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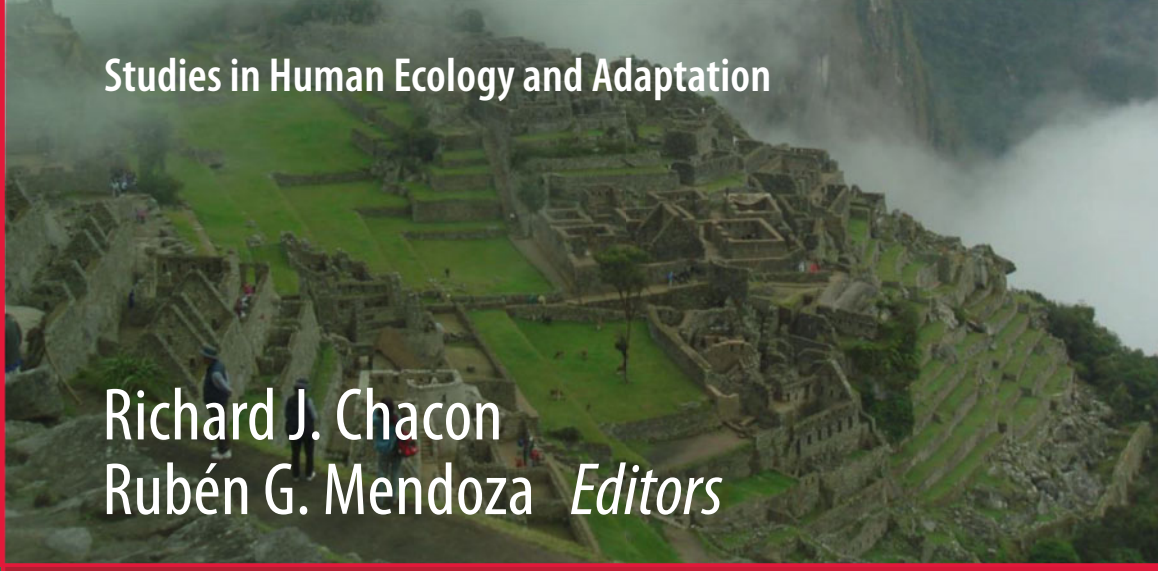

Richard J. Chacon
Rubén G. Mendoza *Editors*

Feast, Famine or Fighting?

Multiple Pathways to Social Complexity

Springer

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Editors

Feast, Famine or Fighting?

Multiple Pathways to Social Complexity

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Abstract

This edited volume explores the multiple pathways that may have given rise to social complexity from a variety of micro-historical, comparative, and theoretical frameworks. This interdisciplinary undertaking employs a variety of perspectives and methodologies that encompass both materialistic and non-materialistic approaches. Factors taken into consideration include, but are not limited to, feasts (manipulation of surpluses), famines (shortfalls), fighting (intra- and inter-group conflict), environmental factors (volcanism, climate change), demographic shifts (population increase/decrease) along with rituals and ceremonies (ideological propaganda). Findings from European, Asian, African, Oceanian, North and South American locations are put forth by an international cadre of archaeologists, cultural anthropologists, sociologists, and ethnohistorians.

Chapter 1
Introduction

Richard J. Chacon and Rubén G. Mendoza

The advent of social complexity has been an important topic of longstanding debate among social scientists.[1] While many of the early models for social complexity were predicated on unilinear, structuralist, and stage-level typologies, these have been replaced with various multilinear, organic, and heterarchical formulations. Moreover, recent approaches such as the inclusion of bioarchaeological perspectives, prospection methods, systematically investigated archaeological sites along with emerging technologies are necessarily transforming our understanding of sociocultural evolutionary processes. In short, many preexisting ways of explaining

[1]For examples of research on the advent of social complexity, see Abrutyn and Lawrence (2010), Algaze (1993), Arnold (1992, 1995), Belkov (1995), Berezkin (1995), Billman (1999), Bishop (1983, 1987), Blanton et al. (1996), Bondarenko and Korotayev (2003), Boone (1992), Camino (1977), Carneiro (1970, 1981, 1988, 1991, 1998, 2012a, b), Chacon (2007), Chacon et al. (2015), Childe (1957), Claessen and Skalník (1978, 1981), Cohen (1985), Creamer and Hass (1985), Earle (1987, 1989, 1991, 1997a, b, 2011), Emanuelson and Willer (2010, 2011), Engels [1884] (1942), Feinman and Marcus (1998), Flannery (1999), Fried (1967), Hass (1982, 2001), Johnson and Earle (2000), Kirch (1984, 1988, 2010), Kottack (1972), Kristiansen (2012), Liu et al. (2004), Marcus (1992, 2008), Marcus and Flannery (1996), McIntosh (1999), Morgan (1870, 1877), Price and Feinman (2012), Redmond (1994, 1998), Renfrew and Cherry (1986), Roscoe (1988), Sahlins and Service (1960), Service (1975), Shady Solís (1999a, b, 2009), Spencer (1851, 1857, 1863, 1997, 1998, 2007), Spencer and Redmond (2004), Stanish (2001), Stanish and Levine (2011), Stein and Rothman (1994), Steward (1953, 1955), Thapar [1984] (2005), Testart (1982), Trigger (2003), Tylor (1870, 1889), Ward (1883), Webb (1975, 1988), Weber [1896] (1988), Webster (1975), White (1959), Willer et al. (2009, 2013), Wilson (1988), Wittfogel (1957), Yoffee (1993, 2005).

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the origins and development of social complexity are being challenged. This anthology builds on such findings and presents important discoveries.

Existing theories and approaches involving the origins of social complexity include environmental circumscription, population growth, technology transfers, prestige-based and interpersonal-group competition, hydraulic civilizations, organized conflict, perennial wartime leadership, peer-polity interaction, wealth finance, dynamic cycling, dual processualism, opportunistic leadership, environmental perturbation, climatological change, transport and trade monopolies, resource circumscription, surplus and redistribution, ideological imperialism, crisis cults, status lineage dynamics, and the consideration of individual agency.[2] While these efforts have shed valuable light on the genesis of social complexity, many such works sought to understand the topic at hand through the narrow lenses of their respective disciplines. Moreover, many studies limit their investigations to a constricted geographical analysis. That is to say that with relatively few exceptions, many studies fail to incorporate interdisciplinary perspectives and do not extend their analysis to encompass broad regions. The lack of interdisciplinary perspective and narrow geographical focus characterizing many investigations limits the explanatory scope and potential of these scholarly efforts.

In 2012, T. Douglas Price and Gary M. Feinman published *Pathways to Power: New Perspectives on the Emergence of Social Inequality* . While this work draws primarily on archaeological findings and data, it sought to extend the disciplinary and geographical range of the analysis by including contributions predicated on ethnographic data from various parts of the world. Recognizing the value of this effort and in response to recent discoveries fundamentally challenging earlier frameworks of analysis, the editors convened a 2014 Society for American Archaeology organized session titled "Feast, Famine or Fighting? Multiple Pathways to Social Complexity." Session participants included an international cadre of world renowned archaeologists, social and cultural anthropologists, historical sociologists, and social historians. Subsequently, the editors invited other noted specialists to contribute to the formulation of the present volume in order to expand the multidisciplinary breadth, global scope, and those theoretical perspectives deemed essential to a more comprehensive treatment of the topic under consideration.

[2]For examples of research exploring the impact of these aforementioned factors/variables, see Aldenderfer (2012), Artemova (2003), Belkov (1995), Billman and Feinman (1999), Bondarenko and Korotayev (2003), Bondarenko et al. (2004), Carneiro (1970, 1988, 1998), Chacon (2007), Chacon et al. (2015), D'Altroy and Earle (1985), Earle (1997a), Emanuelson and Willer (2011), Grinin et al. (2004), Hayden (2001), Hoopes (2005), Korotayev (2003), Kradin (1995), Kradin and Lynsha (1995), Kradin et al. (2000), Marcus (1992, 1993), Redmond (1998), Renfrew and Cherry (1986), Wilson (1988).

Feast, Famine or Fighting? documents the multiple pathways by which social complexity first emerged on a global scale of analysis. Contributions from the assembled volume indicate that some pathways to complexity were predicated on the exhibition of prosocial behavior (feasting), whereas others may be understood as human responses to scarcity (drought-induced famines). By contrast, other pathways were dependent on the use of coercive force (warfare) or some combination thereof. Some contributors advanced the consideration of internal factors (such as multiethnic mosaics) as critical to the development of complex polities. The editors therefore stress that this anthology puts forth new understandings of social complexity and inequality informed by way of groundbreaking findings from the world over. This is achieved via the inclusion of particularly compelling case studies from African, Eurasian, and South American regions often neglected by social theorists. Themes addressed in turn include warfare, feasting, egalitarian societies, chiefdoms, incipient and secondary state formations, internal and external societal dynamics, status attainment, collective action, social networks of power, long distance trade, rock art, agro-pastoralism, multiethnic mosaics, corporate interaction, inter-elite interaction, resource circumscription, and the role that ideology may have played in the advent of complex societies. Ultimately, this anthology and its contributors challenge the status quo regarding how and why social complexity arose by providing revolutionary new understandings of social inequality and sociopolitical evolution.

As mentioned, many previous attempts to understand the evolution of social complexity are limited in terms of their effectiveness by their narrow disciplinary and/or constricted geographical scope. However, the aforementioned *Pathways to Power: New Perspectives on the Emergence of Social Inequality* (Price and Feinman 2012) departs from that pattern by exploring the advent of social complexity from an ethnographically informed archaeological perspective.

This anthology builds on Price and Feinman's important work by expanding on the number of robust interdisciplinary offerings and significant theoretical contributions. Ultimately, this volume extends the geographical scope of the analysis to a global scale by way of the integration of case studies from Scandinavia, the plains of north-central Europe, Mesopotamia, eastern and southern Africa, interior China, Vietnam, New Guinea, the Eastern US and Southwest, Guatemala, central Mexico, north-central coastal Peru, and the Ecuadorian Amazon. In addition to the anthology's global coverage, this publication encompasses a broad chronical range as it will include case studies from Neolithic sites such as Göbekli Tepe (10th millennium BC) to chapters based on modern day ethnographic research among New Guinea and Amazonian tribal populations. Moreover, new sociological perspectives exploring how chiefdom and early state social structures resolve collective action problems are included in the volume. In sum, the aforementioned case studies and theoretical approaches are in turn predicated on revolutionary findings and applications not addressed in earlier treatments.

Overview of Chapters

Chapter 2 documents how war related social and ritual traits are common features in Bronze Age Scandinavian rock art. Warriors in staged scenes brandishing weapons in war canoes are a recurrent theme on petroglyphs. The rock art appears at the same time as the Scandinavian societies become engaged in the long distance trade of metal. Local warriors would have increasingly played an important role in the metal trade. Chiefly household investment in the maritime forces of production, ships and warriors, was therefore a crucial feature for the engagement in this kind of action. Thus, the ability to fund boat construction and crew ships provided a new control apparatus for maritime ventures based on ship ownership. This ability would have favored the rise of maritime chiefdoms in Scandinavia. Finally, the author argues that the act of carving ships onto stone served as a manifestation of the agency of individuals who operated in a maritime social world.

In Chap. 3, the author examines social dynamics in the north-central European plain, 500–1000 CE. His analysis is based on archaeological data on spatial distribution and hierarchy of settlements, emergence of defensive settlements, distinction in social statuses and concentration of power, and indirect evidence on group action, cooperation, management of common pool resources, and warfare. The key method employed is to assess changes in social complexity is to identify the density of networks of interdependence. The data suggest that the 500-year period comprised four phases of social change each of various duration and intensity. The author especially focuses on the characteristics of authority, which he views as a socially approved modes of governance ranging from a participatory polycentric to a centralized decision making scheme. In order to explain his findings, the author introduces a concept that refers to governance and levels of its organization. The rule systems of governments are commonly viewed as structures, whereas governance relates to transient social functions or processes. Rule systems whether formal or informal constitute spheres of authority (SoA) in order to generate compliance within territorial organizations of different scale. What follows is a conceptualization that affairs of social complexities are governed by a bifurcated arrangement: the centralized and structured government system, and a multicentric system of diverse types of collectivities that constitute a complementary source of authority with actors that cooperate, or sometimes compete, but who constantly interact with each other.

Chapter 4 explores why social inequality is a feature of so many societies. Every generation of archaeologists has sought to understand the transformation from egalitarian bands to today's world of "savage inequalities." In this chapter, the authors draw from recent archaeological research in Eastern and Southern Africa to explain the emergence of socially and politically hierarchical chiefdoms, polities, and states. They identify three main sources of social power: trade, investment in extractive technologies, and elite monopolization of wealth-creating resources. Along the East African Coast, the authors find that autonomous city-states developed there on local, regional, and trans-continental scales because of Indian Ocean

trade. In spite of the wealth the Swahili elites amassed, their city-states remained independent. In Southern Africa, the Southern Zambezian Culture developed similar political formations, but in this highland fertile plain some polities were able to extend their political control over larger geographical areas. Like the Swahili, Zimbabwe elites became wealthy through trade, taking tribute from foot caravans of gold and ivory bound for the southern Swahili Coast. In the case of Zimbabwe, militarism was a second strategy for the consolidation of power over the geography of these trade conduits. Studying the evolution of social complexity among the Swahili city-states and the Zimbabwe Plateau demonstrates that trade and militarism were sources of political power for African elites, as they were in other parts of the ancient world. The authors discuss the impact of these findings in understanding today's dilemmas of power and inequality.

As is pointed out in Chap. 5, early Neolithic social complexity is a topic much discussed but still under-researched. The present chapter explores the possible role of feasting in the emergence of social complexity, hierarchical societies and the shift to the Neolithic way of life in Upper Mesopotamia. This region has long been placed at the periphery of the area relevant for crucial steps in Neolithization. However, the hill sanctuary of Göbekli Tepe is a site that challenges many traditional assumptions. There, large circle-like enclosures made up of often richly decorated T-shaped pillars of up to 5.5 m in height were erected during the Pre-Pottery Neolithic A (10th millennium BC), followed by smaller rectangular pillar-buildings throughout the early and middle Pre-Pottery Neolithic B (9th millennium BC). Vast evidence for feasting at the site seems to hint at work feasts to accomplish the common, religiously motivated task of constructing these enclosures. Given the significant amount of time, labor, and skilled craftsmanship invested, and as elements of Göbekli Tepe's material culture can be found around it in a radius of roughly 200 km all over Upper Mesopotamia, it is likely that the site was the cultic center of transegalitarian groups. Access to and command of knowledge crucial to the society's identity and well-being may have served as a social barrier hindering individuals to step outside of the given limits, while being the basis for power over the work-force of others for a restricted group of people. Social hierarchization seems to emerge already in the PPN A of Upper Mesopotamia, earlier than hitherto thought, and maybe also earlier than in the Southern Levant, a region long thought to be the cradle of the new, Neolithic way of life.

Chapter 6 documents the longstanding social stratification among the pre-1956 Yi societies in Liangshan, China. The Zimo, Nuohuo, Qunuo, Anjia, and Gaxi were the five main social classes of pre-1956 Yi society. The Zimo and Nuohuo were the first and second highest classes of people possessing major basic resources necessary for survival, the majority of the Qunuo were the people protected by Zimo or Nuohuo, and the Anjia and Gaxi were enslaved. This kind of social stratification was a result of more than 1000 years of evolution. Among the Zimo were Tusis who were hereditary chiefs that had been granted official posts by the imperial courts of China. Beginning in the middle of the Ming Dynasty, most Tusis were gradually expelled from Liangshan by the Nuohuo. Subsequently, the social order

in most parts of Liangshan was maintained by the combined principles of egalitarian society and complex society. No permanent leaders, no centralized leadership, all members of the same class, same gender and same age, were equal to each other. Such rigidly hierarchical and highly stratified societies that also practiced principles of egalitarianism are not effectively explained by the contemporary leading theories of social evolution.

Using a case study from prehistoric northern Vietnam, Chap. 7 explores the relationship between sociopolitical change and leadership strategies related to competition, militarism, and ideological influence. Archaeological researchers have long contemplated the origins of ancient states, and ongoing research has produced numerous theoretical explanations accounting for archaic state formation. Although the array of cases from varied geographic and temporal settings reflects localized, historical particularities and cultural variability, many researchers have noted general patterning and commonalities in contributing factors for political centralization. Garnering much scholarly attention is the phenomenon of warfare, along with attendant cultural practices related to coercion. A central question has centered on the relationship between coercive power and the political consolidation of persistent authority inherent to states. The case elucidates how coercive power was a vital and pivotal component of a sociopolitically transformative process, one which resulted in the establishment of permanent and institutionalized forms of political authority in Vietnam's Red River delta over two thousand years ago. Specifically, this chapter deals with archaeological and textual data related to the Co Loa settlement, located in the Red River delta near present-day Hanoi. According to a mixture of folklore and textual accounts, the heavily fortified city was purportedly founded by the semi-legendary kingdom of Au Lac during the third century BC.

Chapter 8 documents how different forms of leadership in New Guinea spanned a political spectrum from egalitarian forager bands through trans-egalitarian cultivators to petty chiefdom fisher-foragers. Drawing comparative data from 92 of these communities, this chapter finds that emergent political complexity in small-scale societies is primarily driven by male status competition. Although the forms of this competition were varied, the most important were warfare and material display (the conspicuous distribution of material goods). Warfare was by far the more common and highly valued source of male status, a function of the chronic military threat to which New Guineans were exposed. At population densities above about 20–25 people/square km, however, material display—the political hallmark of the classic Big-man—became increasingly prevalent and important as an avenue to status, a function of the unusual relationship between status and power in these societies. Material displays were a means of demonstrating in concrete form individual and collective power. In competing to outdo one another's material displays, however, Big-men and their groups were competing for status not power. This circumstance explains why the emergence of material display as a channel of status competition depended on rising population density. In small-scale communities, the ability to amass power depends heavily on density. At low densities, this ability is constrained, limiting the importance of material distribution as a mode of status competition. As densities rise, however,

these constraints erode until, at a threshold of around 50–55 people/square km, power—manifest in material displays—becomes the main channel of status competition.

Chapter 9 traces how individuals operating in egalitarian settings are granted high status and how this incipient social inequality facilitates collective action. The first case study outlines the strategy that Tibenuk, a Western Dani man pursued in order to attain big man status. The second case documents how Chuji, a high status Achuar (Shiwiar) man used his recognized elevated social standing to decisively and effectively coordinate collective action in a time of crisis. Findings support the "Status Theory of Collective Action" (Willer 2009) which contends that status allocation motivates individuals to solve collective action problems.

Chapter 10 explores the relationship between architecture, community organization, and leadership. The last decade of research has revealed that the earliest "great houses" are found not in the Chaco region, but instead within the centers of ninth century Mesa Verde villages to the north. The communities focused on these first great houses proved to be politically, economically, and demographically unstable and failed by the early tenth century. Significant declines in Mesa Verde regional population beginning by A.D. 880 and continuing through 940 appear to have contributed to demographic growth in the Chaco region and the emergence of a "second generation" of great houses. The design of these later tenth century great houses is a hybrid model of two distinct patterns of community organization and leadership found in the earlier Mesa Verde villages. These later great house communities appear to have combined the "mechanical" solidarity of kinship and dual organization ties of local communities with the more "organic" solidarity of ritual and economic leadership at a regional level (Durkheim 1964). Symbols representing these leaders or their great house societies can be seen in tenth- and eleventh-century rock art at key points on the landscape. These portrayals and the long lives of these great houses suggest a more resilient system.

Chapter 11 demonstrates how the development of social complexity in Eastern North America occurred within a diverse array of historical trajectories, and was shaped by many factors, of which feasting, famine, and fighting played important roles. When initial settlement took place is unknown, but sites and artifacts of the Clovis culture occur widely by ca. 13,000 cal year BP. Cemeteries and hypertrophic artifacts appear soon thereafter in the Dalton culture of the Central Mississippi Valley, the first of many archaeological cultures characterized by evidence for periodic aggregation, elaborate ceremony, feasting behavior, and monumentality, which while intermittent early on become widespread after ca. 6000 cal year BP. Famines, or extended periods of subsistence resource shortfall, were likely an ever present concern, but skeletal evidence for major episodes of dietary-induced stress does not appear until the mid-Holocene and after, although prior to that time skeletal samples are small. Fighting or conflict between groups also dates to the mid-Holocene and after, reaching endemic proportions during some periods and much reduced during others, patterning tied to the stability of food resources, the distribution and packing of people on the landscape, and the importance of warfare as a means of enhancing prestige, all of which varied over

time. While the independent domestication of indigenous plant species occurred in the later Holocene, and exogenous species like maize were adopted soon after, in many areas hunting and gathering wild resources continued to dominate subsistence, including items used in social display and feasting, and in storage to reduce the likelihood of famine. Throughout prehistory, settlement and population change was characterized by local as well as larger scale fluctuations, with major concentrations of people in some areas and times, and decreases or abandonments over large areas at others. Formalized warfare on a large scale resulting in the destruction of whole communities is documented in the centuries immediately before Contact, a period characterized by the widespread occurrence of fortifications and defensive settlement postures, and skeletons exhibiting weapons trauma. Changes observed in the Fort Ancient culture illustrates how these developments played out in the upper Midwest, highlighting the importance of examining specific sequences.

Chapter 12 documents how archaeological investigations in northern Guatemala have provided a strong record of the origins, dynamics, and collapse of social, political, and economic complexity in the Preclassic periods of Maya civilization. Extensive isotope, pollen, and phytolith analyses have indicated that the marsh regions of the Mirador Basin provided the economic engines that gave rise to the cultural sophistication through abundant natural resources and agricultural exploitation. Sophisticated terrace systems provided rich agricultural productivity that allowed population growth, ideological solidarity, and economic prosperity which fueled a rapid and dynamic cultural florescence during the Middle and Late Preclassic periods of Maya civilization (ca. 1000 BC–AD 150). This trajectory however, led to a conspicuous consumption of resources which blinded the societies (or their leadership) to the abuses of labor, environment, and productivity by rampant and unnecessary use of resources, environmental degradation, an ascribed elite formation and the burdens of an increasing top-heavy administrative bureaucracy. The stresses on societies, which apparently were inclusive of, and exacerbated by, excessive erosion, droughts and periods of dessication, as well as associated social upheavals led to a posture of militaristic behavior, indicative of predatory, symptomatic conflict. The combination of these factors generated the "perfect storm" which ultimately resulted in demographic collapse.

