon 1986:plate 37A–C; the silver in one of these provided one of our SS-MS analysis samples [unnumbered]; it proved to be from the Cobalt source);

(2) one roughly trianguloid lump of pure silver, 5 centimeters in its longest dimension and weighing 94.7 grams, which had no adhering matrix, but had not yet been further processed (Kenyon 1986:plate 37H);

(3) two partially hammered-out pieces that had not yet been fully flattened into sheet form (Kenyon 1986:plate 37G);

(4) five small fragments of sheet silver, perhaps left over from the final shaping of a sheet of silver (Kenyon 1986:plate 37F); and

(5) three fragmentary panpipe covers, none intact enough for measurement (Kenyon 1986:plate 37D, E).

Note that silver in all stages of refinement for use is present in this collection.

Microscopic analysis of the surfaces of one of these panpipe cover fragments (from panpipe L.M. 163) showed that the exterior surface had some pronounced scores running across the cover at a slight diagonal and many finer striations running lengthwise. The striations overlie the scores, are far more numerous, and are more evenly distributed over the surface of the piece. The interior surface shows neither scores nor striations.

It seems that the scoring reflects the procedure of grinding, or some form of forceful smoothing, used in the final flattening and thinning to sheet form, whereas the striations resulted from molding the sheet to shape over its core substance (reeds?) and, perhaps, from polishing it. A piece from another of these panpipes, L.M. 170, provided our sample No.11. It is from the Cobalt source.

It is possible that some of the other items in clusters 4 and 5 were used in the working of the silver, to flatten, smooth, cut, or pierce it. The schist adzes and bone awl of cluster 4 (Kenyon 1986:plate 33), and the deer metatarsal "dagger," pointed whetstones, and copper pin of cluster 5 (Kenyon 1986:plates 8B, C, 13C), are plausible candidates. However, there are no data to confirm this, and there is no reason to believe that the tools used to work the silver would have enjoyed the same privileged disposal as the silver itself, particularly when the materials were being gifted to young children who could not possibly have been the people responsible for working the silver.

An adult female had been placed on the ground surface adjacent to the other, more westerly subfloor pit. With her was cluster 6, which consisted of three copper panpipe covers and one of silver (Kenyon 1986:31). The silver was not tested, but samples from two of the copper panpipes (L.M. 194 and L.M. 195) were submitted to Sharon Goad for analysis by optical emission spectroscopy. The materials of both proved to be from the Keweenaw Peninsula/Ontoganong County area of northern Michigan (Sharon Goad, personal communication, 1978).

Finally, one very small fragment of silver was found beside an infant, located southeast of the pit with the two children, but Kenyon (1986:39) suspects that the association may have been coincidental.

Although the time of burial of the infant is not known, clusters 4–6 were all probably deposited at about the same time, as part of the first step in the gradual, cumulative development of the overlying mound. They may well have been placed there simultaneously, as a set of related ritual events. The children of clusters 4 and 5 were both between 1 and 2 years of age, while

the female of cluster 6 was 61 ± 10 years of age at death (J. E. Molto, personal communication, 2001).

The erythrite and silver may represent a single complex of material, which was collected together in the Cobalt area and arrived together in the Rice Lake area. The erythrite probably traveled as a powder, in a bag or some other sort of container, to be transferred to two *Unio* shells after arrival at the LeVesconte site.[5]

The silver, itself, represents every stage in the technological sequence of procurement and processing: raw ore, derived nuggets, partially formed sheets, artifacts, and the clippings left from the production of the artifacts. In fact, it probably represents a single expedition to the source area, rather as Griffin (1965:146–147) has suggested for the obsidian found in several Hopewell sites (but note Hatch et al. 1990:478). However, the Rice Lake evidence suggests that this expedition was not an isolated occurrence. The differences in form between the panpipe band of Cameron's Point Mound C, also found with a child (Spence and Harper 1968:plate VI 7), and those from LeVesconte (Kenyon 1986:plate 37E), and between the beads of Cameron's Point (Appendix 20.3, Figure 1c; Spence and Harper 1968:plate VI 9) and those of the Serpent Mounds site (Appendix 20.3, Figures 1b and 2), indicate the work of different artisans and, by extension, possibly separate journeys to the Cobalt area. Also, the concentration of silver in its various forms with the three LeVesconte burials suggests that the materials obtained by an expedition were often quickly processed and disposed of on return, rather than curated and circulated over years or decades (cf. Hatch et al. 1990:478).