Chapter 13 demonstrates that, despite its longstanding preeminence as one of the earliest, largest, and most complex urban centers of highland Mexico, Teotihuacan's pan-regional impact on Mesoamerica remains the subject of intense debate and conflicting models centering on the rise of social complexity in the American hemisphere. Therefore, this study seeks to address the interplay and operationalization of resource concentration, multiethnic mosaics, and corporate interaction and inter-elite conflict within and beyond the context of the preindustrial metropolis of Teotihuacan. Findings from this review predictably indicate that the ancient highland polity was borne of but one of a host of Late Formative compound chiefdoms situated in the Basin of Mexico, albeit on a semiarid plain that necessitated the formation of an incipient managerial elite devoted to the management of the region's hydraulic resources. While water management per se may be construed an initial stimulus to the formation of sociopolitical complexity in the highlands, the

authors contend that this fact alone did not distinguish Teotihuacan, or for that matter, render it a competitive advantage over other early polities of the region. Its uniqueness, they argue, was borne of (a) its strategic location proximate to both major obsidian deposits and a highland transport network to the Gulf lowlands, (b) a pattern of recurrent demographic restructuring occasioned by the cataclysmic eruptions of Popocatépetl, Malinche, and Xitle, (c) the formation of multiethnic mosaics and foreign enclaves both within and beyond the metropolis as a result of the two foregoing conditions, and by extension, (d) the emergence of multiethnic corporate groups dedicated to commerce and industry centered on Teotihuacan. In an effort to fully interrogate the extant evidence for the evolution of social complexity in the Basin of Mexico, the authors extend the analysis to those findings bearing on the troubled times of the Late Middle Classic/Epiclassic decline, collapse, and destruction of the ancient metropolis and its far flung outposts. In the final analysis, a review of that evidence bearing on the question of what ultimately became of Teotihuacan in the wake of its disintegration reveals a pattern of escalating internal conflict, militarization, and a balkanization and recapitulation of the constituent multiethnic mosaics that defined the cosmopolitan and multicultural origins of the metropolis from the outset.

Chapter 14 documents how over the last 20 years, archaeological research in the Central Andes has identified the north-central coast of Peru as an epicenter of early social complexity. Over the course of the Late Archaic Period (3000–1800 BC), a stretch of the north-central Peruvian coast known locally as the Norte Chico ("Little North") witnessed the transition from relatively simple forms of sociopolitical organization to more complex ones. During this time, groups both on the coast and in the highlands underwent a transition from mobile hunting, fishing, and gathering to a sedentary lifestyle in which they established permanent villages. Plant domestication intensified as irrigation agriculture assumed greater importance as a subsistence practice. The most dramatic cultural transformation of the Late Archaic Period, and most conspicuous from an archaeological perspective, was the construction of monumental architecture. The Late Archaic occupation in the Norte Chico region was the focus of a major cultural florescence that consisted of at least 30 sites with large-scale ceremonial structures. This chapter explores the various models that have been proposed to explain these cultural developments and ultimately posits that religion played a major role in the establishment of social complexity in the Central Andes during the Late Archaic Period.

Chapter 15 explores how chiefdom and early state social structures resolve collective action problems. Solutions to problems of collective action are two-fold; incentive systems discourage free-riding and encourage individuals to act and organization combines individuals' acts. Broadly stated, the authors argue that influence and power, once organized into the hands of one or a small subgroup of individuals, can be used to administer incentive systems that motivate others in the community to act. Those incentive systems, in turn, shape collective activities such as warfare and defense. Drawing on experimentally grounded theory in sociology, we model forms of social organization and discuss the relation of each to collective action. In particular, the authors argue that simple chiefdoms solve problems of

collective action through the well-ordered influence relations in their status lineage structures, while coercive chiefdoms, to the same purpose, exercise power through threat of force. As in coercive chiefdoms, early states solve collective action problems through coercive relations but, where chiefs coerce only directly, heads of territorial states use bureaucratic systems of administration to exercise coercive power over vast geographic and social distances.

In Chap. 16, Carneiro traces the development of the notion that the evolution of social complexity can be studied from a scientific perspective. This is achieved by the brief analysis of the contributions that several key figures made towards furthering our understanding of social evolution (individuals such as Giambattista Vico, Jules Michelet, Herbert Spencer, Thomas Henry Huxley, and Leslie White). Second, the author proceeds to analyze and make comments on selected chapters from the present edited volume.

In Chap. 17, Feinman points out that humans have the remarkable ability to cooperate in large aggregations and networks, but the forms that such sociality takes are highly variable. Likewise, human cooperation is neither unconditional nor unchanging, but rather contingent. Given these complexities, social scientists have argued and puzzled for centuries concerning the best ways to account for human cooperation, often carving out discrete disciplinary niches and lenses that inhibit dialogue across the geographic, temporal, and empirical contexts that they each endeavor to understand. Here, transdisciplinary, multiscalar frames that draw from a range of academic fields are advanced to guide exploration of comparative dynamics and variability in human cooperative formations. Most specifically, empirically grounded models of collective action are employed as a basis to compare and contrast the suite of cases presented in this volume.

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Chapter 2
Violence, Warriors, and Rock Art in Bronze Age Scandinavia

Johan Ling and Per Cornell

Introduction

Scandinavian figurative rock art from the Bronze Age 1700–500 BC, is highly evocative, and it is therefore not surprising that this prehistoric manifestation has inspired a variability of interpretations over the years (Almgren 1927; Coles 2005; Goldhan and Ling 2013) (Fig. 2.1). Broadly speaking, the rock art may be seen as a selection of images that represent social and ritual actions, and/or positions, but also cosmological features and beings (Fig. 2.2 cf. Kaul 1998; Goldhan and Ling 2013). Some compositions may be regarded as episodic, others rhapsodic, performed in a varied and ambiguous way. Mobility and conflict seem to go hand in hand, with highly ritualized scenes or compositions. Moreover, Scandinavian Bronze Age (1700–500 BC) rock art includes many depictions of violence, fighting, and warriors. There are staged fights in boats, combat scenes on the ground, but also some scenes depict the act of killing (Fig. 2.3). The war-related figurative rock art seems to correspond to theatre/performance and showing-off, but is also, thus, related to actual violence and war. Advertising is an important strategy in warfare

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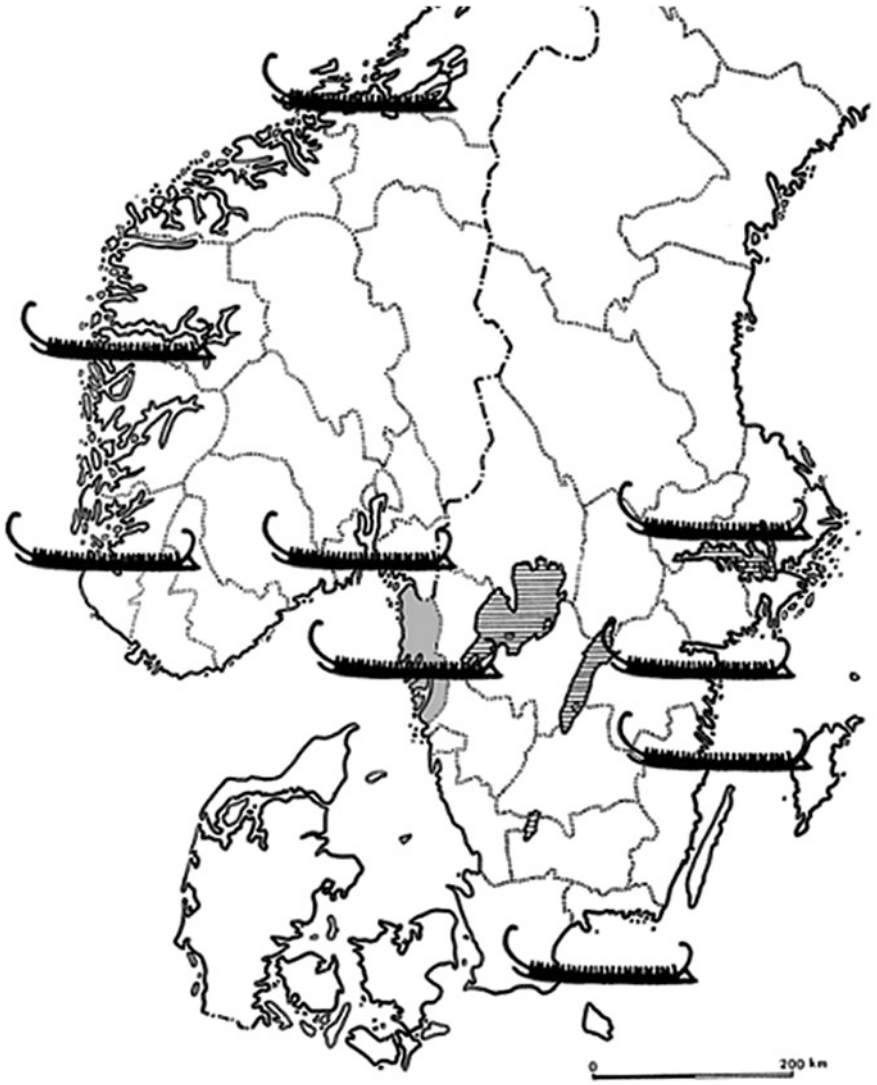

Fig. 2.1 The regions with rock art discussed in this chapter. 1—Bohuslän and Östfold, 2—Scania, 3—Norrköping, 4—Uppland

(Ling and Cornell 2010) and it is tempting to see the depicted warriors on the rock art as a manifestation of this strategy. A noteworthy fact is that there is no other Bronze Age region in Europe where the image of violence is so pronounced. Most of the scenes could be related to two separate chronological phases in the Bronze Age, namely period II (1500–1300 BC) and V (900–700 BC) (see Ling and Cornell 2015) and it is notable that this correlation to peaks with the amount of bronze

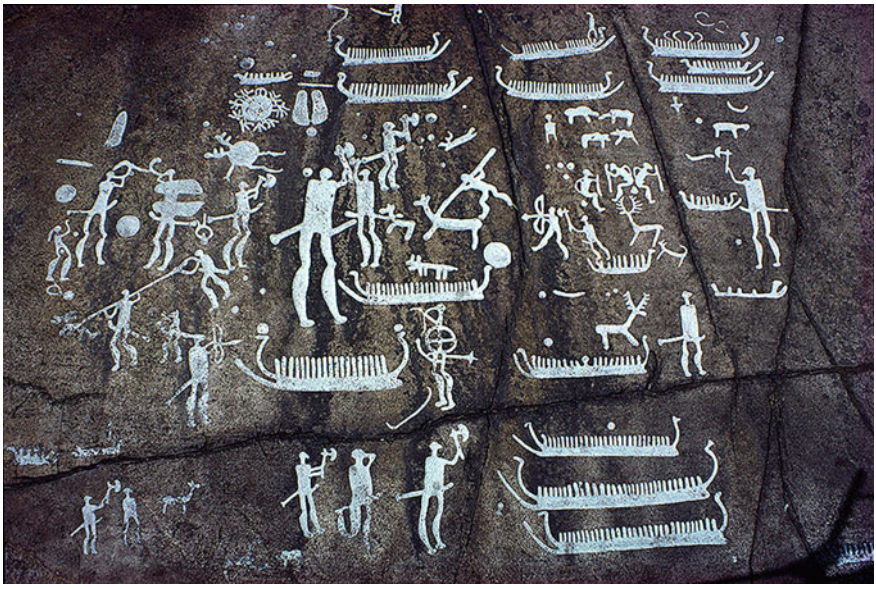

Fig. 2.2 Rock art site at Tanum showing warriors and ships along with a variability of social and ritual representations. Tanums. Hällristningsmuseum Underslös. *Source* SHFA

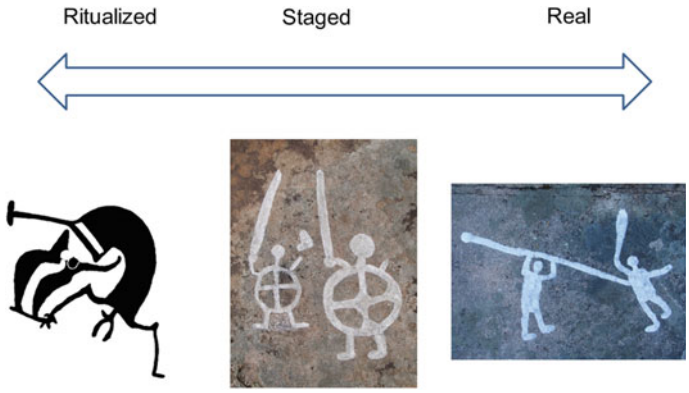

Fig. 2.3 The social spectra of depicted warriors on the rocks, from ritualized to realistic. Photos by A. Toreld. Documentation by Stiftelsen för dokumentation av Bohusläns hällristningar. *Source* SHFA

metals in Southern Scandinavia.[1] The figurative rock art seems to represent a wide social spectrum of idealized items themes and actions. Some of the figurative depictions seem to articulate more social features while others more ritualistic and staged features of society (for a more thorough commentary on this, see Cornell and Ling 2010; Ling 2008: 178). Thus, we include the whole spectra, from ritual, staged to realistic, when discussing the act and significance of depicting war-related social phenomena on the rocks. Moreover, one important strand we wish to highlight is the active and intentional dimension of depicting antagonistic elements in rock art.

Rock Art, Economy, and Society in the Bronze Age (BA)

It is important to stress that the war-related figurative rock art rock art appear and vanish with the Bronze Age (BA) . There are, interestingly, no war related figurative rock from the Neolithic era (4300–1700 BC) in Scandinavia. The presence of violence is, probably related to the Bronze Age society's investments in long distance trade that in turn, bolstered a pronounced general social inequality (Vandkilde 2006; Ling 2008; Earle and Kristiansen 2010). Thus, the major difference between the economy and social organization during the Neolithic versus the Bronze Age in Scandinavia was that elite Bronze Age households started to invest in the Maritime forces of production,—relations of production and long distance trade (Earle 2002). This investment led to an expansion of certain households and thereby to a more pronounced social inequality. The investment in maritime trade could be seen as a general feature for the coastal regions in Bronze Age Europe. Thus, the investment in Maritime ventures—long distance exchange and—praxis, constituted the general trends that differentiated the Bronze Age (BA) societies from the Neolithic social formations, and these developments also fomented social complexity.

The shift from the Neolithic to the BA was a profound structural transformation based on a changing political economy (Kristiansen and Earle 2014). Large-scale trade in metals and other forms of wealth across Europe developed in the Bronze Age. In simple terms, the BA witnessed an emergence of social stratification based on elite control over long distance trade (Earle 2002). This new situation lead to the rise of so-called individualizing stratified societies and organized polities (Kristiansen and Larsson 2005; cf. Renfrew 1984).

Fundamental to this transformation was the investment in long distance trade and advantages of maritime interaction and exchange created in turn, the comparative advantage for maritime chiefdoms based on specialized boat building and knowledge, strategic locations with respect to trade, and warriors to protect

[1]The Nordic Bronze Age is divided in 6 phases; Period 1: 1700–1500 BC, Period 2: 1500–1300 BC, Period 3: 1300–1100 BC, Period 4: 1100–900 BC, Period 5: 900–700 BC, and Period 6: 700–500 BC (see Ling 2008).

shipping (Rowlands and Ling 2013). This would have favoured "trading chiefdoms" of Scandinavia and the Atlantic. Similar developments of maritime long-distance trade were contributing factors to the emergence of Aegean city-states (Earle 2002). However, it is important to stress that the social forms differed between these societies, but the material evidence also shows that these maritime polities formed networks that extended across distances, intertwined by competition and cooperation.

The palpable maritime sphere corresponds to a kind of ideology which became one of the major cornerstones for the Nordic Bronze Age, grounded in a maritime reality (Rowlands and Ling 2013) with an emphasis on building and crewing ships for maritime activities, including trading, raiding, and warfare (Fig. 2.4). A special fraction of Bronze Age Scandinavian society was involved in maritime long distance trade, travel, and warfare. The Scandinavian Rock art shows many features that could be related to this praxis. For instance, the "warriors" depicted on the rocks are often accompanied by large ships, specific ritual gear, and other exotica indicating that this practice took place at a macro regional level, and it is in this light we can picture Scandinavian Bronze Age "warriorhood".

Scandinavia's dependence on metals during the Bronze Age triggered the need to participate in wider metal securing networks. Thus, the development of boat technology and maritime skills were of major importance for the rise of

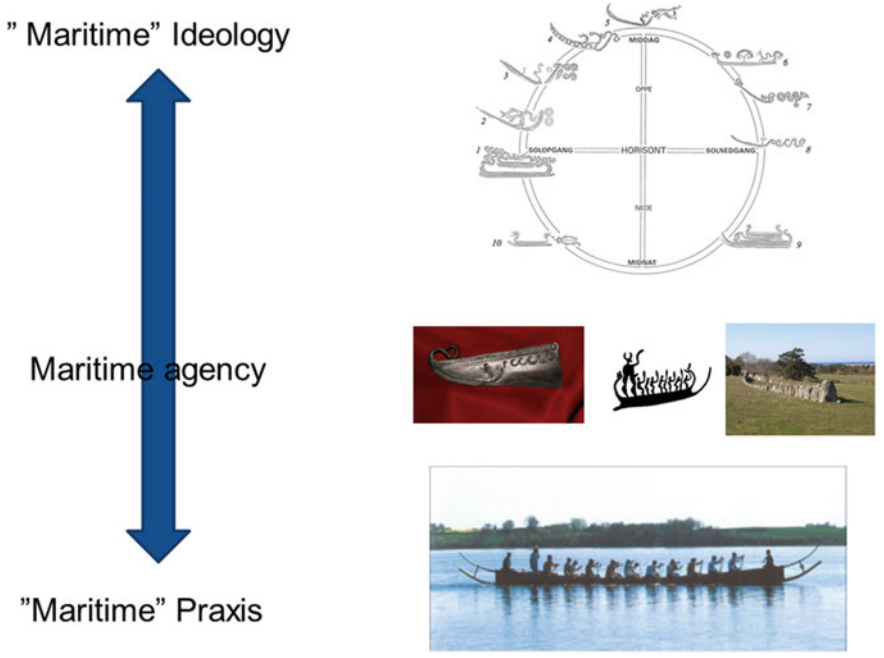

Fig. 2.4 Model of the Nordic maritime ideology, grounded in social action, so expressed in graves and bronze items

Scandinavian regional polities during the Bronze Age, not least with regard to the new role of exchange and trade (Earle and Kristiansen 2010: 226–230).

On basis of the control of the metal trade, a mutual dependence was established between two spheres of production, the agro-pastoral (already established during the Neolithic) and the "new" maritime sphere of production, but perhaps also including or articulating with other spheres. We thus suggest the possibility of the existence of different socio-economic spheres, in particular, an agricultural/pastoral sphere and a maritime sphere. Thus, it is not farfetched to envision the gradual emergence of at least two distinct modes of production, which articulated with each other; one agricultural/pastoral and a maritime mode. The spatial distribution of large and independent households in the southern Scandinavian landscape was characteristic of the decentralized political economy during the Bronze Age (Kristiansen 1998; Earle 2002; cf. Holst et al. 2013). Kristiansen describes this as follows:

> Chiefdoms, or rather clusters of chiefdoms, are reflected in localised style variations and in metalwork… These stylistic regions are approximately 500–1000 km^2, 20–40 km across, normally with one or a few central places… Within this region, local settlement units (individual chiefdoms) are defined by clusters of barrows typically only a few kilometres across (Kristiansen 1998: 27).

The interaction between highly varied regions in terms of environment, production, skills, and socio-economic and political settings was key since it slowly created a rationale for specializing in production. For instance, many of the coastal areas with rock art had access to timber, a feature that was scarce and lacking in the deforested agro-pastoral regions. The coastal areas also benefitted from the knowledge of the sea and transportation on water (Fig. 2.1). Areas with agricultural surpluses are associated with barrows and large bronze hoards (Holst et al. 2013), and these regions are also known for the large amounts of deposited metal in funerary contexts (thus ending the exchange cycle of metals). The coastal regions of Sweden and Norway were deeply involved in building, crewing ships and creating and maintaining maritime institutions, manifested by rock art, cairns, and ship-shaped graves (Ling 2008). This maritime sphere was more fragile, but probably also more dynamic, due to the instability of the sources of exchange, i.e. amber, metals, and other products (Ling 2008).

Rock art, burials, and metal hoards indicate that Scandinavian Bronze Age societies were socially stratified and were based on a decentralized socio-political organization (Kristiansen and Earle 2014). Population estimates and dating of non-excavated burials is tricky, but it has been suggested that only a limited number, about 15–20% of the population, was buried with several exquisitely produced bronze artefacts and in monumental settings (Holst et al. 2013). Indications of social inequality are also very pronounced in Scandinavian Bronze Age Rock art. The clearest examples depict enlarged warriors together with numerous smaller anonymous "collective" oarsmen. This representation strongly indicates that certain individuals in society controlled the ships and thereby the maritime trade (Ling 2008: 202 ff., Fig. 2.5). The location of the Scandinavian rock

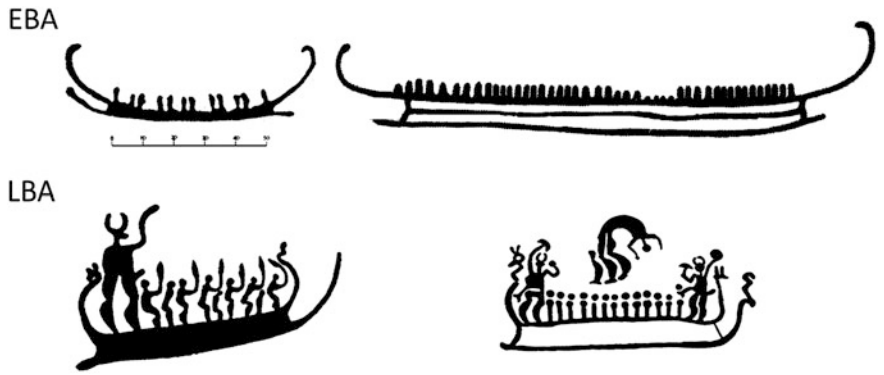

Fig. 2.5 The ship as a social context for the display of social positions and social inequality on the rocks (after Ling 2008)

art and burial cairns reflect the decentralized societal organization of Scandinavian costal societies during the Bronze Age. In other regions, barrows and metal hoards seem to have had a similar key function (Kristiansen 1998). The actual workings of this socio-economic process are still largely unknown, along with the differences between groups and regions that are of key importance. Just to mention some elements, the maritime factor is stronger in certain areas, while the agro-pastoral factor has a stronger presence in others. Still, both of these elements were necessary to create the Scandinavian metal-oriented economy.

The engagement with the metal trade throughout southern Scandinavia involved ownership of land for the production of cattle, possession of seagoing ships and amber for export production. In short, during the Scandinavian BA, individual households possessing substantial agro-pastoral resources invested in the maritime forces of production. These investments allowed said households to accumulate wealth and eventually, political power.

Regions and Chronology

In modern day southern Scandinavia, localities with high incidences of rock art depicting warriors and weapons were generally located in coastal areas. Areas of particular interest are the west coast of Sweden and east coast of Norway, Norrköping and Uppland areas in eastern Sweden and Scania in the south east (see Fig. 2.1).[2] These areas share certain traits in terms of the setting of the rock art in

[2]The Scandinavian landscape has been transformed by shore displacement. This displacement is why many rock art sites (which are found inland today) were located along the coast during the Bronze Age.

the landscape (Fredell 2003; Ling 2013). They were all, in the Bronze Age, in different ways, linked to water, the coast, and waterways. The Bohuslän region faced the North Sea, while Scania, Uppland faced the Baltic and even Norrköping was linked directly to the Baltic Sea. Regarding the dating of rock art, various techniques have been used over the years (Kaul 1998; Ling 2008, 2013). The most recent contribution of typological dating of rock art is Flemming Kaul's comparative study of ships on bronzes and on rocks. His comprehensive approach has been endorsed and cited by a number of scholars (Kaul 1998). The other major method focused on shore line dating and the context of the rock art panels in the landscape (Ling 2008) (Fig. 2.6). The basis of this chronology was premised on the elevation of the ship types in relation to shore displacement. However, it should be stressed that these two methods complement each other and that Scandinavian scholars are in general agreement with regards to BA chronology.

Turning to the topic of depicted warriors on the rocks, the first known representations of warriors are from about 1500–1400 BC (Ling 2008). These military depictions become more accentuated in the following periods and reach a peak during period V (900–700 BC). Warriors are also represented during the Pre-Roman Iron Age (PRIA), until 300 BC (Ling 2008).

In terms of chronology, specific regions show a higher frequency of depicted warriors and weapons from certain periods than others. For instance, in the Norrköping area there is a very clear dominance of panels with representations of weapons, warriors, and ships that could be related to period II (1500–1300 BC) (Nordén 1925; Fredell 2003). This is also the case in Uppland, even if the depictions of weapons and warriors are less frequent than in Norrköping (Ling 2013). Along the west coast of Sweden, depictions of warriors from period II are present at many places but not as frequent as the scenes from period V (Ling 2008). Interestingly, however, are the recent discoveries of sword wielders represented in rock art along the west coast of Sweden dating to period II (Toreld 2012). Regardless of region, it is, however, notable that a high percentage of the figurative scenes of warriors and/or weapons can be dated either to the Nordic Bronze Age period II (1500–1300 BC) or to period V (900–700 BC (Ling 2008, 2013). These are also the phases when the greatest amounts of metals were in circulation in Scandinavia. Moreover, during these phases, Scandinavian societies were involved in long distance trade.

The strategically accessible locations of the rock art, from a maritime perspective, may suggest that warriors from larger areas and from different polities could have interacted at these sites. Several of the coastal rock art locations could have worked as arenas for metal distribution in southern Scandinavia. These locations could have functioned as "aggregation" sites for groups with mobile occupations such as travellers/warriors/traders, and also for sedentary inland populations (Fig. 2.1). In light of the strategic maritime positioning of rock art, it is intriguing to see that new metal analyses indicate that Scandinavian societies were connected to sources of metal from various regions of Europe (Ling et al. 2014). Thus, the fighters and warriors depicted on the rocks in these regions may then represent agents engaged in this particular praxis in this part of Scandinavia during the Bronze Age. It is notable

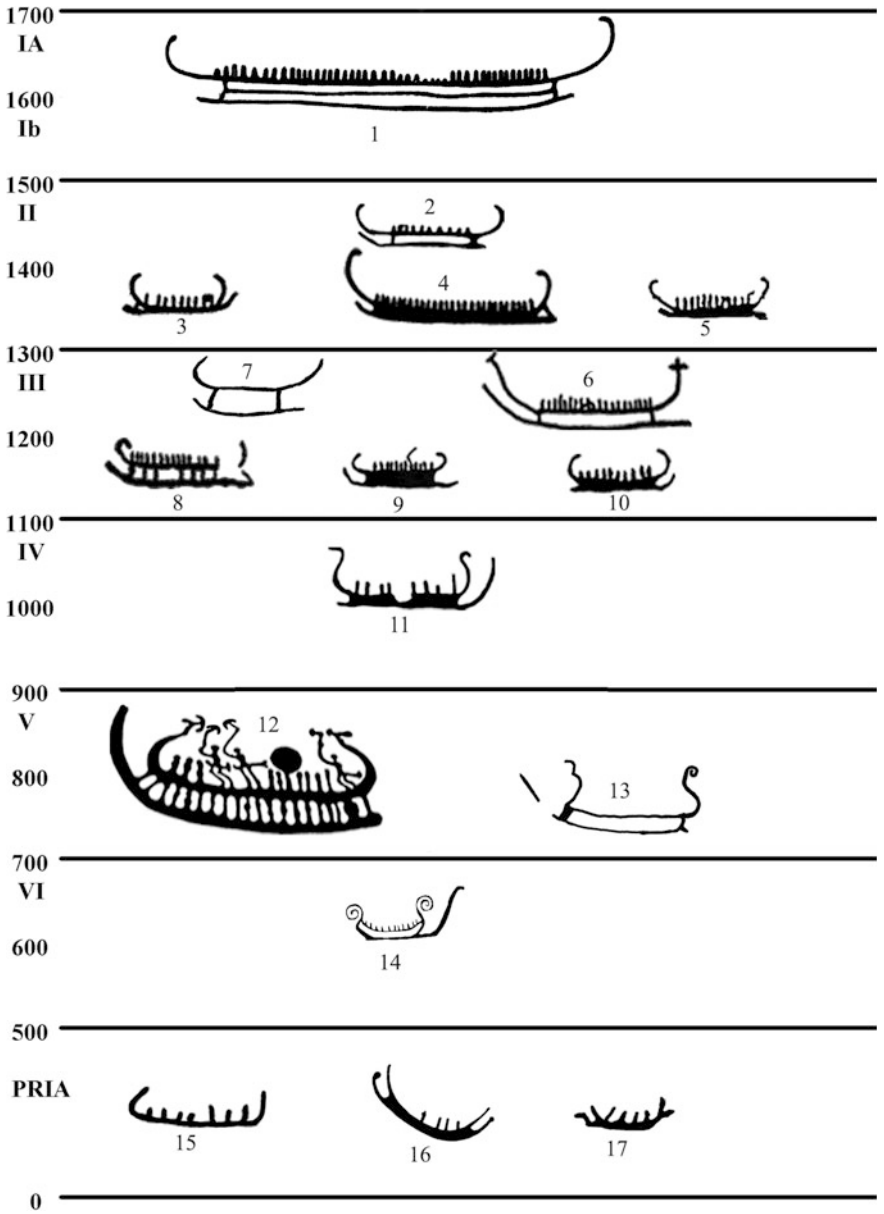

Fig. 2.6 Ship chronology based on shore displacement. Ship images with inward turning prows dominated during the Early Bronze Age, 1700–1100 BC, while outward turning prows terminating in animal heads characterized the Late Bronze Age, 1100–500 BC, also symmetrical ship images of the Pre-Roman Iron Age, 500–200 BC (after Ling 2008)

that a high percentage of these figurative scenes can be dated to the Nordic Bronze Age period II and V respectively. It is also notable that this correlation is associated with peaks in the amount of metals in southern Scandinavia that correspond to these periods (Kristiansen 1998; Ling and Cornell 2015).

Images of Violence, Warfare, and Weapons

In combat scenes the most frequent weapons depicted are axes, clubs, spears, and bows, but swords, slings, and other weapons also appear on some rock panels (Nordbladh 1989; Harding 2007). The outcome of a fight is seldom depicted, rather a staged encounter with two opponents aiming spears, axes, bows, and in some cases raising swords against each other is more common. However, there are relatively few scenes in which the outcome of the fight is evident.

The depicted weapons on the rocks indicate that the raw material for the making of weapons varied (Harding 2007). Metal weapons are frequently depicted but weapons made from stone and/or wood are also represented on rock panels. In terms of armour, shields are frequently depicted in rock art (Fig. 2.7). Traditionally, these shield bearers have been associated with Late Bronze Age contexts (Coles 2005). However, recent chronological research on shield bearers adjacent to rock art depicting ships indicates a dating to period II (Ling 2013). Additionally, recent discoveries of panels with shield bearing sword wielders dated to period II–III (Ling and Cornell 2015). This indicates that shields could have been used during a major part of the Bronze Age, as was the case in Ireland (Harrison 2004).

Throughout Scandinavia, swords are very rarely depicted in an active fashion. Generally, these weapons hang passively on the warrior's hip. However, panels showing sword wielders were recently discovered in western Sweden (Toreld 2012;

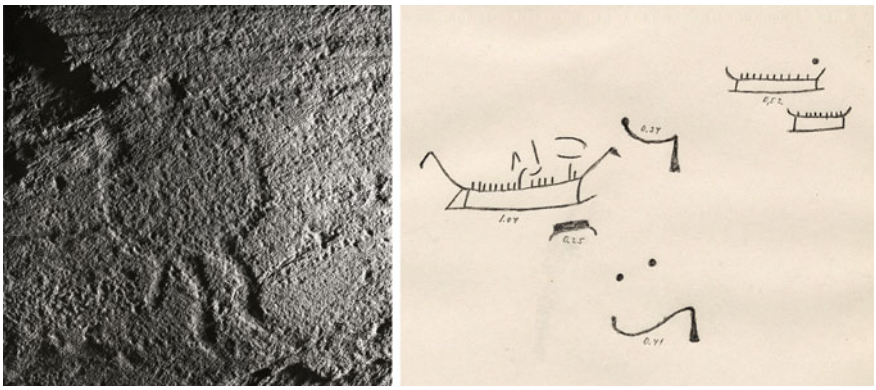

Fig. 2.7 Weapons and armour made out of metal, stone, or wood depicted on the rocks. Documentation by Stiftelsen för dokumentation av Bohusläns hällristningar. *Source* SHFA

Ling and Cornell 2015). Full-scale depictions of bronze weapons such as swords, palstaves and flanges, and or ceremonial axes are quite common in Norrköping, Uppland (Fig. 2.8), and Scania. In general, this rock art dates to period II (Ling 2013). Examples of depictions of spears and swords from later phases in the Bronze Age are a common feature on the panels along the west coast of Sweden (Ling 2008).

It is important to keep in mind that the war-related theme is only one theme present in Scandinavian rock art. It is also relevant to think of the rock art as a biased depiction of society, not as an actual representation of it. The war-related figurative rock art seems to correspond to theatre/performance and showing-off, but is also related to actual violence and war (Ling and Cornell 2010) (Fig. 2.3). Among the warriors, within this category, there was social inequality and we would argue that the social position of the warrior was not fixed or set but had to be achieved in praxis through active performance. Advertising or showing-off were important strategies in this context and it is tempting to see the rock art as an instrument of this action (Ling and Cornell 2010). To use contemporary analogies, we can think of large military parades, and public demonstrations arranged by various branches of the armed forces. But there is also a potential of actual violence, an implicit threat in these depictions.

Pecking in the very particular medium of the durable rock was, in particular cases, used for strategic purposes as warfare. Prehistoric warfare has, although, been downplayed in rock-art research in favour of ritual aspects (Almgren 1927; Kaul 1998). It is, however, important to stress that the rock art displays certain generic features of Bronze Age warfare (Nordbladh 1989). These actions depicted were not far removed from daily life. They transmit evocative questions about life and death. Rock art imagery was not idyllic and pacific, but rather, it was the opposite. There seems to be a general consensus with regards to certain elements connoting the Bronze Age warrior (Kristiansen 1998; Osgood 1998; Harrison 2004; Vandkilde 2006; Molloy 2007). Looking at the Scandinavian rock art and its context, we identify the following traits: martial arts, the showman/sportsman,—traveller and—trader. These traits and occupations are very pronounced in Scandinavian Bronze

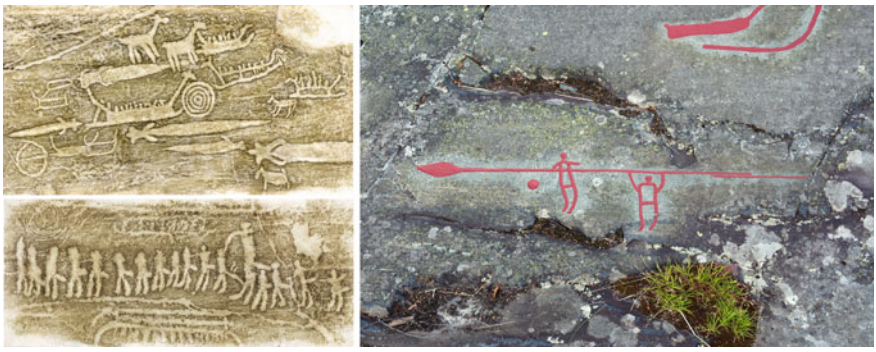

Fig. 2.8 Metal axes, spears, and ships from Early Bronze Age depicted in Uppland rock art. Photo and documentation by E. M. Kjellén. *Source* Ling 2013

Age rock art and also in Iberian rock art from this time period thus, indicating the presence of a strong warrior ethos within these societies (Fig. 2.9).

In this context, it is also important to stress that the Nordic Bronze Age is associated with an increased number of actual weapons along with a large number of rock art panels depicting conflict (Thrane 2006). Moreover, some of these Bronze Age weapons show clear traces of wear (Kristiansen 1984; Horn 2013). Small-scale raiding and armed clashes involving bloodshed and death were probably rather common during this time period (Thrane 2006). Recently, skeletal material indicating that large-scale violence and warfare took place in Bronze Age northern Europe was recovered in the Tollenze Valley of northern Germany (Jantzen et al. 2011). This evidence constitutes the most salient archaeological example of Bronze Age violence and killing on a massive scale in Northern Europe and the battle in the Tollenze Valley is likely to have included approximately 2000–5000 combatants (Jantzen et al. 2011).

It seems that a conflict between a Nordic faction and a Central European faction occurred at about 1300 BC at this location. It is important to stress that Scandinavian/Nordic Bronze Age was expanding southwards in Northern Germany during this particular phase and this may have fuelled this particular battle. Thus, in light of this archaeological evidence of warfare in the Bronze Age, it is not surprising to find innovative configurations on the rocks illustrating different scenes of conflict and fighting ranging from ritualistic to more realistic renderings.

Fig. 2.9 Typical features and actions that can be connected to Bronze Age warriorhood. Tanums. Hällristningsmuseum Underslös and SHFA. *Source* SHFA

The Maritime Factor

Most of the warrior and combat scenes represented on Scandinavian rock panels have been simultaneously pecked close or adjacent to depictions of ships indicating an association between warriors and watercraft. Moreover, a large percentage of these rock panels were also made close to the BA shoreline. This repetitive maritime pattern is very evident and should not be ignored, though many scholars have overlooked the depiction of warriors against the background of this maritime context (Nordbladh 1989; Ling and Cornell 2015). At present, archaeologists have not recovered any Bronze Age Scandinavian boats. However, most scholars recognize the great similarities between the Hjortspring boat, dated to 340 cal BC, and the Bronze Age boats depicted in rock art, indicating a long boat-building tradition in Scandinavia (Crumlin-Pedersen 2003; Kaul 1998).

The average Bronze Age ship, as inferred from rock art depictions, carried a crew of 7–20 which may support the theory of a local mode or tradition of building boats of a certain size during the Early Bronze Age–Late Bronze Age (EBA–LBA) (Ling 2008). Some images depict large ships with crews of up to 40–60 individuals. These types of watercraft were likely war canoes and/or ceremonial vessels used for specific maritime events (Fig. 2.10). Comparisons between archaeological and ethnographic data indicate that the large Bronze Age ship images depicting many crew members could have been based on actual ships (Ling 2008).

It appears that depictions of social inequality are very pronounced in rock art associated with ships. For example, some rock art shows enlarged warriors next to numerous smaller anonymous "collective" oarsmen. These oversized individuals are placed fore and aft in what seem to be commanding positions, often with weapons or other items aimed, directed at anonymous groups of oarsmen in the mid-section of the ship (Ling 2008: 202 ff.). This latter form of representation seems to indicate that certain individuals in society controlled the ships along with the maritime trade (Ling 2008: 202 ff.; cf. Hayden 1995).

In terms of maritime position, the southern part of Scandinavia, had a very strategic location and could have controlled the traffic along with the flow of metals from both the North Sea and the Baltic. The Danish isles held a favourable position in terms of metal supply coming through the riverine routes of the Oder and Vistula and overland routes from Central Europe. Moreover, all metal imported from the west had to pass Jutland. Therefore, the rise of power in northern Jutland during this period is understandable. According to recent analyses, a large percentage of EBA metal recovered in Sweden originated from sources in Central and Western Europe, such as the Alpine region, the British Isles, and Iberia (Ling et al. 2014). After the large expansion of metallurgy in the Nordic zone beginning in c. 1500 BC, most of the copper found in the artefacts analysed seems to have been channelled through a western "maritime route" that followed old Bell Beaker networks along the Atlantic

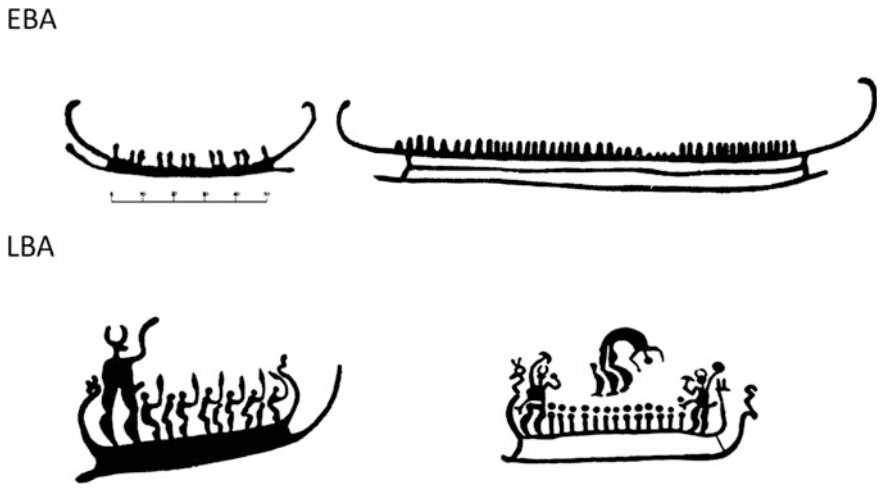

Fig. 2.10 Crewed ships from the EBA (*top*) and LBA (*bottom*). Documentation by T. Högberg and Milstreu, G. Tanums. Hällristningsmuseum Underslös. *Source* SHFA

seaboard (Ling et al. 2014).[3] Scandinavia's success in the "global" metal networks in the Bronze Age could broadly be explained by its strategic location, its unique socio-economic and political forms, and notably by the capacity of local elites to organize long distance maritime sea ventures. The products "exported" included, as mentioned above amber, furs, and hides.

Rock Art Social Positions and Maritime Agency

We will now introduce some theoretical aspects about the intentional dimension of depicting antagonistic elements. This is of importance, especially when discussing the act and significance of depicting war-related social phenomena in rock art.

We turn to the Anthropologist Alfred Gell, who argued against the conventional art history perspective which focused on symbolic meaning and aesthetic perceptions. In its place, Gell stressed and emphasized *agency, causation, result, and transformation.* For Gell, art was an active praxis intended to change the world. He further argued that humans use artefacts and images as forms of extended agency, in his terms as "secondary agents," and through these agents, humans accomplish their intentions/aspirations (Gell 1998). According to Gell, this secondary agency must

[3]Bell Beaker Culture dates from 2600–2200 BC. It was an expansive and technologically sophisticated society that engaged in long distance trade and introduced new knowledge and practices regarding warfare, metallurgy, and mining throughout the north Atlantic (Harrisson 2004).

always be understood in relation to human praxis. Thus, the material, the image, has no life of its own, and no ontology nor independent agency (Gell 1998; Osborne and Tanner 2007). Gell referred to the term "magic" when it comes to the intentions behind the artistic representation, as an active praxis for manipulating social positions and social actions in the landscape. Thus, magic, in contrast to religious ritual, is *intended* to alter and transform the social world and bring about some desired practical result without the interference of supernatural beings (Gell 1998). Or as Petrovic (2003: 16) puts it: "Magic denotes the belief in the individual's own powers, while religion shows a belief in beings with super-natural powers". In keeping with Gell and his emphasis on agency and transformation, Scandinavian rock art could have served to emphasize and proclaim the agency of the Bronze Age warriors of the region.

There are some other important social traits that should be highlighted in terms of the persona of a successful warrior/trader/traveller. First of all, the person in question is characterized by a high degree of social exposure due to his ambivalent social position (i.e. liminal state) in society. Thus, this means that the warrior must strive to attain a high social position. Advertising can serve as an important strategy in this context and it is tempting to see rock art as a manifestation of this strategy (cf. Harding 2007).

Furthermore, being a warrior in a maritime environment most likely would have involved various initiation rituals and preparations in connection to sea voyages. Seasonal occupations at sea must have contrasted starkly with land-based life and work. Seagoing men would have encountered a completely foreign world, filled with dangerous natural forces such as harsh weather, hazardous waves, rocks, and shoals (cf. Malinowski 1922; Ling 2008). However, this foreign world was also a world which offered great possibilities and hopes for success along with access to exotic items. In this context, to be successful, individuals needed to possess extraordinary discipline and navigational skills. Additionally, while at sea, individuals likely adhered to various norms and taboos so as to supernaturally protect themselves from hazardous waters (Ling 2008). Numerous anthropologists, ethnologists, and archaeologists have used concepts such as "rite de passage" and "taboo" to describe these types of behaviours at sea. Some general sociological phenomena may also be worth noting, such as special initiation rites, particular social and cognitive forms and norms of perceiving, acting, and communicating via various form of speech and/or body language (Westerdahl 2005; Ling 2008).

Thus, rituals conducted in preparation for sea voyaging may have been engaged in by the shore at three stages: (1) Before a journey (pre-liminal rites and rites of separation); (2) During a journey (liminal rites and rites of transition); (3) After a journey (post-liminal rites and rites of incorporation) (cf. Malinowski 1922; Gell 1998).

Among Trobriand Islanders, Malinowski distinguished two main driving forces behind the symbolic and magical behaviour connected with different stages and forms of maritime action (Malinowski 1922: 105). They are both of a rather rationalistic cognitive nature, namely the economic risk and the personal risk. These rites are conducted with the purpose of preventing negative events from taking

place while at sea. At the same time, these rituals serve to promote individual success along with collective action during the various stages of maritime activities. In fact, similar social preparations and initiations are often discussed in situations involving war (Vandkilde 2006; Harding 2007). In this context, apparently, social and ritual preparations are necessary in order to effectively confront the enemy.

Thus, being a maritime warrior in the BA required an understanding of a kind of double "magic" to be able to alter and transform the social world and bring about some desired practical results. The following points highlight some of the knowledge and skills that an initiated Bronze Age maritime warrior would have likely possessed.