Evidence from the Converse Site

In western Michigan, the Converse site also offers some data relevant to procurement. Workers in 1885 recovered several items from beneath a mound that had earlier been leveled (Fitting 1971; Quimby 1941:98–102). The conditions of their recovery leave matters somewhat unclear, but most consider the materials to have been part of a single subfloor deposit, probably a burial feature (Fitting 1971; Harms and Halsey 1988:30–31). Present in the deposit were a copper ax, seven shell beads, an antler beetle effigy, two platform pipes, several deer bone pins, four or five bone imitation bear canines, four actual bear canines, a bear molar, a silver panpipe band (Figure 20.2c; sample 5), a piece of sheet silver (Figure 20.2a; sample 14), a large copper nugget weighing 13 pounds (5,889 grams), and two silver nuggets weighing 7.75 pounds (3,511 grams) and 5 pounds (2,265 grams). The smaller silver nugget provided our samples 17 and 27; the larger, our samples 23 and 30. Our analysis indicates that all of the silver is Cobalt material. The copper nugget would not have come from the Cobalt area, but we did not test it and so cannot identify its source.

The Converse silver items seem to represent a procurement and processing sequence like that described for the LeVesconte material. At first glance, the Converse sequence appears to be a truncated version, with no erythrite or ore included. However, the two nuggets are natural, like those available in the Cobalt area, rather than simply accumulations cobbled together from a variety of smaller pieces extracted from ore. One shows the coloring characteristic of cobalt-bloom, common in the Cobalt area.

The next step in the processing sequence—the formation of sheet silver—is represented by the piece of wrinkled sheet in the Converse collection (Figure 20.2a). The final stage is the finished panpipe band (Figure 20.2c) (Fitting 1971:fig. 2). The piece of sheet was thought by Fitting (1971:38) to possibly be another panpipe band, but our examination suggests that it is a sheet that had not yet been molded to artifact form. It is somewhat irregular in shape, 90×122 millimeters at its largest dimensions, with several roughly parallel pleats or wrinkles in it. Its weight is 10.8 grams. These pleats do not appear to have been corrugations for panpipe tubes. The surface of the sheet is marked by some deep parallel scores, without overlying striations. In contrast, the panpipe cover has both scoring, crossing the exterior diagonally, and densely packed, finer, overlying striations oriented differently, along the length of the panpipe cover. The scoring was apparently the result of the technique used to initially create the sheet, whereas the striations were

from its later molding into artifact form, and perhaps from polishing, too. The absence of overlying striations on the piece of sheet, as well as the irregularity of its edges, thus indicates that it had not yet received its final processing into an artifact.

The Converse silver is probably the result of a single procurement episode. However, it may not have been initiated from the Converse site, itself. The Cobalt area is about 400 kilometers from LeVesconte, but some 700 kilometers from Converse. Also, the large copper nugget in the deposit must have arrived at Converse through quite different connections. Perhaps, then, the Converse deposit was an accumulation of materials that had each already passed through other hands. Nevertheless, the facts that the silver nuggets remained unaltered and the piece of sheet had not yet been committed to an artifact suggest that the Converse recipients, if not themselves the initial procurers, were not removed from the silver source by more than one or two intermediaries.

Evidence from Ohio Sites

There are two contexts in Ohio in which something less than finished silver artifacts occur. One is the Snake Den Group, where seven small "nuggets" totaling 14 ounces (397 grams) were found in a stone container (Moorehead 1899:110–123). However, these could not be located in the Ohio Historical Center collections, so we cannot say what their source might have been or what they represent—silver masses collected at a source or lumps cobbled together from silver accumulated from a variety of places or expeditions. A further complication arises from the ambiguity of the context. The cultural material on record from the Snake Den Group is sparse, and it is unclear whether the site is culturally affiliated with Adena or Hopewell (C. Carr, personal communication, 2001; M. P. Otto, personal communication, 1977).

The other Ohio context is a deposit above Skeletons 260 and 261 of Mound 25 of the Hopewell site. Greber and Ruhl (1989:90, 93, fig. 4.10a, c) present Charles C. Willoughby's description and illustration of a few "nuggets" of silver in the deposit, "partially hammered masses of native silver," each seemingly "an irregular or stringy mass of silver, just as it came from its matrix . . . heated and hammered into a more compact form" (Greber and Ruhl, p. 93). We examined and sampled one of these in the Ohio Historical Center collections—a thick (2-millimeter), somewhat irregular piece of silver, with maximum dimensions of 78 × 43 millimeters and a weight of 33 grams. It had been formed by hammering several thinner pieces of sheet together. Deep scoring on the surface indicates further efforts to flatten the piece. The two samples are from separate sheets in the blended mass; sample 38 came from a thick, 2-millimeter segment, whereas sample 50 came from a distinct and thinner component sheet. Both components are Keweenaw material. This item would more properly be termed a "blended sheet" than Willoughby's "nugget", to indicate that it had been fashioned from several previously formed segments of sheet silver rather than derived directly from ore.

This piece would still have required further refinement to form the thin sheet used to cover artifacts like buttons and earspools. It is possible that for some of these raw silver pieces from Burials 260 and 261, no further refinement was intended. One piece had been perforated for suspension (Greber and Ruhl 1989:93, fig. 4.10c). However, for the most part, these items probably represent an intermediate step in the production of artifact covers. Significant in this regard, in our analyses of buttons, panpipes, and other artifacts from Ohio sites, we could see that their silver covers were often formed from more than one piece of sheet, blended together to permit fuller coverage of the artifact. This was observed on covers from Hopewell, Mound City, and Seip, all of which relied on the Keweenaw area for their silver (see also Ruhl 1992:52).

The blended sheet objects from Hopewell, Mound City, and Seip may each represent the accumulated results of *several* expeditions to the Keweenaw area. These expeditions would have been undertaken primarily to exploit its copper resources. The silver, dispersed erratically and in generally small amounts through the copper deposits, would have been collected as a welcome, but fortuitous, by-product of copper exploitation.

The piece of natural copper with embedded silver from Fort Ancient shows the form in which silver occurs in the Keweenaw area. Both the silver (sample 68) and the copper (sample 69) from this item were tested, and both proved to be Keweenaw material. Keweenaw silver might also on occasion have been obtained from "float" copper that was distributed by glaciers, widely but irregularly, to the south and southeast of the Keweenaw area deposits (J. Halsey, personal communication, 2002; e.g., Russell 1907:43). However, this sort of occurrence, though it may have required less travel and excavation labor to exploit, would have been no more predictable and was probably relatively uncommon.

Nature of the Silver Sources

The very different natures of the Cobalt and Keweenaw sources would have had a significant effect on the mode of exploitation, the quantities recovered, and their circulation. The Cobalt material, to judge by the LeVesconte and perhaps Converse data, was obtained through direct expeditions to the source area and was probably, along with erythrite, the material objective of these quests. The journey to the area would have been lengthy and arduous, but the silver was plentiful and accessible. The quantity collected there would have been limited only by the ability of the collectors to transport it back to the south. However, given the spiritual and personal elements of these quests, the further circulation of the material would probably have been limited to direct exchanges between individuals already linked in close relationships or expecting to become linked through that exchange, restricting its local and intra-regional distribution once procured.[6]

In contrast, the Keweenaw area was somewhat more accessible, but the silver there would have been more difficult to locate and generally present in smaller amounts. It was probably a secondary objective of expeditions to the area, with copper taking precedence. It is thus possible that this silver would have been less closely identified with its collector, particularly if the relatively small quantities found meant that useful amounts could only be amassed

over some time or several expeditions, as the blended sheets from Hopewell, Mound City, and Seip suggest.[7] Thus, the circulation of the Keweenaw silver may have been somewhat freer than that of the Cobalt material, less constrained by other meanings adherent to the material. Once procured through long-distance journeying, Keweenaw silver could have spread more widely in a locale or region. This possibility will be seen to be significant in explaining the widespread use of Keweenaw silver among many Hopewell sites in the Scioto valley (see below, Conclusions).

The Distribution of Silver

Two broad source areas for Hopewellian silver have been identified, and most of the sampled silver can be assigned to one or the other (Table 20.1, Figure 20.4). The Cobalt area material entered the Hopewell realm through occasional direct procurement expeditions, probably in the form of pilgrimages or power/vision quests to a place of special significance (Carr, Chapter 16). The material obtained on these expeditions was sometimes quickly disposed of in burials, as at LeVesconte, but in other cases it apparently was passed on in the form of sheet, to be modeled into or fastened onto a variety of items. This wider distribution was probably effected through a series of exchanges or gifts between individuals who either already had some sort of relationship or expected to create one through this contact. The qualities of person and place that infused the silver would have made it a powerful medium for a variety of relationships: trade partners, master–apprentice, shaman–initiate, etc.