- Navigation and ship propulsion
- Fighting skills
- Trade etiquette
- Knowledge about precious materials and craftsmanship
- Knowledge of customs, expressions and praxis of foreign societies

Bronze Age warriors possessing the aforementioned skills and knowledge, proceeded to create rock art. Most rock art is found in an open, accessible, coastal location which indicates that it is associated with a more open public social praxis and rituals than a "personal" praxis. In this respect, the rock art panels do not seem to provide the spatial, expressive or social conduct, or criteria of control and restricted access that chiefly agency demands. The placement of rock art seems to reflect a public rather than private intent. Bearing this in mind, it is tempting to associate rock art with more communal activities such as competitive feasting and marital initiation rites.

There are, however, other patterns indicating a more restricted agency regarding the production and viewing of rock art, such as the general maritime location and content along with the pervasive masculine representations with warrior attributes related or connected to ship images. About 90–95% of the human images depict masculine traits (Ling 2008). Therefore, some scholars suggest that the rock art could have been connected to male puberty rites (Goldhahn and Ling 2013). The stylistic representation of the male body and typical male warrior equipment suggest that the production of the rock art was closely connected with agencies and interactions involving masculine matters.

In terms of the rock art's location, structure, and content, the following characteristics are most prominent: There is a predominance of:

- panels found at coastal or maritime locations.
- ships.
- ritual performances on or in connection with ships.
- figures with equipment associated with males.

As previously mentioned, a tempting assumption in this context is that rock art may have been produced in accordance with maritime puberty or other initiation rites necessary for admittance into the esoteric maritime warrior/trader society

which granted access to knowledge and skills (see Hayden 1995). Rock art produced as part of a rite for ensuring the success of maritime activities (such as long sea voyages) would have included images of warriors kneeling, sitting, or performing actions onboard ships such as raising paddles or weapons or blowing horns.

Thus, the creation and display of rock art served as a mechanism by which BA individuals operating in maritime groups could record their actions, communicate their ideals, and proclaim their positions in society. Given the location of panels, Scandinavian elites/chiefs most likely could not have monopolized access to rock art sites. Thus, this maritime medium is a visual representation of individual agency which strove for success on long distance trading expeditions and in social climbing in general.

Conclusion: Rock Art, Warfare, and Long Distance Trade

Rock art and burials both indicate that Scandinavian Bronze Age societies were socially stratified and were based on a decentralized socio-political organization (Earle 2002).

The engagement with the metal trade throughout southern Scandinavia involved ownership of land for the production of cattle, possession of seagoing ships and amber for export production. In short, during the Scandinavian BA, certain households drew upon resources made available by the local strong on agro-pastoral economy, and invested in the maritime forces of production. Such households were able to accumulate wealth and political power in Bronze Age Scandinavia.

The strategic communicative location of rock art regions, in maritime settings, may suggest that warriors from outlying areas and from different polities could have interacted at these sites. In light of the strategic maritime positioning of rock art areas, it is intriguing to consider that recent metal analyses show that the Scandinavian societies in were connected to sources of metal from various regions of Europe (Ling et al. 2014).

Several of the coastal rock art regions could have served as arenas for metal distribution in southern Scandinavia. These locations could have functioned as aggregation sites for groups with mobile occupations such as travellers/warriors/traders along with the more sedentary village populations of inland areas. Thus, the combatants and warriors depicted on the rocks in these regions is probably related to agents engaged in this particular praxis during the Scandinavian Bronze Age. It is notable that a high percentage of these figurative scenes date to the Nordic Bronze Age period II and V respectively and it is interesting that this is associated with spikes in the amount of metal arriving in southern Scandinavia (Kristiansen 1998). Thus, this indicates that most of the rock art depicting weapons and warriors could be connected to a time period when Scandinavian societies became involved with long distance exchange and trade.

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Chapter 3
Societal Dynamics of Prestate Societies of the North Central European Plains, 500–1000 CE: A Model

Ludomir R. Lozny

Introduction

In this exploratory attempt I examine archaeological data on social dynamics in the North Central European Plain (NCEP) (Fig. 3.1) during the Early Middle Ages (EMA), 500–1000 CE. The key method employed to assess the level of social complexity is to analyse the density of networks of social interdependence. The rationale here is that increasing interdependence contributes to complexity of the structure as different relationships of interdependence intersect at more points. Because such complexity causes unpredictable behavior, it is thus characterized by pervasive uncertainty.

I especially focus on the characteristics of authority, which I review as socially approved modes of governance that range from participatory polycentric to centralized decision-making scheme. These modes of governance do not replace each other, or overrule their authority, but coexist and thus surge density of networks of interdependence. Hence, I hypothesize that the coexistence of functional and structural authorities complement each other. What follows is a conceptualization (*theory of fragmegrative*[1] *dynamics*) that affairs of social complexities are governed by a bifurcated system: the centralized and structured government system, and a multicentric system of diverse types of collectivities that constitute a complementary

[1]Neologism used by Rosenau and Czempiel (1992).

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Fig. 3.1 North Central European Plain and distribution of Tornow forts, 700–800s CE

source of authority with actors that cooperate, or sometimes compete, but constantly interact with each other, a phenomenon explained by the collective action theory.

In brief, my analysis of archaeological data[2] on spatial distribution and hierarchy of settlements, emergence of defensive settlements, distinction in social statuses and concentration of power, combined with indirect evidence of group action, cooperation, and management of common pool resources suggests that the 500-year long process of social dynamics in the region comprised four phases of social change characterized by various duration and intensity. These are: (1) EMA phase 1 characterized by participatory polycentric governance of highly nucleated, small, coalescent, and kinship-based cooperative communities of practice[3]; (2) EMA phase 2 characterized by localized manorial political arrangements composed of fortified settlements and accompanying villages that linked several kingroups or communities of practice; (3) EMA phase 3 represented by a region-wide multi-agent political organization composed of a network of unified in size and construction forts, which reinforced the localized manorial sphere of authority and structurally reached beyond kingroup and community of practice; and (4) EMA phase 4 prestate settlement organization composed of large, two-component forts, small forts, and accompanying villages, which is noted but not discussed in this study. This scheme of social dynamics is represented by 168 archaeological sites (Lozny 2013). I see the political organization of these phases as a nested structure.

Furthermore, I suggest that due to causality of sociopolitical change, the four phases might be simplified into two longer periods: one from the 500s to 700s CE

[2]I purposely do not use written sources to mitigate confirmation bias and to test the potential of the archaeological record.

[3]Analytical unit used here to identify small, goal-oriented, cooperating community. See Wenger (1998).

and the second from the 700s to 1000s CE. I intend to show that despite the seeming absence of critical internal economic and political stimuli, societies of the EMA phase 1 and EMA phase 2 showed the emergent capacity for self-governance, while the fromalized polities of EMA phase 3 and EMA phase 4 emerged in the context of outside pressure from the Carolingian domain and the Norse. Around 500 CE, NCEP (Germania libera) societies dealt with the consequences of the collapse of Rome. Disbanded and nucleated small groups were often of coalescent character as evidenced by the traits of the Late Roman Period cultures mixed with new cultures carried in by displaced people.[4] Such social dynamics, characterized by integration and disintegration of communities of various intensity of interactions, eventually produced a locally integrated society such as the visible in the archaeological record Sukow-Dziedzice culture of the 600s–700s CE (Dulinicz 2001). Intraregional social dynamics of the EMA phase 1 and 2 were amplified in the 700s and early 800s by the outside pressure from the Carolingian Empire and the Norse. I thus hypothesize that an unrecorded archaeologically and historically, region-wide multi-agent polity of the late 700s–800s CE emerged and is identified here as the Tornow Sphere of Authority (TSA).[5] It serves as an example of a multi-agent dissipative polity structured as a region-wide network of similar in size and construction ringwall forts and accompanying villages (Fig. 3.2). Although its disintegration in the late 800s CE destabilized the regional political structure, it amplified local integrative processes, which contributed to the emergence of a transient state-level polity in the late 900s–1000s CE. The new polity emerged in the eastern fringes of the Carolingian domain, an area surrounded by the Norse and the Scandinavian Kingdoms, the Czech Kingdom, and the Kingdom of Rus. It was a short-lived state-level polity that existed in the region known as Greater Poland, and is not discussed in this paper.

Theoretical Assumptions and Working Definitions

I discuss diverse and contradictory forces behind the clash between centralization and integration on the one hand and localization, decentralization and fragmentation of ruling (authority) on the other. The concept I wish to introduce refers to governance and levels of its organization.[6] The rule systems of governments are

[4]The reasons and historic context for this displacement is not significant for my reasoning. In older European literature the movements of people in the 500s and early 600s CE are referred to collectively as the Great Migrations Period, *Völkerwanderung* in German literature. Simply put, at time of hardship people modify their strategic repertoire to manage risk by simplifying their culture and moving (migrating) from economically and politically unstable regions. The ultimate goal is survival and not political gains.

[5]Transient functional political scheme of governance is difficult to notice archaeologically, but it might be identified through the analytical approach presented in this paper.

[6]I presented this concept in a paper "Sphere of authority as an analytical unit to assess levels of political (dis)integration" presented at the World Congress on State Origins and Related Subjects, Wigry, Poland, September 2014. The publication of the conference proceedings is forthcoming.

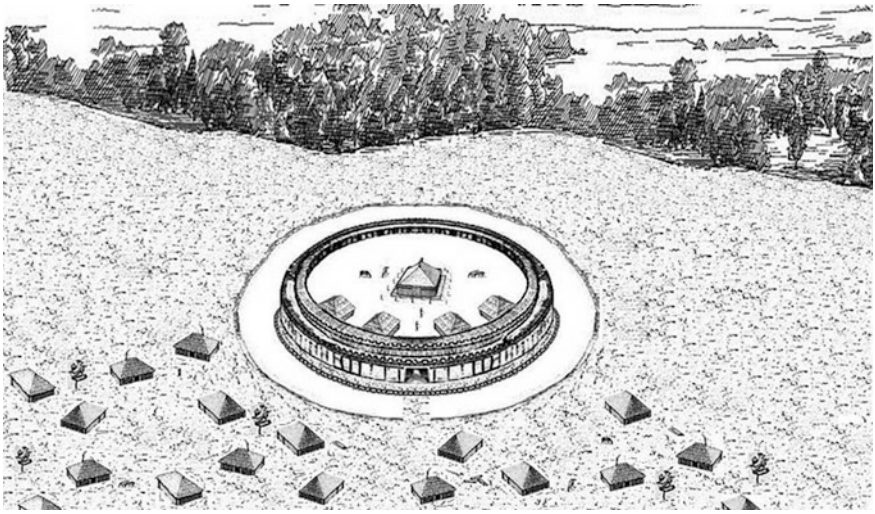

Fig. 3.2 Reconstruction of the Tornow-type fort at Werben, Germany

commonly viewed as structures, whereas governance relates to transient social functions or processes, which can be performed or implemented in a variety of ways at different times and places and by a variety of organizations. Rule systems, whether formal (codified as laws and enforced by specialized agency) or informal (norms, folkways, mores), constitute *spheres of authority* (SoA) to generate compliance within territorial organizations of different scale. As the demand for governance increases with the proliferation of complex interdependencies, rule systems can be found in many types of collectivities that are not considered to be rigidly structured governments. SoAs are the sum of all the diverse efforts of communities at every level to move toward goals while preserving their coherence at different times. If regions are to be govern by multiple SoAs that collectively constitute a new order, the key to their ability to govern is in assessing the degree to which they are able to evoke the compliance of the people whom they seek to mobilize. Such governance is characterized by increasing disaggregation of authority and growing numbers of SoAs, supported by people of multiple identities. If the scenario suggesting the significance of SoAs is true, the centralized leadership becomes irrelevant. Formal and informal SoAs define the capacity to generate compliance, which is the key to ascertaining the presence of a SoA. Shifting balance between hierarchal and network forms of organization, between vertical and horizontal flows of authority produces multilevel governance, where authority is voluntarily and legally dispersed among the various levels of community. SoAs are impermanent and change with the increased demand for governance and thus the conceptualization of SoA is not evolutionary. Groups exhibiting evidence of cooperation and group action, collective management of common pool resources, and participatory governance exemplify the existence of multilevel SoAs. Thus, political affairs can be

conceptualized as governed through a bifurcated system: centralized system, and a multicentric system of diverse SOAs that emerged as a rival or alternative source of authority.

The multi-agent organization is characterized by disaggregation of authority and increasing numbers of SoAs. They proliferate because people maintain multiple identities that lessen their allegiance to centralized polities. States emerge because leaders are capable of managing and coordination of multicentric entities (multiple SoAs) and able to generate meaningful compliance.

Potential emergent drivers for social complexity exist at all levels of social organization. The transient state of all complex systems has to be viewed, however, in association to a very specific dynamic outcome—collapse (disintegration of SoA). Dissipative social structures show a tendency to organize spontaneously in the context of outside pressure. They emerge naturally from simple rules of interaction between neighboring entities. However, change in social complexity is not necessarily desired by the actors involved and if complexity is characterized by diminished sustainability of a system, than collapse, disintegration of SoAs, undermines complexity (see Tainter 2006 for more discussion). Complex systems are populated by attractors (states of stability) that regulate the dynamics of the structure (for anthropological and historic examples see Diamond 2005; Tainter 1988). The more ordered systems become the more efficient in problem-solving they are, but there is a price to pay—the more complex a system becomes, the more likely it is that the values of some critical variable will radically change causing stress or even failure.

Among the discussed here examples of spontaneous and transitory dissipative social arrangements, which either turned to complex structures or disintegrated, especially the 700–800s CE multi-agent political organization seems a good fit as its collapse contributed to the emergence of a more complex state-level organization in the eastern fringes of the Carolingian domain.

Analysis of Data

I review the archaeological data on the rise of social complexity and stratification exemplified by status markers such as jewelry and weaponry and changes in settlement patterns, especially the emergence of fortified villages and forts. Changes in the assortment of material culture related to the appearance of status markers suggest the emergence of a social structure characterized by diversity of statuses and the presence of (tenured?) leaders, instrumental agents in the rise of social complexity. The region-wide appearance of such objects in the NCEP corresponded with the region-wide emergence of forts (Figs. 3.3 and 3.4), especially with a network of similar in size and heavily fortified strongholds, vital elements of the Tornow Sphere of Authority (TSA).

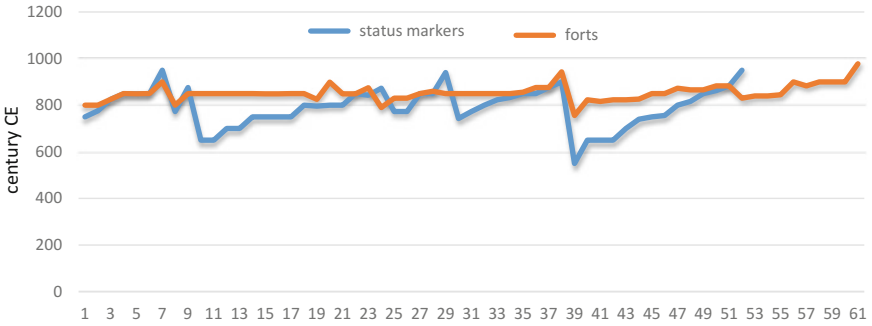

Fig. 3.3 Combined chronologies for the appearance of forts and status markers: status markers, median date = 792 CE, forts, median date = 853 CE

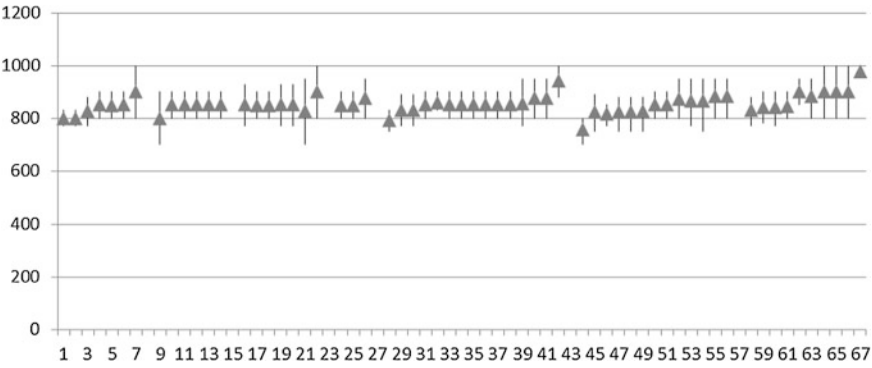

Fig. 3.4 Chronology of forts by province. From *left* to *right* Schleswig-Holstein (n = 7), Wendland (n = 6), Mecklenburg (n = 7), Altmark (n = 3), Brandenburg (n = 15), Pomerania (n = 13), and Greater Poland (n = 10). Median date: 853 CE

Status Markers

Chronological distribution of status markers (Fig. 3.3) reveals discrete time periods of social change and indirectly confirms the appearance of complex social arrangements. In sum, 53 (32%) of 168 analyzed sites produced status markers, among them 28 villages (53%) and 25 forts (47%). Sites from Mecklenburg produced the largest number of status markers (15 sites, nine villages, and six forts), followed by Greater Poland (14 sites, eight villages, and six forts), Pomerania (nine sites, two villages, and seven forts), Schleswig-Holstein (seven sites, all forts), Brandenburg (six sites, one village and five forts), and Wendland (two sites, one village and one fort). Weaponry appeared at 34 sites (64% of all sites with status items) and dominated all other status markers in 25 forts (71% of all sites with weaponry), whereas jewelry and other items showed in forts and villages. Except

for Mecklenburg and Greater Poland, where status markers appeared in the 600s CE, in all other provinces they showed up in the 700s and 800s CE and should be linked with the appearance of the TSA.

Settlement Patterns

Settlement patterns of the 500–1000s CE are represented by compounds and clusters of compounds (small villages), fortified villages, forts, and two- or multi-component settlements composed of forts and adjacent, often fortified, villages. The latter represent early towns, which turned to political and economic hubs of the 900s and later times. I examined structural changes of settlements to argue that they reflect changes in local SoA not always recognized in historic sources. Thus, the emergence of fortified villages and forts suggest an increase in warfare, but also political integration around the fort, which becomes a center of decision-making (sphere of authority alternative to compound or small village). Compounds and small villages represented kinship-based (community of practice) sphere of authority lead by kin leader (headman). They were common through the region in the 500–600s CE, but survived in later times. The first evidence of changes in the reorganization of power are associated with the appearance of fortified villages in the late 600s CE and early 700s CE and forts of the 700s and 800s CE.

Compounds and Small Villages

Single compound consisted of residential quarters and outbuildings (sometimes several). Such single compound settlements were recorded at Nowa Wieś, site 1 and 12 (Greater Poland) dated to the EMA phase 1 (500–600s CE). Both compounds consisted of probably five structures, which included living quarters and outbuildings. Another example is a compound settlement from Groß Strömkendorf, site 7 (600s CE) in Mecklenburg, which consisted of at least one pit-house and several outbuildings of various function. During the 600s CE clusters of compounds emerged and the number of aggregated compounds amounted to five–six, as demonstrated by the Bruszczewo site 12 from dated to the late 500s–early 600s CE. Another example is a small cluster from Zapel, site 3 (Brandenburg), where pit structures aggregated in three clusters. Thus, clusters composed of four—five compounds were present during the terminal EMA phase 1 and testify of changes in social organization and structure.

The most common archaeologically confirmed spatial pattern of the EMA phase 2 settlements was in form of multi-rows (street-like pattern) village, usually located along the topographic features such as high terraces of well-drained valleys. Villages with more regular patterns represent communities with tighter rules to control demographic dynamics. Increase of population was probably due to marriage arrangements and exchange of mates rather than voluntary in-migration.

Table 3.1 Fortified villages of the NCEP, 600s–700s CE

Altmark	Brandenburg	Greater Poland	Mecklenburg	Pomerania	Schleswig-Holstein	Wendland	*N*
0	2	2	3	2	1	2	12

Regular patterns of villages characterize communities that represent a new level of political integration, which is more complex than the polycentric model of management represented by compounds.

Following the ethnographic data, it seems feasible to assume, that single compounds represent small kingroups, while clustering of compounds suggests demographic changes and groupings of kingroups in larger communal arrangements. Both represent small social groupings where personal face-to-face interactions formed the basis for personal communication patterns. Whereas villages of the EMA phase 2 represent clusters of kingroups linked through marriage and exchange. A platform for communal interaction and group identification was the spread of technological knowledge to produce the stylistically unified Sukow-Dziedzice pottery. It could have happened through the exchange of knowledge, mates, or finished items. Either way, such intraregional contacts suggest increase in communal interdependence.

Fortified Settlements: Fortified Villages and Forts

Fortified Villages

Fortified villages are settlements surrounded by light fortifications composed of a palisade and occasionally accompanied by a ditch. These sites are generally dated in the region to the 600s–early 700s CE (Lozny 2013). Fortified villages (Table 3.1) have been recorded in Brandenburg (Wildberg, Bützer), Greater Poland (Biskupin, Ujście), Mecklenburg (Drense, Groß Raden, and Mecklenburg Dorf), Pomerania (Białogard, Wolin), Schleswig-Holstein (Scharstorf), and Wendland (Hitzacker, Oerenburg). All preceded the construction of forts at the same location and several of them yielded status markers. The appearance of fortified villages alludes to regional political instability that caused localized political integration and interdependence and resulted in the emergence of a new formalized sphere of authority identified here as manorial political organization. It also contributed to the rise of tenured leaders. Fortified villages required intensification in the organization of labor beyond the family/kinship level and might be seen as example of collective action, as the fortified village was probably considered a common good. The handmade plain Sukow-type ceramics continued to appear, but technologically more advanced and decorated Feldberg pottery were common on such sites. These finds suggest significant reinforcement of intraregional interactions and interdependence. Fortified villages were accompanied by small villages and compounds to form one-tier

settlement system above the base-tier. Such structure suggests complementary coexistence of multiple SoAs.

Forts are settlements with heavy fortifications which consisted of a wall accompanied by moat and/or palisade. Several types of wall constructions have been identified in the NCEP; all were combinations of wooden constructions, earth ramparts, and stone structures. The cause for the appearance of forts might have been twofold: (1) pressure from the Carolingian domain manifested in the appearance of the ringwall forts and the Menkendorf and Tornow pottery types associated with the Carolingian-style status markers and weaponry, and (2) cultural influence from the economic/political hub in the coastal NCEP (southern Baltic), penetrated (controlled?) by the Norse. Indirect pressure from Great Moravia should also be taken into account. My database includes 60 forts, all from the late 700s CE and the 800s–900s CE.

Villages Turned Forts

Villages predated 23 (38%) out of 60 forts (Table 3.2) considered in this study: two in Schleswig-Holstein (Oldenburg and Scharstorf), four in Wendland (Dannenberg, Meetschow, site 1, Gartow, site 5?, and Hitzacker), three in Mecklenburg (Drense, Sternberger Burg, and Sukow), two in Altmark (Fichtenberg and Genthin-Altenplatow), seven in Brandenburg (Berlin-Köpenick, Berlin-Spandau, Brandenburg 11a, Deetz, Phöben 1?, and two fortified villages at Wildberg and Bützer), three in Pomerania (Białograd 1, Szczecin Wzgórze Zamkowe, Zamczysko), and two in Greater Poland (Bonikowo 1, Ujście 1, 5). The transition of villages into forts indicates the existence of stronger local leaders of the manorial organization, who have peacefully (no evidence of fire or violence) been incorporated either to the multi-agent TSA, or its satellites (allies). Deetz, site 1, a village of the 700s CE turned single-component ringwall fort of the 800s CE is a good example of such cultural transition from a small settlement to a locally significant political center of the multi-agent sphere of authority. Villages turned forts may also be considered as examples of collective action as people may have recognized the fort as a common good and place of refuge. The high ratio of forts constructed on the previously existing villages in the western provinces of the NCEP (Wendland 1.5, Altmark 1.5, Brandenburg 2, and Mecklenburg 2.3) suggests the existence of strong local leaders. However, the number of forts built on preexisting villages (23) is smaller than the number of newly constructed forts (37).

Table 3.2 Villages turned forts, 700s–800s CE

Altmark	Brandenburg	Greater Poland	Mecklenburg	Pomerania	Schleswig-Holstein	Wendland	*N*
2 (67%)	7 (50%)	2 (20%)	3 (43%)	3 (23%)	2 (29%)	4 (67%)	23 (38%)

Newly Constructed Forts

The newly constructed forts (Table 3.3) were erected at places without evidence of prior occupation. The political condition for such construction must have been based on consensus between the people who claimed the area and the builders. Naturally, the ideal situation was when the claimants and the builders were the same people. This however was not the case as local leaders seemed not to have sufficient authority to order massive constructions. I presume that, especially with the TSA ringwalls, their construction was organized by a crew of specialists trained in the building of forts of similar size and type.

Most of the newly erected forts were TSA ringwalls, but some represent other architectural style. Altmark is represented by one newly constructed TSA ringwall, dated to the EMA phase 3 of the 800s CE and later times. The Feldberg and Menkendorf pottery found at all sites suggest contacts with the economic and political multi-agent network of the TSA. Brandenburg produced seven forts, all TSA ringwalls. All the forts emerged in the late 700s CE and early 800s CE. The Menkendorf pottery and the Tornow pottery types dominated at those forts. Greater Poland produced seven forts constructed at previously uninhabited locations. All forts emerged in the 800s CE and their appearance was related with the Tornow Sphere of Activity. None of the four newly constructed EMA phase 3 forts from Mecklenburg was a typical Tornow ringwall, but all emerged and existed at the time of the Tornow phenomenon. Among the ten new forts from Pomerania, six were the Tornow-type ringwall forts. They emerged in the late 700s and 800s CE and are associated with the Menkendorf pottery in the 800s CE associated with the Tornow phenomenon. In Schleswig-Holstein five forts were constructed during the EMA phase 3 at previously uninhabited locations. All were single-component TSA ringwall forts of the late 700s–800s CE. The first forts, which appeared at the end of the 700s CE–early 800s CE, were associated with the Feldberg pottery mixed with or dominated in the 800s and 900s CE by the Menkendorf pottery. Two new TSA-related ringwall forts were constructed during the EMA phase 3 in Wendland in the late 700s–800 CE. The presence of Feldberg pottery at forts points out to the 700s–800s CE, whereas the Menkendorf pottery type suggests that the sites existed through the 800s and into the 900s CE. The ringwall forts emerged as a part of the TSA of the 800s CE and persisted into the 900s–1000 CE, when they became a part of the Holy Roman Empire state system.

Table 3.3 Newly constructed forts by province

Altmark	Brandenburg	Greater Poland	Mecklenburg	Pomerania	Schleswig-Holstein	Wendland	*N*
1 (33%)	7 (50%)	8 (80%)	4 (57%)	10 (77%)	5 (71%)	2 (33%)	37 (62%)

Table 3.4 NCEP forts by province, 700–900 CE

Province	Forts (*a*)	Village turned fort (*b*)	New fort (*c*)	Ratio *a*/*b*	Ratio *a*/*c*
Schleswig-Holstein	7 (11%)	2 (29%)	5 (71%)	3.5	1.4
Wendland	6 (10%)	4 (67%)	2 (33%)	1.5	3
Mecklenburg	7 (12%)	3 (43%)	4 (57%)	2.3	1.75
Altmark	3 (5%)	2 (67%)	1 (33%)	1.5	1
Brandenburg	14 (23%)	7 (50%)	7 (50%)	2	2
Pomerania	13 (22%)	3 (23%)	10 (77%)	4.3	1.3
Greater Poland	10 (17%)	2 (20%)	8 (80%)	5	1.25
N	60 (100%)	23 (38%)	37 (62%)	2.6	1.6

Table 3.4 presents the ratio of the newly constructed forts by province. It reveals that the newly constructed forts dominated the region (67%) and four provinces: Greater Poland (80%), Mecklenburg (57%), Pomerania (77%), and Schleswig-Holstein (71%). The number of newly constructed forts in Brandenburg matched the number of forts constructed on the previously existing villages or fortified villages. These numbers suggest a pan-regional phenomenon, which I relate to the emergence of the TSA.

Tornow Forts (TSA)

The Tornow-type forts were present in all provinces except Mecklenburg (Table 3.5). They dominated in Schleswig-Holstein, Wendland, and Brandenburg and were very well present in Pomerania and Greater Poland. Mecklenburg seems to have been developing independently, whereas the data from Altmark are

Table 3.5 Tornow forts versus other forts by province

Province	All Forts (*a*)	Tornow-type (*b*)	Other forts (*c*)	Ratio *a*/*b*	Ratio *a*/*c*
Schleswig-Holstein	7	5 (71%)	2 (29%)	1.4	3.5
Wendland	6	5 (83%)	1 (17%)	1.2	6
Mecklenburg	7	0	7 (100%)	0	1
Altmark	3	1 (33%)	2 (67%)	3	1.5
Brandenburg	14	12 (86%)	2 (14%)	1.2	7
Pomerania	13	6 (46%)	7 (54%)	2.2	1.8
Greater Poland	10	3 (30%)	7 (70%)	3.3	1.4
N	60	32 (53%)	28 (47%)	1.9	2.1

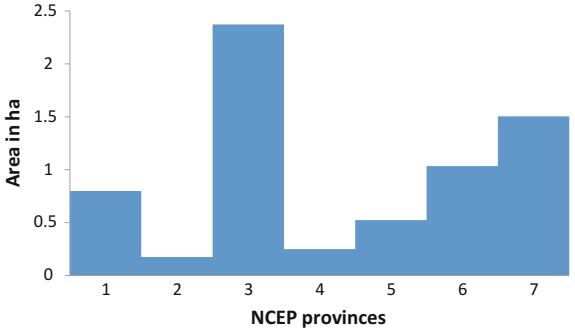

Fig. 3.5 Mean fort area by province: *1* Schleswig-Holstein, *2* Wendland, *3* Mecklenburg, *4* Altmark, *5* Brandenburg, *6* Pomerania, *7* Greater Poland. Largest forts were in Mecklenburg (largest investment) and smallest in Wendland and Altmark

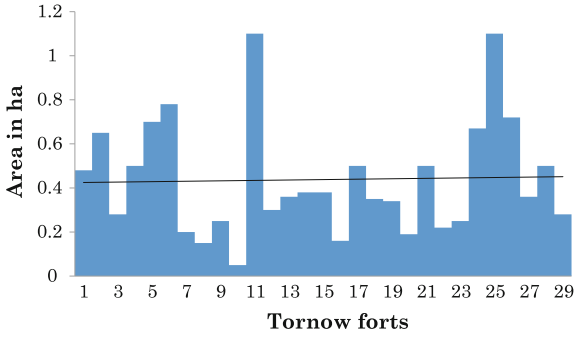

Fig. 3.6 Trendline and the recorded size of the Tornow forts. Mean = 0.37

inconclusive. The Tornow forts formed a region-wide network of small in size and equal in rank, heavily fortified local political centers.

The sample gathered in Table 3.5 includes 29 Tornow-type (or possible) forts, which comprise 49% of all the forts discussed in this study. They emerged in the late 700s/early 800s and existed until late 800s/early 900s, and only some turned to significant regional political centers of the 900s and later times. Among the 29 forts presented in Table 3.5, 22 (76%) yielded the Menkendorf type pottery. It seems that the Sukow pottery of the EMA phase 1 and 2 survived locally as rural (?) ceramics, while the new polity (culture?) was associated with the technologically more advanced and decorated Feldberg and standardized Menkendorf and Tornow pottery types.

A typical Tornow-type fort area was ca. 0.35–0.45 ha (Figs. 3.5 and 3.6; mean = 0.37 ha). The construction, size, and content of the Tornow forts suggest that they represent military outposts characterized by small interior and massive walls sometime surrounded by moat, and significant presence of weaponry. Their similar sizes and constructions also suggest compatible labor investment by a unit of a certain number of people [soldiers?], who built a fort in relatively short-time period. Very homogenous dating materials, for instance from Farchau in Schleswig-Holstein, suggest that the forts emerged quickly at around 700/800s CE and were not intensively inhabited (thin cultural layer). The forts attracted local

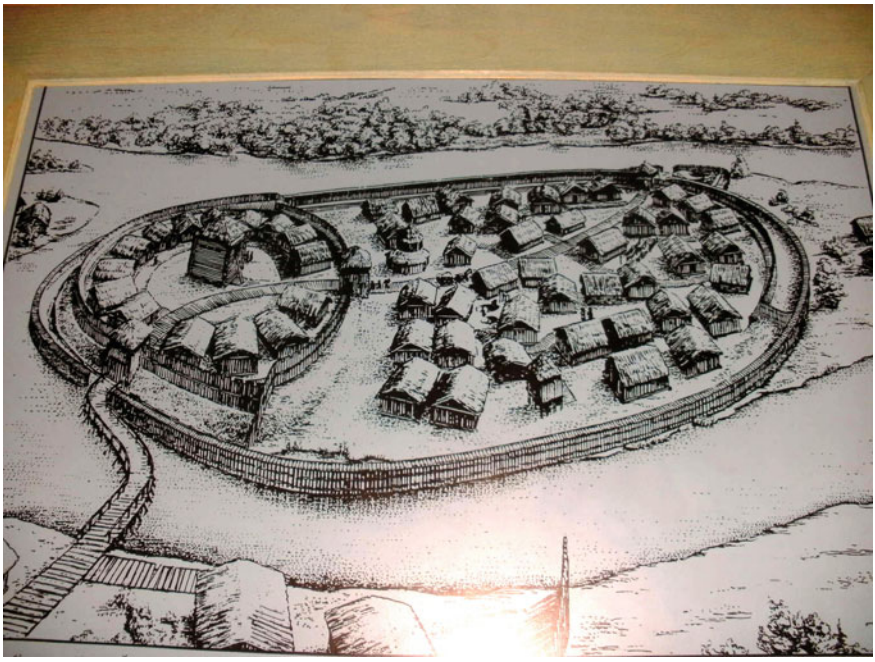

Fig. 3.7 Reconstruction of the two-component fort at Raddush, Niederlausitz, Germany

populations and some turned to early towns in the 900s, after the collapse of the TSA.

Two-Component Forts (Early Towns)

Two- or multicomponent forts (Fig. 3.7) emerged in all provinces of the region in the 900s CE, after the collapse of the TSA. They are recorded in Schleswig-Holstein (Oldenburg and Scharstorf), Wendland (Dannenberg), Mecklenburg (Drense, Sternberger Burg, Feldberg, Fried, and Mecklenburg Dorf), Altmark (Genthin-Altenplatow), Brandenburg (Mittenwalde, Wildberg, Hohenauen, Vorberg), Pomerania (Szczecin, Bardy, Zamczysko), and Greater Poland (Bonikowo, Giecz, Spławnie, Santok, Siemowo). They constituted a different network of forts spaced out in a more standardized pattern (Fig. 3.8) and represent political centers of the post-TSA era not discussed in this study.

The numbers presented in Table 3.4 strongly suggest a concentration of 62% (n = 37) of all the NCEP forts (n = 60) in three regions: Brandenburg (14), Pomerania (13), and Greater Poland (10), and the least number in Altmark (3). A comparison of mean values of fort areas by province (Fig. 3.5) reveals that

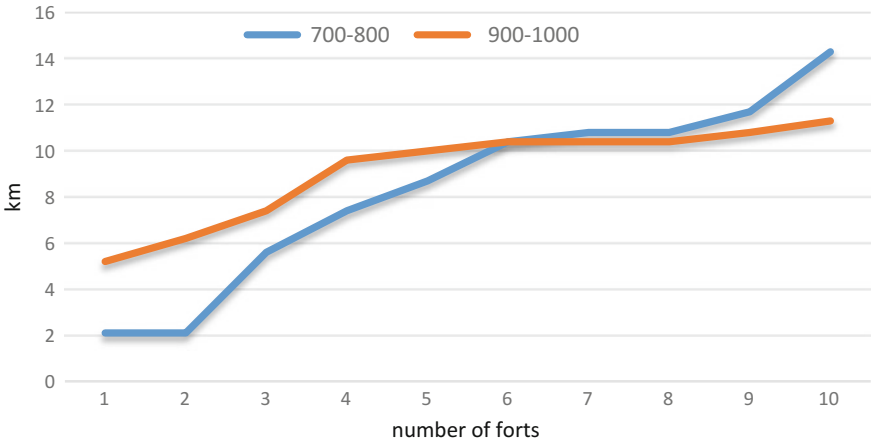

Fig. 3.8 Distance between forts, 700–800 CE (TSA), 900–1000 CE early state

societies of Mecklenburg[7] and Greater Poland invested more in the construction of forts, than the contemporary groups of Pomerania, whereas in the other four provinces the mean area of forts is less than 1 ha (mostly small-area TSA ringwall forts). Pomerania and Greater Poland were the most dynamic regions regarding the construction of new forts (Table 3.4; ratios of all forts to new forts are 1.3 and 1.25 respectively), which may suggest that the capacity for construction of forts may have been reinforced by a cultural change initiated elsewhere (Mecklenburg and the Feldberg type pottery and Brandenburg and the Menkendorf type pottery related to the TSA). Whether the nature of cultural change in these two regions was due to acculturation or cultural diffusion (invasion?) remains to be determined. A high ratio of forts constructed at the same location as previously existing EMA villages in the western provinces of the NCEP (Wendland 1.5, Altmark 1.5, Brandenburg 2, and Mecklenburg 2.3) suggests the existence of strong local leaders in those places.

Discussion

The underlying thesis to explain social dynamics in the NCEP 500–1000 CE is that the process of culture change was triggered by the fall of the Roman Empire in the 400s CE and amplified by the reign of Charlemagne and the Carolingian Empire in the 700s and the 800s CE, combined with the political pressure from the Norse and Carolingian-controlled Great Moravia.

In my reasoning on the post-Roman social dynamics of the NCEP I deviate from the traditional approach preferred by European scholars (for instance presented in

[7]This province also leads in the number of sites with status markers. It was the core of the TSA.

Herrmann 1985) of seeing human groups moving around, carrying their cultures from place to place and settling in certain presumably uninhabited regions. Rather, I see people mitigating the risk and organizing themselves at times of hardship by contacting others, exchanging ideas, adapting to new conditions by responding to variety of pressures. The ethnicity of those populations is uncertain[8] and is not of interests to me; in my view the societies of the 500–600s CE were a mixture of local post-Roman groups and migrants from the neighboring regions, as people often migrate at times of economic hardship and political instability. They produced a coalescent-type communities of practice with the common goal of sustainable existence. Over time the cultures of the late 600–700s CE seem the have been greatly influenced by the Carolingian domain including Great Moravia, the Norse, and other cultures of the Baltic region. Changes in settlement patterns, especially the appearance of forts and the emergence of structured settlement arrangement indicate an increase in the complexity of territorial administration through attempts to formalize SoAs locally. Because there are no evidence of regional centralization of decision-making, the multi-agent political structure formed of locally significant formal (forts) and informal (communities of practice) SoA was the most complex organization the region may have produced before the late 900s–1000s CE.

In light of the data presented above I propose four phases of social dynamics of various duration and intensity in the NCEP, 500–1000 CE:

1. EMA phase 1 from the 500s to the late 600s—early 700s CE includes the coalescent cultural horizon and the Sukow horizon and is characterized by a region-wide cultural decline evidenced by lesser quality pottery (mostly hand-made and undecorated pottery), appearance of simplified constructions of houses (small oval or rectangular pithouses), and low population densities. The limited number of pottery types suggests a technologically unified level of pottery-making region-wide. One type of settlement dominated, kingroup-populated single compounds or nucleated clusters of compounds (small village) that formed base-tier settlement pattern. Nucleated groups were organized as communities of practice without clear leadership. The lack of status markers and weaponry denotes the existence of less complex social organization of participatory polycentric structure of governance (dispersed informal sphere of authority). The key new cultural phenomenon of this phase relates to a high number of sites that yielded evidence of the continuation of use of places where certain cultural traits (pottery) from the Late Roman Period were mixed with the EMA phase 1 culture. It is not certain whether this situation was caused by an influx of new people or acculturation of the local societies and adaptations to the

[8]I do not attempt any epigenetic analysis of the people who inhabited the NCEP between 500 and 1000 CE. The generic term "Slavs" used to label ethnic groups presently living in southern, central, and eastern Europe and speaking Slavic languages has little historic sense for the time period discussed in this study and is similar in its explanatory value to such meaningless labels as "bushmen" to identify culturally and linguistically diverse foraging groups in southern Africa, or "Indians" to label different native societies of the Americas.

weakened post-Roman economic and political conditions. The distribution of the EMA phase 1 sites in the NCEP suggests that the new culture was well represented in the eastern (Greater Poland) and southern (Brandenburg, Altmark) provinces, nearly absent in the northern (Pomerania, Mecklenburg), and absent in the western provinces (Schleswig-Holstein, Wendland). Some cultural elements of this phase were labeled by Dulinicz (2001, 2006) as the Sukow culture. Thus, the coalescent cultural horizon and the Sukow horizon characterize the EMA phase 1.

2. EMA phase 2 from the late 600s through the 700s CE was characterized by the appearance of the technologically advanced Feldberg pottery, rising economic and political significance of the coastal NCEP (trade and exchange along the Baltic coast, but also east and south indicated by the spread of the Feldberg type pottery to Pomerania, Greater Poland, and Brandenburg), population growth, new constructional type of houses (on-ground), the appearance of status markers, and the emergence of fortified settlements that constituted a new settlement pattern of the manorial political system, one-tier above the base-tier.

The localized appearance of fortified settlements in the 700s CE, suggests political instability and the emergence of leaders powerful enough to organize local population and demand corvée labor to build fortifications, which could have been local responses to a growing military pressure from the Carolingian domain and the Norse. All these signify localized transitions from the EMA phase 1 to the EMA phase 2 culture. It seems that the carriers of the Feldberg pottery initiated social change related to the pre-Tornow manorial system with locally isolated forts and accompanying settlements, which in the 800s CE were reinforced by the region-wide appearance of unified in size and construction ringwall forts of the Tornow-type and the emergence of the Menkendorf and Tornow pottery signifying political and economic integration of the EMA phase 3.

3. EMA phase 3 from the late 700s to late 800s CE, was associated with the appearance of a region-wide, multi-agent political network, which I name here as the Tornow Sphere of Authority. It is characterized by the appearance of equal in rank ringwall-type forts (local centers) recorded in Altmark, Greater Poland, Pomerania, Wendland, and Schleswig-Holstein, and linked with the appearance of the technologically more advanced, but standardized Menkendorf and Tornow pottery. Whether it was a regional response to the growing pressure from the Carolingian domain, or a Carolingian-inspired military buffer to protect the Empire from the Norse, who were active in the Baltic region, remains to be determined. The military character of the forts (small interiors and heavy fortifications) and the appearance of weaponry favors the latter interpretation. The ringwalls of the 800s CE corresponded with the appearance of the Menkendorf and the Tornow pottery; the Sukow pottery was present at sites that originated in the 600s and 700s CE. Ample evidence related to accumulation of wealth and power suggests changes in social stratification and the emergence of strong local chiefs. The rise of chiefs corresponded with the appearance of weaponry

suggesting the emergence of warriors and the significance of warfare. It seems that two socioeconomic conditions contributed to the culture change of this phase: (1) commerce-related rise of social complexity in Mecklenburg backed up politically by the Norse, and (2) military expansion of the Carolingian Empire northeast. Thus, the 800s CE witnessed the first region-wide attempt to politically consolidate a large area under the umbrella of the Tornow phenomenon (formalized but not centralized sphere of authority).

The multi-agent TSA expansion may have not always been peaceful as the evidence from Hohenauen, site 4 suggest, where a layer with the Menkendorf pottery (late 700s–900 CE) overlaid a layer with handmade undecorated pottery dated to the 600s–700s CE, and which contained evidence of fire testifying of a conflict likely related to the invasion of the Menkendorf pottery makers associated with the TSA.

The TSA was the first region-wide attempt to politically unify a larger region of the NCEP in the EMA. It did not produce a centralized state-level polity, however. The one-tier structure composed of fortified villages, or forts, and associated villages (one level above the base-tier), was the most complex settlement pattern of the time and should be viewed as a multi-agent organization of equal in rank local political centers. It represented the growing expansion of the Carolingian domain northeast. The relationship between the TSA and the Carolingian Empire was based on political and economic ties.

The TSA declined in the aftermath of the Treaty of Verdun (843), which profoundly crippled the Carolingian Empire and the ability to control (sponsor?) the eastern outskirts of its domain. The collapse of the Empire after 887 is visible in the archaeological record of the NCEP, paralleled by the collapse of the TSA. The disintegration of the TSA (burnt forts) created a region-wide political vacuum that prompted localized attempts at centralization of power in eastern parts of the region such as Greater Poland, and which resulted in the appearance of a first-generation short-lived state in the 1000s CE.

The overall political character of the TSA remains to be determined, but two possibilities seem plausible: (1) The TSA was an attempt to peacefully establish the Frankish authority [bureaucracy] in the region through political and economic expansion, or (2) It was a hostile territorial takeover, an attempt to colonize the region by building a network of military outposts, a buffer zone between the Empire and the Norse, who penetrated the Baltic area and controlled the coastal NCEP. For now I am persuaded to accept the second option.

Localized integrative processes at the end of this phase caused some of the forts to turn to two-component settlements composed of a fort and either fortified village or undefended adjacent village, and became early towns of the EMA phase 4 (Fig. 3.7).