Archaeological evidence indicates that the Rice Lake sites like LeVesconte were linked to Hopewellian communities in New York and Pennsylvania (Ritchie 1969:215–219; Spence and Harper 1968:55–57). These, in turn, are thought to have had ties with sites in Ohio, creating a network of interacting communities that led into the Scioto core (Seeman 1979a:265–266). This is corroborated to some extent by the silver evidence, with Cobalt silver having occurred at Lewiston, Squawkie Hill, and Irvine, in New York and Pennsylvania.[8] Surprisingly, though, Cobalt material seems to be restricted to

the margins of the Scioto core, not having penetrated to the large mound and earthwork sites there. It was represented at the peripheral sites of Esch, North Benton, Marietta, Robinson, and the GE mound (Figure 20.1). Despite more extensive sampling, particularly in the Hopewell Group, we identified no Cobalt material in the major Scioto core sites: Hopewell, Seip, Turner, Harness, Mound City, and Fort Ancient.

The Tunacunnhee and Mandeville sites are in the Southern Appalachian and Santa Rosa–Swift Creek areas, which are thought to have had ties with the Scioto area (Ruby and Shriner, Chapter 15; Carr and Sears 1985; Goad 1979:245; Seeman 1979a). The Pharr and McRae sites are both in the Miller–Porter area, which shows few links to the Scioto/Southern Appalachian/Santa Rosa–Swift Creek continuum, but may have been more closely related to the Havana area (Carr and Sears 1985; Seeman 1979a). However, the Pharr, Tunacunnhee, and Mandeville sites all used Cobalt silver. Keweenaw silver, which might be expected at least at Tunacunnhee and Mandeville, through the relationships of their builders to peoples in the Scioto region, occurs only at McRae. It may be that some Southeastern peoples conducted their own procurement expeditions/pilgrimages to the Cobalt area. (See Bernardini and Carr, Chapter 17, for similar conclusions on the direct procurement of Upper Great Lakes copper by Copena Hopewellian peoples of the Midsouth.)[9] An alternative explanation—some form of down-the-line exchange from the Cobalt source to Mandeville and Tunacunnhee—encounters the difficulty of identifying the intervening links, since the Scioto peoples, with whom the Mandeville and Tunacunnhee peoples were interacting most closely, apparently eschewed Cobalt silver. Down-the-line exchange through northeastern Ohio and the Muskingum valley, through the areas of Esch, North Benton, and Marietta, seems unlikely for lack of a direct river route from the mouth of the Muskingum southward and bypassing the mouth of the Scioto. It is possible that the Mandeville–Havana connection suggested by ceramic figurines (see Keller and Carr, Chapter 11) could be invoked here, since Cobalt silver has been identified at

several Havana sites (Figure 20.1), but more data are needed. Finally, the sample from Terra Ceia in Florida unfortunately provided no clear results, and we were unable to obtain samples from the Pierce and Crystal River artifacts.

In the Great Lakes–Riverine area, Keweenaw silver appears at the Nicholls Mound, Wisconsin—not surprisingly because among all the sites with silver, it lies closest to the Keweenaw source area (Figure 20.1). The neutron activation analysis by Maurer et al. (1976) indicates that the silver from Nicholls and Schwert, Wisconsin, came from the same source, so we can tentatively conclude that the Keweenaw deposits supplied both sites. The remarkable string of 120 thick beads from the Liverpool site, Illinois, is also of Keweenaw material. However, Cobalt material did reach the Mississippi River area. The bit of silver deliberately embedded in the copper pendant from the Knight Mound, Illinois, is of Cobalt material. Also, the analysis by Maurer et al. (1976) suggests that high antimony levels are a source characteristic for the silver panpipe cover from the Albany site, Illinois, indicating a Cobalt origin. It is unfortunate that we were unable to test silver from the Courtois, Cook, Bedford, and Gibson sites.

CONCLUSIONS

Seeman's (1979a) comprehensive analysis of the distributions of Hopewellian materials and artifacts indicated that the Interaction Sphere was not as structured as had once been thought (see also Carr, Chapter 16; Ruhl and Seeman 1998). The silver evidence seems to corroborate this. It is clear now that the distribution of Hopewellian materials and, occasionally, artifacts was achieved through a wide variety of procurement mechanisms and interpersonal links, which by their very nature were unstable over time, rather than through ongoing, structured exchanges among regional groups.

This picture suggests that regions, even particular communities, should have experienced some fluctuations and even dislocations in their supply over time. In retrospect, we should have anticipated this and sampled each site more widely. For example, the Tunacunnhee mounds

were apparently successive, not contemporaneous, constructions (Jeffries 1976:14, fig. 4). It would have been interesting to see if the silver from Mound C matched the sampled Mound D specimens in source. Although the Hopewellian Interaction Sphere may have lasted only two to three centuries, it was not a synchronic manifestation (Hatch et al. 1990). To capture these shifting interpersonal connections, our time scale would have to be in decades, not centuries.

Nevertheless, some fundamental facts and understandings were uncovered by our analyses. First, and most important, there are only two well-defined regional patterns. One is the exclusive presence of Cobalt material in the Northeast, in the sites of Ontario, New York, and Pennsylvania. This may simply have been due to their greater proximity to the Cobalt source area and to the communities directly involved in its exploitation. The other pattern is the exclusive reliance of peoples who used the large Scioto earthworks on Keweenaw material.

Second, a consideration of the archaeological contexts of silver, its processing, and the manufacture of silver artifacts at LeVesconte, Ontario, suggests the direct procurement of silver by LeVesconte residents from the Cobalt source area, some 400 kilometers away. Vision/power quests and pilgrimage undertaken to obtain silver are suggested as possible cultural mechanisms of procurement. Contextual evidence from the Converse site, Michigan, suggests the same means of procurement, or perhaps exchange through one or two hands from the Cobalt source, given the 700-kilometer distance of Converse from Cobalt. In both cases, a single trip or connection to the Cobalt area is implied. In contrast, in southern Ohio Hopewell sites, the blended sheets of silver made from multiple, small silver impurities within Keweenaw copper suggest multiple episodes of procurement and/or exchange, in which silver was not the primary objective of travel. The occurrence of Cobalt silver in the deep Southeastern sites of Tunacunnhee and Mandeville, which had ties with the Keweenaw-using Scioto tradition, suggests the possibility of direct procurement of Cobalt silver by peoples of the Tunacunnhee and Mandeville areas. The same may be true of peoples who used the Pharr site, in the Miller–Porter region.

Third, the exclusive use of Keweenaw silver by southern Ohio Hopewell peoples cannot be explained economically, by considerations of spatial and social proximity to sources. Seeman's (1979a) analysis indicates that the Scioto core sites consumed materials on a considerable scale, but were not involved to an equivalent extent in distribution. The extensive demand of these communities for silver would presumably have led to a rather pragmatic view toward supply, with silver having been absorbed from whatever sources were available. Nevertheless, despite the link between the Scioto area and sites in Pennsylvania and New York (Seeman 1979a:265), which would have allowed access to Cobalt material, only Keweenaw material appears in the core sites. This confounds any purely economic explanation for the pattern.

The answer may lie more in ideological and social factors. One is the intrinsic meanings assigned to silver. We have suggested from several kinds of contextual evidence that there were two contrasting concepts of silver among Hopewellian peoples. One saw it as a material in its own right, and was derived from its natural, pure, occurrence in the Cobalt area, whereas the other saw it as bound in some fundamental way to copper, or merged in its identity with copper, reflecting the natural co-occurrence of silver and copper in the Keweenaw area. If Scioto travelers were directly acquiring copper (and occasionally silver) from the Keweenaw area, they would have introduced the latter understanding of silver into their homeland. Silver, circulating without copper, or coming from an area not known to produce copper, may not have been considered true silver, or a ritually acceptable form of it.

Another factor that may have led to the exclusive use of Keweenaw silver by Scioto Hopewellian peoples is the personal and historical qualities adherent to Cobalt silver, which may have constrained its circulation to some degree, once procured through long-distance journeying. The Cobalt area, as a singularly silver-bearing source, may have been conceptualized as a special "place", suitable for vision/power quests or pilgrimages. Silver pieces obtained from this

region thus may each have embraced several interwoven qualities, including aspects of the material itself, characteristics of its special source, particulars of the journey to obtain it, stories that told of these, and the special identity of the pilgrim/quester—all of which may have limited the circulation of the pieces to others, once procured. In contrast, the more fortuitous acquisition of Keweenaw silver, and the necessity of amalgamating small quantities of it from a variety of donors, may have weakened any adherent personal qualities and led to its freer circulation, once procured. Cobalt silver thus was not exchanged from Hopewellian communities in New York, Pennsylvania, and northern and eastern Ohio to communities in the Scioto valley, whereas Keweenaw silver, once introduced into the Scioto valley, spread well among communities there. This interpretation might suggest some social distance between Hopewellian communities in northern and eastern Ohio and those in the Scioto valley—a conclusion also reached by Field et al. (Chapter 9), Turff and Carr (Chapter 18), and Seeman (1996) with other archaeological data.