4. EMA phase 4 of the late 900s–1000s CE is characterized by a new level of political integration and centralization and the emergence of local political centers of the post-TSA era, which became elements of the two-tier settlement

pattern above the base-tier (villages, forts, and towns), territorial organization that heralded a state-level political organization, noted but not discussed in this study.

The societies of the EMA phase 1 and EMA phase 2 were swidden agriculturalists and livestock keepers that formed cooperating communities of practice and followed polycentric participatory scheme of self-governance. They managed their resources in a primarily cooperative manner for about 200 years until the EMA phase 3 region-wide political multi-agent organization of the TSA emerged in the late 700s and the 800s CE. Preferences toward collective actions did not disappear with the increase of political integrity and emergence of hierarchal structures, but were channeled into other forms of communal activities, while redistribution of incentives replaced reciprocity.

The following socioeconomic conditions, supported by the archaeological data, suggest the existence of a social context for cooperative activities of the NCEP societies, 500–700/800s CE.

Participatory polycentric arrangement of governance based on the principle of balanced reciprocity as a major form of distribution of goods and services. Archaeological evidence include: similar in size and shape pithouses, unified pottery, no evidence of burial and settlement diversification and no clear evidence of institutionalized (codified) social stratification. All these conditions were present during the EMA phase 1 and most of EMA phase 2.

Small size communities fit the condition defined by the Dunbar number[9] for promoting spontaneous cooperative actions. The archaeological data suggest small population size and density exemplified by a base-tier settlement pattern and the base family/kingroup level of span of social control. Kingroup (community of practice) was the basic unit of production and consumption during the EMA phase 1 and 2 and remained locally during the EMA phase 3.

Subsistence pattern based on shifting farming and limited animal husbandry supported by gathering of forest product and hunting, and organized by communal rules on grazing, fishing, and access to forest and arable land. At times of hardships the economy of the kin-based social organization remains the key supportive system as kin relations give an order to family labor. Wealth differences may exist but are never extreme and are more ideological than economic. Archaeological evidence supporting the existence of such a system would be a network of equal in rank settlements in the EMA phase 1 and 2, in which houses would not be drastically different. No archaeological evidence of economic specialization or agricultural intensification exist in the NCEP until the EMA phase 3 and EMA phase 4 of the 800s and 900s CE and after. The economic support of the TSA network

[9]See Dunbar (1992); according to Dunbar 150 individuals was an optimal number for group cohesion, for instance acting together in defending a territory; for discussion on the Dunbar number see Gladwell (2000); American researchers (McCarthy et al. 2000) suggested higher numbers, around 231–290.

needs further elaboration, but it could have been partially maintained by the Empire.

Land tenure system of communal ownership, or access to land, has not changed at times of political change and the authority of the EMA phase 2 manorial system has been fused into the emerging multi-agent system as exemplified by a territorial community represented by a cluster of settlements covering an area of 1 km in radius recovered in Mecklenburg by the Kumerower See and the Peene River (Dulinicz 2006). The cluster was dated to have emerged around 650 CE (dendrochronology and radiocarbon assays) and it existed until after 900 CE and became a part of multi-agent sphere of authority. Historic sources confirm the existence of communal territorial units during the EMA phase 4 with roots in the prestate social organization (Buczek 2006). The twelfth–thirteenth century CE written sources confirm communal use of forests and forest products, grazing areas, and probably fishing grounds (Modzelewski 2000).

Political capacity to organize labor in a noncoercive (corvée) manner was used to build manorial fortified villages of the EMA phase 2 (late 600s–700s CE) and forts of the EMA phase 3 (late 700s–800s CE). Early fortified settlements may have been recognized as common goods rather that the ruler's seat. Elite power is recognizable archaeologically in the mobilization and deployment of large amount of labor, manifested as massive construction features such as forts.

Leaders and Social Ranking in the North Central European Plain, 500–1000 CE

Leaders emerge because there is need to solve problems and they become institutionalized as demand for problem-solving increases; they exist at all levels of social organization. Gregory Johnson (1983) has shown that certain level of concentration of span of social control and decision-making does exist among societies labeled as "egalitarian." Complex societies emerge around institutionalized centers of power and institutionalized alliances arranged in segmentary, heterarchical patterns often develop (Ehrenrich et al. 1995; Kradin 2011).

The archaeological records discussed in this chapter suggest the existence of leaders and emergent social ranking among the societies of late EMA phase 2, but especially in the EMA phase 3 and later times. The type of leadership and source of power is uncertain, however. A suggestion by Barford (2001) that the big-man type chiefs may have existed in the early phases of the Middle Ages seems unfeasible. Ethnographic data confirm that such leaders were primarily social organizers and arbitrators. Their power emanated from prestige strongly supported by individual wealth used to allure followers and create the customary obligation to reciprocate. No data from the EMA phase 1 or 2 confirm individual accumulation of wealth,

although reciprocity might be assumed.[10] Anthropological literature provides accounts of leaders whose power was not based on the ability to use force or threat, but those who have been considered as charismatic.[11] Power based on charisma may have been sufficient to organize polycentric societies of the EMA phase 1 and manorial groups of the EMA phase 2. The type of leadership during those two phases resembles the status identified in political anthropology as kinship-supported village heads, with a possibility of a big-man-like status existing during the manorial phase. Ethnographic records also show that occasionally random individuals may have been elevated to the chiefly status by outsiders.[12] Such "nominated" leaders legitimized by the Carolingian authorities could have existed in the multi-agent organization of the TSA.

Multi-agent Organization of the North Central European Plain, Late 600s–800s CE

The term multi-agent organization denotes a society governed by multiple centers of decision-making, of which none dominates the others. It is not a stage in the evolution of political organization, for such organization emerges under conditions such as the need to organize a military alliance in response to specific pressure. When the thread dissipates, the structure dissolves. Thus, multi-agent organization is a short-lived dissipative sphere of authority, often military in character, which may not always be recognizable archaeologically.

During the late 600s CE and in the 700s CE, first fortified settlements appeared to protect the assets of territorial communities. Those known from the lower Oder River, consisted of defensive walls built in naturally elevated areas (for instance Feldberg in Mecklenburg) and were probably inhabited by one kingroup, others included a stronghold. Both types represented localized manorial organization. Throughout the 800s CE politically integrated clusters of fortified settlements formed a network of standardized in construction forts. The cause for such integration could have been political/military (Carolingian-inspired TSA), or economic (commerce-driven coastal NCEP), and it reinforced the one-tier above the base-tier settlement pattern of the manorial organization. Such multi-agent structure, which formed a region-wide territorial military alliance with autonomous local leaders, fits the definition of chiefdom by Carneiro (1981: 45): "a chiefdom is an autonomous political unit comprising a number of villages or communities under the permanent control of a paramount chief," which, as Earle (1987) pointed out: "was rather

[10]The basic condition for human interaction in less complex societies; balanced rather than generalized, cf. Sahlins (1972: 193–195).

[11]Witnessed by Pospisil among the Kapauku of New Guinea, cf. Pospisil (1963: 49).

[12]For instance the Ojibwa chiefs, who have been labeled as leader by the European traders and later accepted as such by their peers, cf. Hallowell and Brown (1992).

Table 3.6 Change of inhabited area in Pomerania 600–900 CE

600s–700s CE	800s CE	900s CE
Inhabited area 5480 km^2 (18.98%)	Inhabited area 11,715 km^2 (40.57%)	Inhabited area 12,880 km^2 (44.61%)

Total area 28,875 km^2 (data compiled after Łosiński 1983)

Table 3.7 Density of settlements in Pomerania 600–900 CE (data compiled after Łosiński 1983)

600s–700 CE	800s CE	900s CE
1 site per 25.37 km^2	1 site per 16.85 km^2	1 site per 13.94 km^2

Table 3.8 Percentage of forts constructed in Pomerania between 700 and 1000 CE

700s CE	800s CE	900s CE	1000s CE
15%	33%	33%	18%

loosely defined as a polity that organizes centrally a regional population in the thousands." There are two main features of multi-agent sphere of authority: (1) control of power by cooperating centers, and (2) impermanent administration and decision-making. The lack of permanent decision-making centers (capitals) caused failures in redistribution evidenced by the collapse of the network in the late 800s early 900s CE.

The quantitative data from Pomerania (Lozny 2011) exemplify the process of social change that led to the emergence of the multi-agent sphere of authority of the 800s CE. The data presented in Table 3.6 show significant expansion in inhabited area before the 800s, which corresponded with the enlargement of arable land, and stabilization during the 800s and 900 CE (increase in inhabited area $\sim$4%), the time of the TSA multi-agent organization, revealed by the data on settlement density shown in Table 3.7 and the number of constructed forts presented in Table 3.8.

The construction of forts stabilized in the 800s CE and 900s CE and declined after 1000 CE. A dissipative stage in the construction of forts during the 800s–early 900 CE indicates the emergence of a stable non state-level political organization and its collapse caused by decline of the Carolingian Empire and political competition from Greater Poland, where a state formation process was underway in the late 900 CE.

In Table 3.9 I summarized settlement density in Pomerania 600s–900s CE. The data show significant quantitative difference in settlement density between the 600–700s CE and the 800s CE.

The multi-agent political organization may have also been ruled by titled leaders of small territorial units whose Byzantine sources named as *primates, archontes, etnarchai, fylarchai,* and *hegemones* and titled leaders of larger organizations named *reges*.

Table 3.9 Settlement density in Pomerania 600–900 CE

Type of settlement	600s–700 CE	800s CE	900s CE
All sites (km^2)	1 per 25.37	1 per 16.85	1 per 13.94
Forts (km^2)	1 per 94.48	1 per 65.81	1 per 73.18
Villages (km^2)	1 per 42.48	1 per 29.14	1 per 21.76

Political Organization in the NCEP, 500–1000 CE: A Model

In light of the above discussion I propose four forms political organization in the NCEP, 500–1000 CE in regard to the level of networks of interdependence (sphere of authority):

Participatory polycentric governance organization of the EMA phase 1 with a one level of span of social control and leaders controlling one kingroup (community of practice). The unified material culture and a base-tier settlement pattern suggest that people shared similar socioeconomic status and cooperated on consensus. Their identity related to a community of practice and the materiality of shared culture.

Manorial organization of the EMA phase 2 culture comprised localized fortified villages and early forts, seats of local chiefs that controlled several kingroups and surrounding villages. Fortified settlements may have also been recognized as common good. Population growth in the 700s CE is evidenced by the size of villages and increasing density. Distinction of social statuses is confirmed by jewelry and the appearance of technologically advanced pottery of the Feldberg type. One-tier settlement pattern above base-tier and two-level span of social control suggest kinship-supported hierarchal leadership and possibly big-man-like status characterized by limited accumulation of wealth. Minor evidence of distinction of social statuses suggests cooperation by consensus rather than enforcement. Social identity extends beyond the community of practice, but is still based on the materiality of shared culture with distinction of social statuses.

Multi-agent political organization of the EMA phase 3 composed of a region-wide network of forts and villages. It was the Carolingian-controlled (inspired?) buffer zone separating the Empire from the Vikings and their sphere of influence. It was the first region-wide attempt to politically unify larger area of the NCEP. It is identified here as the Tornow Sphere of Authority run by military leaders, either local, elevated to the position of leaders by the supportive Carolingian authority, or Carolingian governors. This political organization was supported by the one-tier settlement pattern above the base-tier and three-level span of social control, which included military leaders, village heads and kinship/communal leaders. Investment in strengthening the defense system after 875/885 CE suggest increased conflict and warfare at the fall of the Carolingian Empire. The appearance of forts

corresponded with a new burial custom[13] which strongly suggest diversity in social statuses. Communities of practice diminished in their significance and may have survived outside the forts. Specialization of professions (military or artisans) and pragmatic choices contributed to local identities of otherwise multicultural communities, represented especially by the coastal societies of the NCEP.

Prestate level complexity of the EMA phase 4 (nuclei of future states; chiefdom) comprised two-tier settlement pattern of two levels above the base-tier and three levels of span of social control. The collapse of the Carolingian Empire in the late 800s CE created a political vacuum that inspired local chiefs, who may have been elevated to power during the Tornow phenomenon, to politically integrate regions at the fringes of the Carolingian domain, hence the evidence of the two-tier settlement pattern in the 900s CE, the seed of a state-level polity that emerged in the eastern outskirts of the TSA, Greater Poland, in the late 900s–1000s CE.

Conclusions

Theories on state formation suggest that factors such as population growth, warfare, and circumscription[14] were crucial in altering social organization. The data discussed in this chapter do not corroborate neither of these causes prior to the late 700s–800s CE. Thus, other socioeconomic conditions are presumed to have contributed to mobilization of local societies to change their political pattern from compounds and small villages of the EMA phase 1 to localized manorial organization of the EMA phase 2. The lack of convincing evidence for centralized (coercive?) power between the 500s and late 700s CE suggests segmentary rather than hierarchal form of social organization and that further suggest a possibility that cooperative behaviors have been practiced with a pattern of nested polycentric governing institutions to manage local common pool resources which was the key strategy to mitigate risk and secure sustainable existence.

However, population growth, political circumscription, and increasing warfare (perpetual low-threshold conflict) played a significant role in social dynamics of the late 700s and the 800s CE, when older localized fortified settlements were replaced by a region-wide network of smaller and standardized in size and construction forts that served as Carolingian military outpost. It appears that the makers of Feldberg pottery initiated the social change related to the pre-Tornow manorial organization, which materialized in the emergence of isolated fortified settlements and accompanying villages. In the late 700s–800s CE some of the villages and fortified villages turned to TSA ringwall forts and became vital elements of the region-wide transient political network. This new multi-agent socioeconomic pattern was not a state-level polity, however. It declined at the end of the 800s. The improved local

[13]Elaborate burials of the Alt Käbelich type, cf. Dulinicz (2001: 8–9).

[14]See Carneiro (2012).

economic and political conditions supported by the temporary political stability secured by the TSA, contributed to individual accumulation of wealth and power causing further diversification of rank and the emergence of specialized crafts. If this multi-agent polity was not Carolingian-inspired, internal self-organization could have been among the principal mechanism behind its appearance, but if it emerged as a Carolingian-controlled military buffer zone against the Norse, invasion and cultural diffusion may have caused its onset.

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Chapter 4
Trade and State Formation in Ancient East African Coast and Southern Zambezia

Chapurukha M. Kusimba, Nam C. Kim and Sibel B. Kusimba

Introduction

One of the most significant transitions in history was the emergence and institutionalization of the state and social inequality (Feinman 1995: 225). Inequality is the means through which an individual or groups of people are denied equal access to wealth, power, and prestige. This chapter contributes to the ongoing debate on the emergence of the state and inequality worldwide; a debate that has not yet incorporated the rich data from Sub-Saharan Africa (Kim et al. 2015; Monroe 2013). We focus on two regions which have received extensive research: the East African Coast (hereafter EAC), and the southern Zambezian region (hereafter SZ). We address the factors that contributed to the rise and development of the state and creation of social inequality: trade, extractive technology and the elite monopolization of wealth-creating resources.

The EAC and the SZ experienced major transformations towards the end of the first millennium AD (Chami 1998; Chirikure 2014; Chirikure et al. 2013a, b; Kusimba 2008; Manyanga 2006:138; Pikirayi 2010; Sinclair et al. 2012). These transformations included rapid demographic growth, an increase in societal inequality with differences in household size, wealth, and status, and the emergence

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of site hierarchies (Kirkman 1964; Manyanga 2006:138; Wilson and Omar 1997). What factors contributed to the rise of societies that increasingly embraced inequality out of egalitarian and heterarchical societies of Africa? We will look for archaeological clues to tell us why leaders emerged in communities, polities, and states (e.g., Earle 1997). How and in what ways did these polities function? How did these incipient leaders centralize authority and consolidate their power? What was the nature of relationships amongst these states and their neighbors? And what was the relationship between these larger settlements with small, more peripheral and frontier states?

As in other regions around the world, a variety of factors are associated with inequality in Africa, including elite control of internal and external trade infrastructure, restricted access to arable land and accumulation of surplus, manipulation of religious ideology, and exploitation of ecological crises. In a recent paper, Kim et al. (2015) discuss the role of violence and warfare in precolonial SZ and raise the possibility that organized violence resulted from tensions and competition to monopolize access to fertile grazing lands and water sources. An increase in fortification, use of offensive and defensive weaponry, and evidence of destruction, disruption, and relocation of settlements show the rise of inequality through violent means (Kim et al. 2015).

On the other hand, research on the East African coast shows a trajectory in which elite engagement with local, regional, and transoceanic trade and exchange networks created unequal opportunities for the emergent elite to accumulate wealth and profit (Chirikure 2014; Chirikure et al. 2013a, b; Fleisher et al. 2015; Kusimba et al. 2013; Pwiti 2005; Sinclair et al. 2012; Wood 2005). Here, restricting of access to information, arable land, and boats coupled with the use clever use of ideological power enabled a small but powerful elite to wrest control of the regional political economy for many generations (Fleisher et al. 2015; Middleton 1992; Kusimba 1999a, b 2008, Kusimba et al. 2013).

The emergence of economic, political, and ideological inequality occurs through a combination of both peaceful and coercive means (Kim and Kusimba 2008; Kim et al. 2015). In this chapter, we draw from recent archaeological research in Eastern and Southern Africa to explain the emergence of socially and politically hierarchical chiefdoms, polities, and states in this region. We identify three main sources of social power: trade, elite investment in extractive technologies, and monopolization of wealth-creating resources.

Along the EAC, we find that autonomous city-states developed primarily as a result of trade on local, regional, and trans-continental scales through Indian Ocean Trade. In spite of the wealth the Swahili elites amassed, their city-states remained independent. In Southern Africa, the SZ developed similar political formations, but in this highland fertile plain some polities were able to extend their political control over larger geographical areas. Like the Swahili, the Zimbabwe elites were wealthy through trade, taking tribute from foot caravans of gold and ivory bound for the southern Swahili Coast. In the case of Zimbabwe, militarism was a second strategy

to consolidate power over the geography of these trade conduits (Chirikure 2014; Sinclair et al. 2012).

The origins of social complexity, urbanism, and archaic states are of profound interest for social scientists. Investigating social evolution is an important aspect of elucidating culture change and human organizational behavior, and this is one of the core missions of anthropology. Studying the evolution of social complexity among the Swahili city-states and the Zimbabwe Plateau demonstrates that trade and militarism are sources of political power for African elites, as they were in other parts of the ancient world. We discuss the impact of these findings in understanding today's dilemmas of power and inequality.

Defining the State

The state represents a structural transformation from more simple evolutionary stage –bands, tribes, and chiefdoms (Oberg 1955; Service 1975)—and incorporates a qualitatively different set of integrative principles. Trigger (2003:92) defines the state as: "a politically organized society that is regarded by those who live in it as sovereign or politically independent and has leaders who control its social, political, legal, economic, and cultural activities." All states, irrespective of temporal or spatial location, display a recognizable group of diagnostic features related to these distinctive integrative principles and reflected in aspects of material culture. These features include urbanism, social stratification, political organization, production, specialization and exchange, and long-distance interactions (e.g., Blanton et al. 1996; Feinman 2001). The conditions for transformation from band level/egalitarian to statehood include a growth in population and an increase in surplus mobilization that require alterations in regulatory strategies which transcend the limitations of chiefly efficiency (Earle 1997; Johnson and Earle 2000; contra Trigger 1989:289–303). The state emerges when a new administrative technology, new administrative facilities, and new kind of administrative system are created (Spencer 1990).

Some forty-five years ago Robert Carneiro (1970) divided theories of the state into two main categories: voluntaristic and coercive. Voluntaristic theories attributed the evolution of states to peaceful means through the concerted endeavors of individuals acting in their own self-interest, but without the use of force (e.g., Fried 1967: 141; Schaedel and Robinson 2004: 263; Wittfogel 1957: 18). Coercive theories held that only through the outright use of force—primarily warfare—were local autonomies surmounted and villages welded into a larger unit with an overarching political structure. Only in this way could chiefdoms, and then states, have arisen (Carneiro 1970: 733–734). Carneiro had argued no political unit, regardless of its size, could voluntarily relinquish its sovereignty; force was necessary (see also Kim 2013; Kim et al. 2015).

What is the irreducible minimum of essential features that make up the core of any successful theory of state origins? And, second, what auxiliary elements must

be introduced into the theory to account for any case not fully explained by the general theory? The archaeological records show that localities where states were most likely to evolve shared certain features. First, where environmental circumscription existed, it provided an enormous impetus to state formation. Inequality did emerge and develop more rapidly environmentally circumscribed than in uncircumscribed areas. For example, the world's first states, including Ancient Egypt, Mesopotamia, and Yellow River among others arose in areas marked by environmental circumscription. Population pressure in circumscribed regions causes communities to "press against each other with greater force than would have been the case in an uncircumscribed area. As a result, the series of steps that led to the formation of multi-village polities – first chiefdoms and then states – took place faster here and culminated sooner, than would have been the case had circumscription been absent" (Carneiro 2012: 13). Carneiro believes that warfare is the fuel—the propellant—that powers political evolution by breaking down old small-scale structures, allowing for the building up of larger, more inclusive and more complex political units (Carneiro 2012: 21).

In describing early states, Trigger (2003: 47) emphasizes the importance of kinship ties and the use of force to maintain political power. His definition makes clear that early states were socially stratified, and that individuals occupying the highest strata possessed and maintained the most wealth, status, and political power. "The core of such an early state (or complex chiefdom) was an ethnic group, tribe, or ruler's kindred to which other groups willingly or unwillingly paid tribute" (Trigger 2003: 47). The means through which these members of the upper strata were able to gain and maintain their power likely included a mixture of physical as well as ideological power.

Trigger also makes an important and necessary distinction between "city-state" and "territorial state". This dichotomy is germane to our discussion of Iron Age EAC and SZ, as there are differences in size, scale, and territorial extent for certain polities. Trigger (2003:92) echoes Mabogunje's (1962) notion that city-states were relatively small polities, consisting of an urban core surrounded by farmland containing smaller units of settlement. In contrast, territorial states govern a larger region through a multileveled hierarchy of provincial and local administrators in a corresponding hierarchy of administrative centers (Huffman 1986c, 2007).

In sum, states can be characterized by centralized political authority resting in the hands of a small elite group, wherein the power is oftentimes physical, economic, and ideological by nature (Mann 1986; Morris 1998: 98). Furthermore, an urban or semi-urban center often served as the central nodal point of interaction, serving as the capital and destination for agricultural and material tribute from the surrounding hinterland (Yoffee 2005: 91).

With this brief definition of the characteristics of state-level societies and some of their material signatures, we now turn to the archaeology of Later Iron Age societies on the EAC and in SZ, where important transformations from acephalous to state societies occurred toward the end of the first millennium AD. The question we address here is the form and degree to which states existed in prehistoric East

and Southeast Africa. What is the archaeological evidence there to indicate the presence or absence of state-like societies?

The Medieval Swahili State

Five decades of archaeological study documents the emergency of complex chiefdoms, city-states, and states in Eastern and Southeastern Africa (Fig. 4.1; Abungu 1998; Fleisher 2003; Horton 1996; Juma 2004; Kusimba 1999a; LaViolette and Fleisher 2005; Middleton 1992, Middleton and Horton 2000; Pikirayi 1993, 2001, Pwiti 1996; Sinclair and Hakansson 2000).

The EAC is characterized by small to large-scale settlements built of coral stones and rag (Chami 1998). Most settlements were surrounded by a perimeter wall and were located along rivers mouth, inlets, islands that commanded strategic advantages over would be commercial partners, competitors, or detractors (Figs. 4.2 and 4.3). Archaeological research shows reveals that by the tenth century AD, the residents of the EAC, hereafter EAC, occupied diverse trade and occupations including full-time farmers, fishers, traders, scribes, rulers, and enslaved persons (Fleisher 2010; Kusimba et al. 2013). Wealth from Indian Ocean trade was the main catalyst for the rapid development of urbanization on the EAC social inequality (Middleton 2004; Kusimba and Kusimba 2003). Equally important in its emergence was the commercial and cultural dialogue maintained between the EAC and hinterland African peoples (Kusimba et al. 2005, 2013; Pearson 1998; Walz 2010). The residents of these cities and states were initially drawn from different language groups but in time, one language, Kiswahili, became the dominant language. Kiswahili is one of more than 800 Bantu languages spoken in sub-Saharan Africa (Nurse and Spear 1985; Nurse and Hinnesbusch 1993). Introduced to the EAC around AD 800, Islam gradually expanded to become the primary religion and means of elite cultural expression by the time of European contact in early AD 1500 (Horton 1996; Middleton 2004; Middleton and Horton 2000; Pouwels 1987, 2002; Wynne-Jones 2013).

Economic and social interaction amongst these diverse groups laid the foundation from which international trade exchange systems interlocked (Kusimba and Kusimba 2005; Fleisher and Wynne-Jones 2010; Fleisher et al. 2015). By the end of the first millennium AD, the EAC had become a regular partner in the millennial old long distance exchanges that reached as far as the Arabian Peninsula, India, Sri Lanka, and China (de Vere Allen 1993; Pearson 1998; Kusimba and Oka 2008; Oka and Kusimba 2008; Mitchell 2005). By the thirteenth century there had emerged an African urban elite that financed, managed, and controlled local, regional, and interregional trade and communications along the East African seaboard (Chami 1998; Kusimba 1999a, b). Innovations in ironworking aided agricultural intensification and specialization in hunting, fishing, and herding (Abungu 1990; Horton 1996; Kusimba 1993, 1996). These changes improved the quality of life and precipitated population growth, and economic prosperity. In the late fifteenth

Fig. 4.1 Map of the East African Coast and Southern Zambezia showing Late Iron Age Archaeological Sites known

Fig. 4.2 **a** By the twelfth century, there was a visible and powerful political and economic elite on the East African Coast and in Southern Zambezia who were investing in large-scale permanent residences like this still standing nearly 800 years later at Gede National Monument, Kenya. *Photo Credit* Chapurukha Kusimba. **b** Introduced in East Africa by merchants who regularly trade with local people, Islam gradually became a religion of choice such that by the thirteenth century the majority of coastal East African cultural, economic, and political affairs were influenced by Islamic traditions. The ruins of mosques such this one at the Gede National Monuments are a part of the cultural landscape of virtually all known settlements on the East African Coast. *Photo Credit* Chapurukha Kusimba

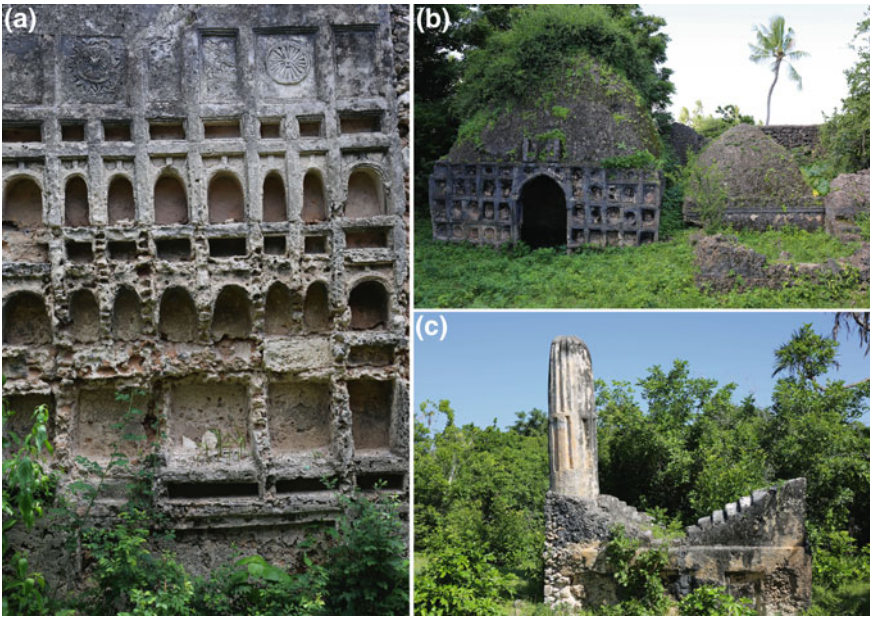

Fig. 4.3 **a** The super wealthy embraced a global consumption style that is not different from modern days elite tastes. We can never truly understand the kinds of artifacts that were displayed in the niches on the ruins of this elite house in Siyu, Kenya, but we sure can appreciate the quality of the workmanship and the willingness to invest in such edifices that were kept in the inner rooms for the only for the enjoyment of the very few inner circle friends and family members. *Photo Credit* Chapurukha Kusimba. **b** Archaeological determination of gender equity is often elusive. However, for the East African Coast, Late Iron Age women held as much power as men. Being primarily matriarchal and matrilocal ensured that women inherited their father's estates. In death, these powerful women were often memorialized in domed tombs decorated with expensive, often trade exotica. The tombs of Siyu, shown here, provide excellent examples. *Photo Credit* Chapurukha Kusimba. **c** Similarly, men were memorialized in tombs but unlike women, they were constructed with a phallic pillar, a tradition that is widely practiced in Northeast and Eastern Africa. *Photo Credit* Chapurukha Kusimba

century, however, the EAC became embroiled in long standing conflict between Christendom and Islam, represented by the Portuguese and Omani Arab mercantile interests. The Portuguese and Muslim rivalry for control of Indian Ocean commerce was economically crippling for East Africa (Alpers 1975; Kusimba 1999a, 2004, 2006; Nwulia 1975; Sheriff 1987).

The Coast's Relationship with the Hinterland

Historians have documented in the existence of active trade between hinterland societies and the coastal towns and cities (Alpers 1975; Robertson 1997; Sheriff

1987). Some hinterland communities had a monopoly on direct trade: the Giriama, Akamba, and Oromo in Kenya and the Nyamwezi, Yao, and Makua in Tanzania and Mozambique. In Kenya, regional and interregional trade was carried out among the Akamba, Oromo, Taita, Waata, Giriama and Swahili from earlier times (Fig. 4.4; Robertson 1997). The Waata foragers of Tsavo hunted game such as elephant, rhino, zebra, buffalo, and ostrich, and sold the skins, dried meat, and ivory to coastal Mijikenda in exchange for palm wine, cloth, grain, and beads. The Oromo pastoralists traded ivory and cattle with Pokomo, Giriama, and Swahili. The Taita agropastoralists visited the coast to sell sun-dried vegetables, meat, ivory, and

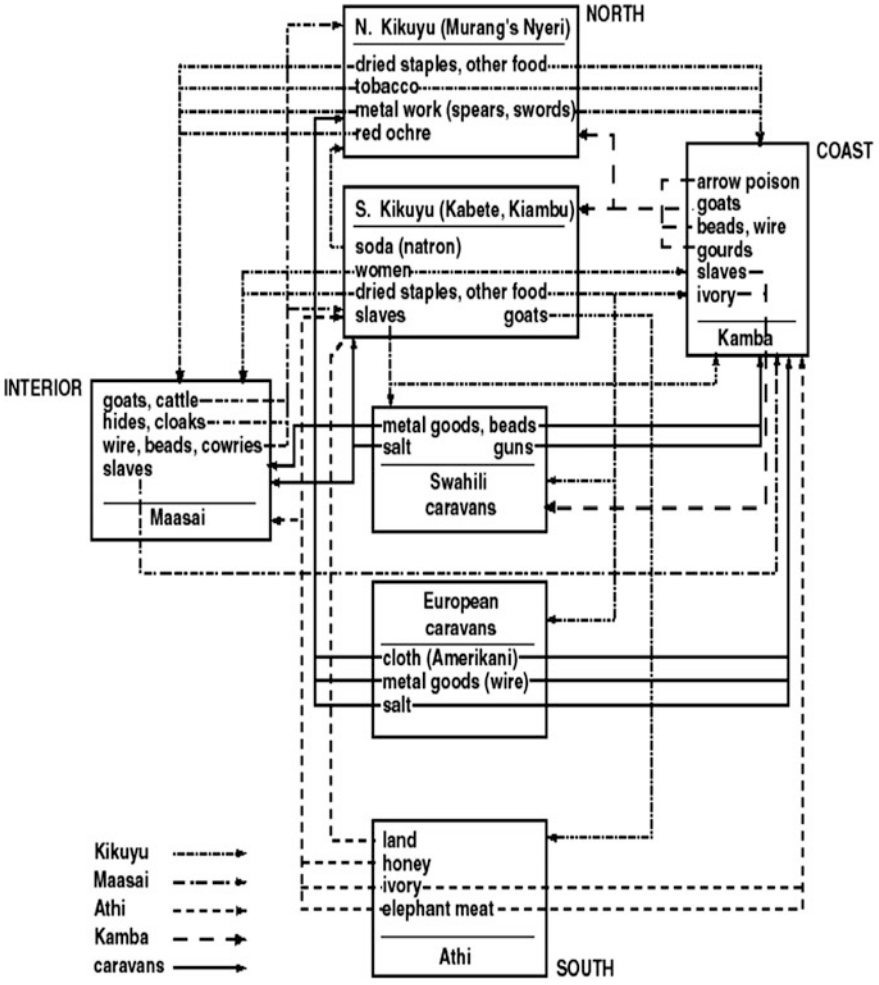

Fig. 4.4 This model of nineteenth century trade and exchange networks credited to Clair Robertson (1997) is very much akin to interactions that preceded them in the hinterland of Tsavo and the coast

grains in exchange for palm wine, cloth, beads, and hardware. The Taita farmers would travel to Jomvu Market, near Mombasa, to sell ivory and cattle directly to Swahili, Arab, and Indian merchants. The Akamba agropastoralists were trading partners with Giriama, Taita, and Waata. The Akamba would come to coastal markets and Giriama traders would travel to Akamba land for ivory and cattle (Kusimba et al. 2013).

These trade relationships were dependent on fictive kin ties called undugu wa chale (blood brotherhoods) in Kiswahili (Herlehy 1984: 293–294; Prestholdt 2004; Fig. 4.5). Brotherhoods created opportunities for strangers, competitors, and potential enemies to peacefully enter into contractual obligations that legitimized their partnership in the wider community. Membership into the community conferred certain advantages: freedom to mutually exploit resources while enjoying the protection of the whole community. In this sense, brotherhoods served to reduce tensions and suspicions arising from competition for resources while simultaneously providing opportunities for access to technical and sacred knowledge (Herlehy 1984; Kusimba et al. 2013).

Research in Kasigau, a hinterland chiefdom, 150 km from the nearest coastal city of Mombasa, shows that for 1500 years, Kasigau was the first major stopover, about three day's journey from coastal cities. Kasigau and other settlements located

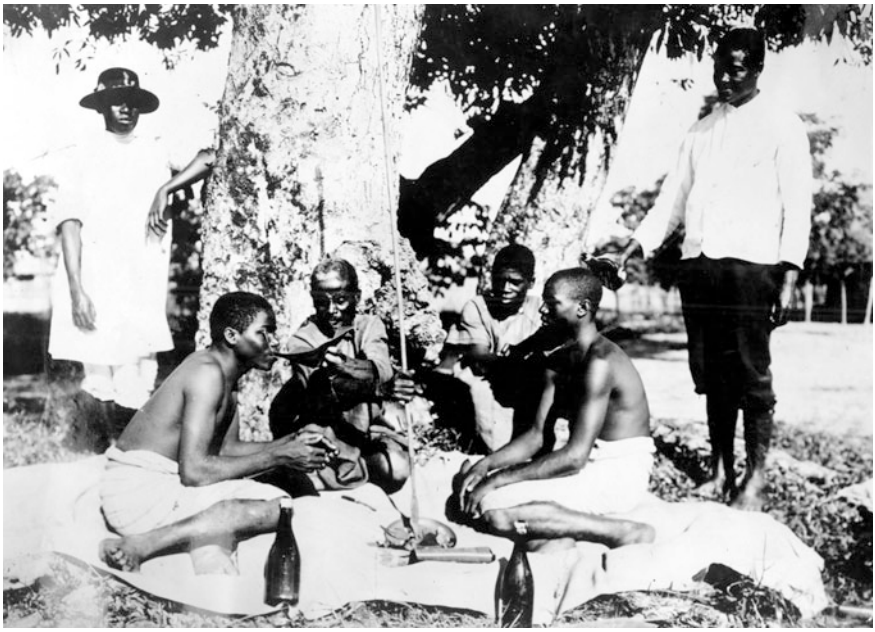

Fig. 4.5 Blood Brotherhood, called *Undugu wa Chale* in Swahili, served to legitimize friendships between trading partners. The scene shown here was witnessed by American Anthropologist Ralph Linton among the Tanala peoples of Madagascar in 1928. *Photo Credit* Ralph Linton, the Field Museum of Natural History

along trade routes, likely served as collecting and distributing centers (Wakefield 1870) of diverse trade items–ivory (raw and cut), iron bloom, rhinoceros horn, rock crystals, poison, bows and arrows, hides and skins, honey and beeswax, milk, butter, buttermilk, and other animal products (Fig. 4.6). The trade items desired by the peoples in Kasigau were beaded products, cloth (both South Asian textiles and Swahili), marine shells, ostrich eggshell, and glass beads (Kusimba 2004; Kusimba and Kusimba 2005; Kusimba et al. 2005; Walz 2010; see Table 4.1).

The Kasigau region was fairly densely populated as indicated by the 250 sites found (Fig. 4.7). Excavations at Kirongwe 1 (K1) turned up evidence for intensive iron production spanning 800 years. The volumes of slag demonstrate that the most intensive iron smelting occurred during the deposition of these levels, dating from 840 ± 70 to 1150 ± 70 years B.P., a time when urban growth was intensifying on the coast (Kusimba et al. 2013).

Iron was an important craft and exchange item. K1's iron was probably used in the manufacture of household and farm implements as well as weapons used primarily for hunting and meeting the demand for hinterland items from the coast. Iron accelerated intensification in terrace farming and livestock husbandry in the hinterland (2005; Kusimba et al. 2013) and enabled people to kill elephants, whose ivory was in high demand in Eurasia. This early demand for ivory was conducted largely by Waata and Okiek hunters who had patron-/client relationships with the more dominant pastoralists, who in turn supplied ivory to the coastal trading partners (Kusimba 2007, 2009; Kusimba 2003; Kusimba et al. 2005, 2013; Thorbahn 1979).

On the Swahili coast, the nature of relationships between the city and their hinterlands prior to AD 1500 was more inclusive and accommodating and less coercive. The period between AD 1500 and 1900 was characterized by warfare and the slave trade, which combined to undercut the trading networks that had developed earlier (Kusimba et al. 2013; Prestholdt 2004; Thorbahn 1979; Walz 2010). By the eighteenth century many towns and cities were abandoned due withstand international competition and conquest (Kusimba 1999a, 2006; Walz and Brandt 2006).

The Emergence of the State in Southern Zambezia

The earliest recorded manifestations of social complexity and state formation in central and southern Africa are in SZ. Both in terms of coverage, prominence and controversy, research in the Zimbabwe plateau centered on Great Zimbabwe has dominated the region's archaeology (Bent 1892; Beach 1980, 1998; Caton-Thompson 1970; Chirikure et al. 2013a, b; Chirikure and Pikirayi 2008; Hall 1990; Huffman 1996, 2007, 2009; Ndoro 2001; Pikirayi 2001, 2010; Pwiti 1996; Soper 2006 see Fig. 4.8).

The Zimbabwe Culture is characterized by the presence of massive dry stone architecture erected in a variety of styles (Huffman 1996; Pikirayi 2001: 3;

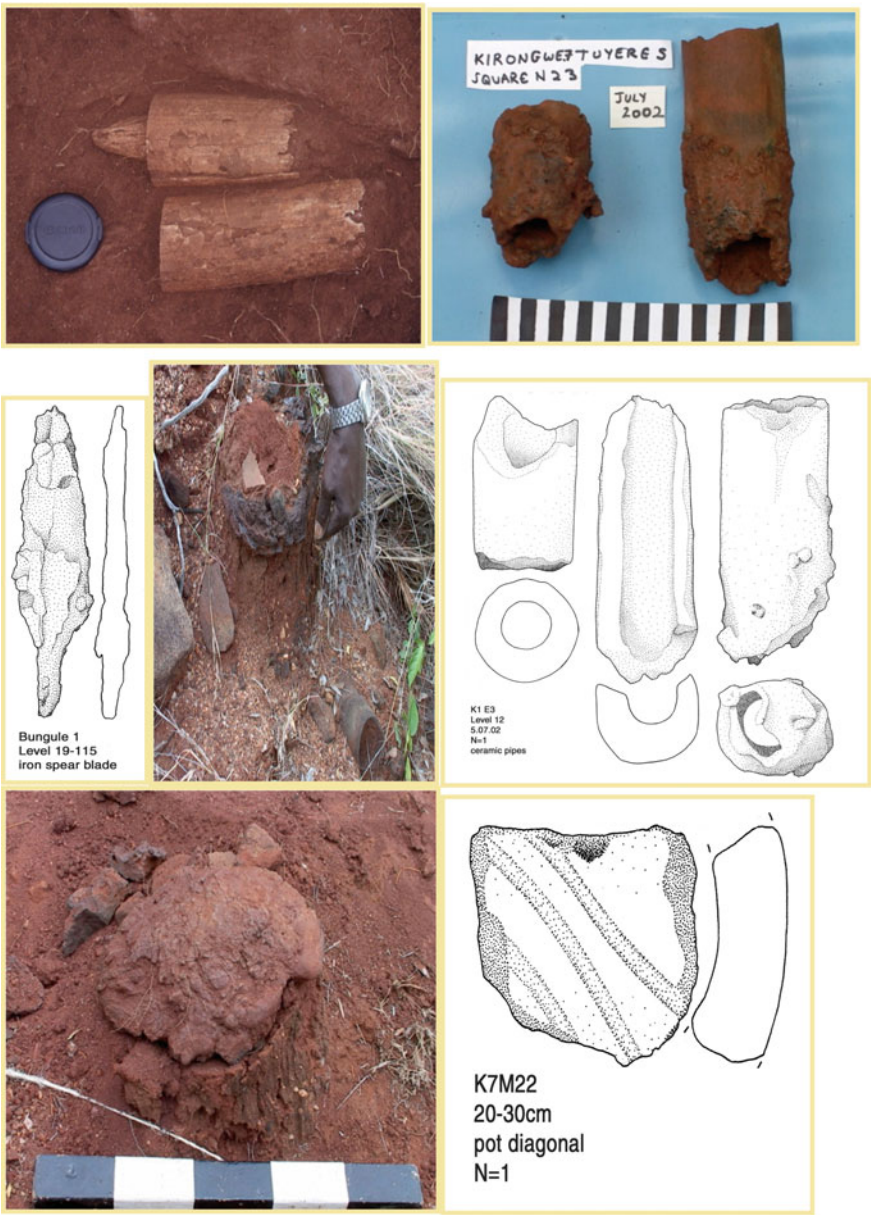

Fig. 4.6 Investment in extractive technologies like iron working and gold mining in the hinterland, created wealth but also indirectly influenced investment in secondary economic activities such as hunting and processing of animal products such as ivory and cat skins for export

Table 4.1 Some known items of trade between the coast and hinterland

From interior to coast	From coast to interior
Ivory	Cloth and textiles
Rhino horns	Beads
Gold, rock crystal	Cowrie shells
Iron bloom	Dry fish
Leather (skins and hide)	Imported ceramics
Dairy products	Oils
Honey and beeswax	Guns and flint
Enslaved persons	

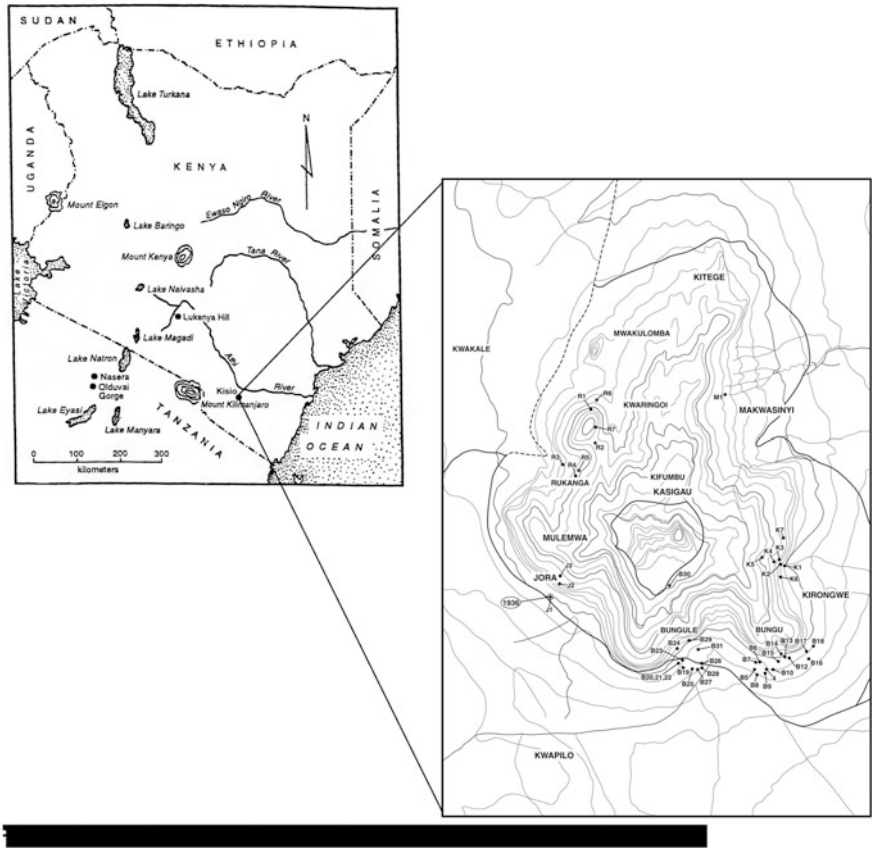

Fig. 4.7 The hinterland Taita Chiefdom in Mount Kasigau about 100 miles from the Coast developed primarily due to its strategic location on the trading routes linking the coast and the interior. The map shows the intensive settlement of the Mountain at the height of the trade interactions with the coast ca. AD 1300–1750

Fig. 4.8 Map of Southern Zambezia showing Zimbabwe style chiefdom and state sites

Fig. 4.9). Ongoing research in the region by archaeologists including Gilbert Pwiti, Innocent Pikirayi, Shadreck Chirikure and their students is revealing that SZ is one of the most exciting places to conduct long-term research in the evolution of the state and inequality. Dating from approximately the eleventh to the late nineteenth centuries, the Zimbabwe Culture can be divided into three main cultural periods.