NOTES

1. In fact, sample 7 is from the same artifact—the Mandeville silver-over-copper panpipe—as sample 53, but sample 7 joined the Cobalt cluster (cluster B) in the cluster analysis.

2. Montgomery (1913:6) noted a piece of thin sheet of blended copper and silver, "greatly resembling the pieces of naturally mixed silver and copper seen in northern Michigan," from somewhere in the vicinity of the Serpent Mounds site on Rice Lake. However, it is not clear from his brief description whether the item is a piece of silver sheet attached to a separate sheet of copper or naturally blended copper and silver (which would presumably derive from the Keweenaw area).

3. It has also been suggested that the Helena panpipe was made from naturally blended copper and silver, but the description could as easily indicate sheet silver applied to a copper panpipe (Ford 1963:16, fig.10).

4. The availability of erythrite along with silver in the Cobalt source area would not have compromised the concept of "place" associated with silver, as may have the availability of copper along with silver in the Keweenaw area. In the Keweenaw area, silver procurement was

probably a by-product of copper procurement, whereas silver was a main feature of interest in the Cobalt area. Moreover, erythrite in the Cobalt area was apparently not an incentive for long-distance procurement trips, crossing the Eastern Woodlands, whereas copper in the Keweenaw area was.

5. There were three empty *Unio* shells included in cluster 5 and eight more within cluster 7, which had no erythrite or silver, as well as six bivalves of an unidentified genus within cluster 2, also without erythrite or silver. It would seem that the shells were obtained locally and then, in two cases, used as containers for the erythrite in the burial ritual.

6. Of course, these constraints on silver distribution may not have been absolute or permanent. In particular, after passage of the material through several hands and over some distance (geographic and social), the identity of the original procurer could have been eclipsed by the identities of more recent donors. Thus, some aspects of the original history of the material might have been shed or modified, to allow its infusion with new stories as new owners adapted it to their own social circumstances.

The argument in the text for limitations on the circulation of Cobalt silver might also be applied to Keweenaw copper. As the primary goal of procurement expeditions to the area, it should have attracted the same sorts of historical adhesions that we have suggested for the Cobalt silver. However, the widespread and plentiful distribution of copper in archaeological contexts over the Eastern Woodlands suggests that this was not the case. Why? One reason may be that copper played a very important role in Hopewellian ritual and social life—one that led to its presence in virtually every Hopewellian center in the East and that probably had roots going well back into the

Archaic period. Given this broad and deeply embedded demand, major constraints on its circulation might not have been tolerated so easily. Furthermore, the greater temporal depth and wider availability of copper in the East (Goad 1978) would have created opportunities for a greater variety of stories than was possible for silver, which was more firmly tethered to place and in use for only one or two centuries. The adherent historical qualities of copper would perhaps have been more liberally defined, and more easily reinterpreted, than those associated with silver.

7. Hatch et al. (1990:477–478) have suggested a similar idea for the Mound 25 obsidian.

8. The Irvine artifact actually clustered separately in analysis, but in the bismuth–antimony scatterplot it clearly belongs with the Cobalt samples (Figures 20.3 and 20.4).

9. The feasibility of direct procurement trips from the Deep South to Cobalt, Ontario, is seen by comparison to the distances of other trips known through chemical materials sourcing to have been made by Hopewellian peoples. The distances from Tunacunnhee in northwestern Georgia, Mandeville in southwestern Georgia, and Pharr in eastern Mississippi to Cobalt, Ontario, are about 950, 1,150, and 1,200 air miles, respectively. From the Scioto valley to obsidian sources in Wyoming and Idaho is about 1,450 and 1,550 air miles, respectively; to Knife River chalcedony sources in western North Dakota is about 950 air miles; and to the Brenham meteorite in south–central Kansas is about 950 air miles. From Copena sites along the Tennessee valley to Lake Superior copper sources, which Bernardini and Carr (Chapter 17) suggest were visited in order to obtain copper, is at least 850 air miles.

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