Fig. 4.9 **a** As class differentiation increased, measures were taken by the elite to ensure adequate security for the citizens and the their leaders. Fortifications in Southern Zambezia provide strong evidence for the role of warfare in the emergence of social complexity in the region. *Photo Credit* Shadreck Chirikure. **b** The majestic wall of Khami with its beautiful masonry portrays the innovation that accompanied the genius of Great Zimbabwe. *Photo Credit* Shadreck Chirikure

The first phase, the Mapungubwe phase, date from the mid-eleventh century until the late thirteenth century AD. The site of Mapungubwe, the type-site for this first phase, attained regional prominence during the thirteenth century, managing the resources of a territory equivalent to a state in both political and economic terms (Pikirayi 2001: 3). The second phase is the Great Zimbabwe phase dating from approximately 1270 to 1550 AD. The second phase is highlighted by the territorial state Great Zimbabwe. The third phase dated from the sixteenth century and was based at the Mutapa and Torwa states (Pikirayi 2001: 3). In this chapter, we focus on the first two phases—Mapungubwe and Great Zimbabwe—we cannot effectively assess the emergence of these states regional dominance without first revisiting the region's cultural history prior to Mapungubwe's ascension.

The Pastoral and Agrarian Origins of the Zimbabwean State

Until the last millennium BC, Southeast African subsistence economies were based primarily on foraging (Mitchell 2002; Walker 1995). As more people acquired cows beginning around ca. 150 BC, the quality of life improved while simultaneously laying the germ for the emergence of social and economic inequality (Pikirayi 2001: 77). Typically agrarian communities emerge beginning from the early century of the first millennium AD (Pikirayi 2001: 80). These communities appear to be quipped with a complete tool kit of iron technology, distinctive ceramics, and new crops (Huffman 1982; Mitchell 2002: 259; Pikirayi 2001: 80). Farming, herding, and foraging, created a more diversified economy that was conducive to demographic growth (Huffman 1996) such that by the fourth or fifth century AD much of southern Africa had adopted food production (Hall 1990; Mitchell 2002; Pikirayi 2001: 79; Van der Merwe 1969).

Farming and pastoralism transformed the cultural mindset and the landscape. Local and interregional trade flourished amongst foragers, herders, and farmers. Iron smelters, blacksmiths, and potters prospered. Demographic changes were regional. Residential areas became larger as did gardens and farmsteads. Owning cattle signified wealth and status but also required labor to maintain. Mitchell (2002: 288) proposes that "domestic animals and crops imply private property; long-term storage of cereals suggests this must have been controlled within families or perhaps centrally within villages." Presumably property rights and an adherence to territorially affiliated beliefs and ancestor cults were established at this time (Pikirayi 2001: 79).

Toward the mid to late first millennium the interaction sphere in SZ had extended to other areas. Long-distance trade and exchange with the coast had been established and increasingly became one of the chief means of accumulating wealth in addition to pastoralism and farming (Mitchell 2005; Pwiti 2005; Sinclair et al. 2012). The hunting and processing of ivory for export evidenced at larger sites indicates the complexity of coastal-Zambezian relationships, which promoted investment in the procurement of trade items in high demand. Such demand required investment in

the infrastructure necessary for producing these items. Specialized craft activities, such as ivory working, recovered on larger first millennium sites also served as catalysts for development of related crafts including iron working and gold mining. Ivory procurement created a group of highly specialized hunters who would have sought to restrict the specialized knowledge to their group. Trade with the coast thus indirectly helped diversify the local and regional political economy of Zambezia (Chirikure 2014; Mudenge 1974). In Mitchell's words, "such specialisation …facilitated the expansion of trade and the possibilities for individuals or groups to benefit … at the expense of others, including opportunities for accumulating larger herds of cattle" (2002: 289). In this regard rapid demographic growth, food security, favorable and stable climate, investment in highly specialized craft activities, and long-distance trade combined to lay the foundations for the development of the larger chiefdoms to become states in SZ (Pwiti 1996; Manyanga 2006: 21; Mudenge 1974).

In sum, it is evident that by the mid to late first millennium AD greater amounts of wealth and status were being conferred upon certain segments of societies in the region (Manyanga 2006: 139). By the late first millennium AD, ivory and skins were already being exported overseas, with sites like Chibuene interfacing between interior and transoceanic trade routes (Chirikure 2014, Chirikure et al. 2013a, b; Mitchell 2002: 300; Pwiti 2005; Sinclair 1982; Sinclair et al. 2012). The presence of craft specialization and material symbols of high status are telling, and we can infer the onset of social stratification and private property on a level heretofore unseen in the region. The germ for hierarchical relationships, social complexity, and state development had been planted. By the early centuries of the second millennium, these farming villages and their lifeways had become well established. "Here and there small-scale confederations of subsistence farmers lived in stable agricultural regimens well adapted to their natural surroundings, adjusting to these changes in their social environment" (Pikirayi 2001: 95). These farming communities represented politically autonomous villages that would soon became states.

Great Zimbabwe: A Territorial State?

By the late thirteenth century, political centralization had developed in south-central Zimbabwe, culminating in the site of Great Zimbabwe (Caton-Thompson 1970; Garlake 1983; Huffman 1996; Manyanga 2006; Ndoro 2001; Pikirayi 2001: 123) and environs. In this region, major centers controlled by a powerful elite arose at Chivowa, Gumanye, and Great Zimbabwe Hill (Pikirayi 2001: 123; Sinclair 1987). As the leadership consolidated and accumulated more wealth, they fortified these settlements creating hilltop palaces that afforded leaders commanding views of the surrounding landscape (Manyanga 2006: 82) while simultaneously camouflaging them from those below. In contrast to Mapungubwe sites, which were located on terraces, the Zimbabwe settlements shifted to more elevated hilltops with

fortification and water (Manyanga 2006: 82). The decline of Mapungubwe partially caused by drought related stress, severe water shortage, famine, pestilence, and warfare ushered in the rise of Great Zimbabwe as the most powerful urban complex. In time, Great Zimbabwe was to become the center of a powerful hegemony of allied lineages and by far the largest precolonial state in SZ, and the most commanding presence in Southern Africa and, in modern times, the pride of Africa (Pikirayi 2001: 124).

The capital city of Great Zimbabwe covered 720 hectares and was one of the largest in sub-Saharan Africa (Pikirayi 2010; Sinclair et al. 1993). A perimeter wall enclosed two main complexes, the Hill Complex and the Great Enclosure. Outside these elite residences lived up to 20,000 people, doubtless commoners or vassals of the elites. Significant evidence of ritual is found in elite residences of the Hill Complex, including six soapstone birds distinctive to this site. Spatial segregation, stone architecture, and the prominence of the Zimbabwe Hill were all meant to establish and separate elite spaces and elite decision-making. The extent of the Great Zimbabwe state has been estimated at 50,000 square kilometers, including much of the Save-Runde catchment in south-central Zimbabwe, which was a major conduit to the coastal trading ports such as Sofala. This hinterland is dotted with stone ruins, home to vassals that controlled distinct territories and exchanged gold for cattle, cloth and beads with the kings of Zimbabwe.

Elite monopolization of resource rich areas including well watered and fertile pasture land, coupled with investment in the crafts and control of local and regional market systems, would have created opportunities for accumulating much wealth. The accumulated wealth was in the form of cattle, food, women, and children. Like Mapungubwe, Great Zimbabwe elites financed the local craft industries including iron and gold mining, smelting and smithing, elephant hunting and ivory carving, and stone cutting and carving. These crafts were labor intensive and were carried out on a scale that required astute leadership and managerial skills. By the twelfth century, Great Zimbabwe elites had extended their networks east and added the coast as a major trading partner (Kusimba 2007; Pikirayi 2001:125; Pwiti 2005; Sinclair 1982; Sinclair and Hakansson 2000; Sinclair et al. 2012). Wealth drawn from regional and coastal trade was large enough to encourage elite investment in dry masonry stone architecture by the thirteenth century. Such investment in architecture institutionalized inequality. By 1270 an elaborate urban complex covering many villages and smaller towns and centered on Great Zimbabwe had emerged in Southern Africa (Pikirayi 2001: 125). This complex was engaged with its hinterland that extended in all directions into modern day Botswana, South Africa, Zambia, and Mozambique (Denbow 1984; Sinclair et al. 2012).

The city of Great Zimbabwe was a metropolis with many neighborhoods, including elite residences, ritual centers, public ceremonial courts, public forums, markets, as well as houses for commoners and artisans (Pikirayi 2001: 129). The site covered a broad area, housing a large population within a complex of massive walled structures (Pikirayi 2001: 129). The city can be divided into three main architectural zones, these being the Hill Complex, the Great Enclosure and the

Valley ruins (Ndoro 2001: 24). In the Hill Complex, the Great Enclosure, and the Valley was a large area that very likely hosted large communities of commoners and notables connected to the ruling elites. These residential quarters were built of mud structures and have since disappeared leaving open areas whose activities that have often been open to debate (Fig. 4.10; Pikirayi 2001: 131). Perimeter walls were constructed to enclose these sites, with peripheral settlements outside of the walls accommodating population growth and other urban functions. "The analyses of spatial organization delineate a complex social organization in which authority and power were delegated to an elite sector, that demonstrated its status not only by being in the forefront of political and ceremonial displays but through the medium of its residences" (Pikirayi 2001: 134). Functional as well as social divisions occurred in the main precincts of the urban center—the Hill Complex, the Great Enclosure, the Valley complexes, and the peripheral residences were delineated (Pikirayi 2001: 134).

From an archaeological standpoint Great Zimbabwe was a state. The society was clearly socially stratified, with considerable wealth and power concentrated in the hands of an upper strata of community members. As noted by Flannery (1998), material markers for states include both temples and royal residences. Both are visible within the urban complex. While there is debate about exactly where some of these structures were located within the urban complex, it is generally assumed that royalty and spiritual mediums resided within enclosures built of stone, protected from public view and access. Furthermore, it is clear that the city and its

Fig. 4.10 The Valley of Kings and their notables at Great Zimbabwe. *Photo Credit* Shadreck Chirikure

surrounding vicinity featured a significant population. Estimated population sizes for the settlement and its immediate area have ranged from few thousands up to thirty thousand (Hall 1990: 116; Ndoro 2001: 22). Pikirayi (2001: 130) estimates a population of between eleven thousand and eighteen thousand, with the majority living in houses outside of the stone enclosures.

According to Trigger (2003: 99), urban centers often contained 20 to 80% or more of the total population of a city-state. We can thus extrapolate that the territory of the Great Zimbabwe polity was extensive, including lands between the eastern Kalahari and the Indian Ocean, and the heartland was a high plateau between the Zambezi and Limpopo rivers (Hall 1990: 91). Settlement stratification is exhibited in the area for the state of Zimbabwe, with a number of towns that had stonewalls of distinctive design and patterns of decorations. "These constructions are known as madzimbahwe (singular, dzimbahwe), the Shona term for the residence of a chief" (Hall 1990: 92; Hannan 1974).

More than 50 madzimbahwe are known, mostly on the edges of the Zimbabwe plateau overlooking the lowlands of the Limpopo and Sabi rivers to the south and east and the Zambezi valley to the north (Hall 1990: 92). Hall (1990: 92) maintains that Great Zimbabwe may have operated as a capital for regional madzimbahwe settlements throughout the area. The madzimbahwe were usually located on elevated hilltops and often enclosed by walling connecting boulders and other natural features.

"The carefully built stone walls clearly served to set those who lived in the dzimbahwe apart from the majority of the population and occasionally there are other indications of high status" (Hall 1990: 93). These indications include items of copper, beads, and ivory. At Chumnungwa, a dzimbahwe located near the southern edge of the Zimbabwe plateau, seven burials have been unearthed containing gold grave goods (Garlake 1973). It is probable that the wood-and-plaster houses of the ordinary populace once surrounded all the walled hills, and this interpretation has been supported by archaeological work at several sites (Hall 1990: 93). Much, and perhaps the majority, of the population of early Zimbabwe lived away from the madzimbahwe in small villages that fell within the political and economic domain of the regional centers of the capital itself, and there may have been hundreds of villages fitting this pattern (Hall 1990: 93).

Given the archaeological record for the Zimbabwe state, it is apparent that the state operated as a set of regional centers from which members of the nobility signified their authority over the mass of the population by lavish public architecture, symbols of status, and ideological control. Pikirayi maintains that Great Zimbabwe architecture played an important ideological role throughout history, and has always been a potent symbol of wealth, status, and power. According to Hall (1990: 95), the basis and the object of the political control was control over the economy—"the network of transactions that linked peasant villages, madzimbahwe and the capital and, beyond this, the state itself with the wider commercial world." In such a system, the peasant villages were the main source of surplus production and tribute. "Thus the internal economy of the Zimbabwe state must have involved

agropastoral production beyond the needs of the ordinary village community, generating an economic surplus which formed the basis of the transactions that constituted the political economy" (Hall 1990: 96).

As stated earlier, Trigger (2003: 92) writes that territorial states possess a ruler who governed a larger region through a multileveled hierarchy of provincial and local administrators in a corresponding hierarchy of administrative centers. We argue that the material record suggests that at its height Great Zimbabwe may have operated as more of a territorial state. Other researchers seem to concur. For instance, Pikirayi (2006, personal communication) maintains that Great Zimbabwe cannot be perceived simply as a city-state for the obvious reasons connected with settlement patterns and hierarchies in south-central Zimbabwe between 1300 and 1450 AD. "These hierarchies assert to the primacy or dominance of Great Zimbabwe over other Zimbabwe (royal) settlements in the region" (Pikirayi 2006, personal communication). Furthermore, according to Ndoro (2001: 22), Great Zimbabwe's power was based mainly on cattle husbandry, crop cultivation, and the domination of trade routes between the gold fields on the Zimbabwe plateau and the Indian Ocean in the east, with trade contacts between Zimbabwe and the Swahili coast having been established well before 900 AD (Kusimba 1999a, b).

Accordingly, given the large territorial spatial distribution of Zimbabwe Culture sites and the control of trade routes to the coast, we would categorize Great Zimbabwe as a territorial state. More regional archaeological surveys followed by intensive and extensive horizontal and vertical excavations are necessary to completely map site distribution, chronology, intrasite and intersite relationships (Sinclair et al. 1993). Material remains recovered from such a long-term study will serve to place Great Zimbabwe's real influence and authority over its surrounding and adjacent hinterlands and move us beyond the current posturing that has been part of the debate of Zimbabwe's greatness (Huffman 1982, 1996, 2007, 2009, 2010). Our favorite comparative example would be the Inca territorial state in Andean South whose leaders resided at Cuzco and held power and authority over a number of provincial administrative centers scattered throughout the polity's hinterland (Arkush and Stanish 2005; D'Altroy 2002; Hemming 1970; Moseley 2001). It seems very likely as Manyanga (2006) points out, that Great Zimbabwe operated in a similar capacity, albeit on a different scale than its South American counterpart.

Discussion: Pathways to the State on the East African Coast and Southern Zambezia

The emergence of sociopolitical complexity in Eastern and Southeastern Africa was neither unique nor different from other regions that saw rise of secondary states. On the EAC, a combination of factors including local and regional trade coupled with the development of trade pacts were the main push factors toward the emergence of the state (Fleisher et al. 2015; Kusimba et al. 2013; Prestholdt 2004). On the other

hand, the cultural sequences of SZ make it apparent that a combination of factors propelled the region on a path to social complexity: sedentism, livestock production, agriculture, region and interregional trade, and crafts specialization (Bandama 2013; Chirikure 2014; Garlake 1982: 13). Favorable climatic conditions and increased interaction amongst communities pursuing different but complementary subsistence strategies made possible the sharing and exchange of ideas and systems of knowledge that once held sway within specific ethnic and subsistence groups. Migration and settlement of pastoralists in what were previously a hunter-gatherer domains and the later settlement of agrarian communities, along with the incorporation of knowledge from all the groups, created a vibrant community that would elevate individuals and personalities from the groups to leadership positions.

The generation of a surplus, the accumulation of wealth and investment in craft specialization is indicative of societal efficiency in subsistence production and higher levels of investment. Food surplus means food security, which frees people to engage in other forms of labor on a part-time and full-time basis, for example, elephant hunting, iron and gold working, ivory and stone carving, masonry, basketry, pottery making, and trade. Food security and increasing sedentism especially amongst previously forager and pastoral communities improved quality of life and inevitably led to demographic changes.

Location of settlements in resource rich areas with good water as well as arable and grazing land availed greater opportunities that attracted more settlement aggregation which inevitably required management of resources and people, thus creating opportunities for investment in more highly specialized crafts, local and interregional trade, accumulation of wealth, power, and status. In the case of Great Zimbabwe, the prominence of long-distance trade with the Swahili coast was one of the primary impetuses in Great Zimbabwe's transformation to the state (Garlake 1967, 1982: 10; Huffman 1972, 1982, 1986a, b). Great Zimbabwe exported gold and imported a variety of items, including glass beads, cloth, porcelain, stoneware, and earthenware (Pikirayi 2001: 20). Advocates of the long-distance trade model maintain that the managerial elite at Great Zimbabwe monopolized trade with rural and frontier zones with Great Zimbabwe playing a central role as collection, processing, and distribution center for gold, ivory, copper, and iron to regional and coastal entrepots on the Mozambican coast (Huffman 1972, 1986b; Mudenge 1974, 1988).

Although some perspectives are critical of the view privileging trade as the primary transformative factor, Pikirayi (2001: 21) sees the emergence and organization of agriculture, management of cattle, propagation of culture, and control of trade as the key factors contributing to the rise of states in southern Africa. He maintains that imports played a minimal role in the Shona economy since gold mining was not a full-time specialty. He favors the internal dynamism argument, proposing that long distance trade interlocked a regional economy that was already thriving, thus giving rise to a hierarchical society. Manyanga (2006: 114) and Chirikure (2014: 718) view long-distance trade as a major builder of wealth and status among Great Zimbabwe's leadership. In Manyanga's words:"it is unlikely that external trade and the products thereof made a sudden appearance on local

systems that were in a state of fragmentation without any form of centralized organization" (Manyanga 2006: 144). This new perspective is supported by archaeological evidence indicative of elite control of strategic resources such as cattle, ivory, iron ore, copper, and gold. Further evidence points to elite investment and monopolization of extractive crafts technologies such as iron working and gold panning, mining, and processing, and possibly specialized elephant hunting (e.g., Denbow 1984; Wilmsen 1989). The wealth generated from these ventures presumably facilitated trade with the coast (Mitchell 2002: 327–328; Pikirayi 2001: 35). Thus the emergence of Mapungubwe and Great Zimbabwe as capitals for powerful polities in SZ in the second millennium AD was a consequence of many variables.

The ability to control access to resources or trade routes is an important element of emergent complexity and political centralization. Embedded in this proposition is power of a physical and military nature, a power that can restrict access to wealth-creating resources and production. For instance, control over iron production was quite important for rulers, and the physical force needed to monopolize access to iron resources that were beyond the political control of the state capital was probably a necessity. Archaeologists have hinted that coercion, of one kind or another certainly played a role in maintaining elite power in SZ (Mitchell 2002:329).

Once asymmetries in power had been established, what strategies do leaders use to stay in power and accumulate more wealth, status, and power? The pathways and mechanisms through which power is centralized will differ from case to case. Our example illustrated here, SZ elites initially accumulated wealth in cattle and later invested in gold and ivory trade with the EAC. To do so, they also invested in local and regional infrastructures that made it viable for communities living and exploiting different but complementary resources to be willing to comply and be incorporated into the regional political economy. Both peaceful and coercive means were used to extend elite power to the frontier chiefdoms and minor states. The point about peaceful means has been strongly made by Thomas Huffman (1972: 365):"As the paramount chief's wealth increased, the population of the royal settlement would swell, partly because of the prestige of living in the settlement and the chance that some of the wealth might find its way through the normal redistributive channels." Ironically while Huffman acknowledges the need for the military and public works to control this increased population, he neglects to discuss the possibility that involuntary and coercive means of incorporating peripheral societies were options open to a determined and increasingly powerful leadership. Ideology and coercion played just as important a role as did agriculture, long-distance trade, livestock production, and metalworking. We need to recognize the possibility of internal conflicts, coercion, and exploitation between classes and social segments within emergent complex societies. For instance, while some researchers see the use of elevated hilltops by elites for their residences as a means for delineating social status, we believe this kind of settlement pattern may also reflect concerns over security and threat (Kim et al. 2015). Similarly, while many of the walls for Mapungubwe and Great Zimbabwe may have served a social

demarcation function, we believe that they may also have been constructed for defensive functions as well. We are convinced that sufficient evidence exists in the available archaeological evidence to address the possibility of warfare and coercion (Figs. 4.10; Kim et al. 2015).

From the archaeological evidence, large quantities of Islamic and Chinese ceramics and beads occur at coastal cities such as Shanga, Mtwapa, Kilwa, and Manda, and at hinterland cities like Mutapa and Great Zimbabwe. The beads and pots support the notion that trade played a crucial role in the development of cities in eastern and southern Africa (e.g., Chirikure 2014; Fleisher et al. 2015; Kusimba et al. 2013). By the end of the first millennium AD, the EAC and SZ had become a regular partner in the millennial old long distance exchanges that reached as far as the Arabian Peninsula, India, Sri Lanka, and China. By the thirteenth century there had emerged African urban elite that financed, managed, and controlled local, regional, and interregional trade and communications along the East African seaboard. Innovations in ironworking aided agricultural intensification and specialization in hunting, fishing, and herding. These changes improved the quality of life and precipitated population growth, and economic prosperity that culminated in the flourishing of urbanism in the region. In the late fifteenth century, however, Africa became embroiled in a violent encounter with Europe (which has not ended) whose details are best known by history, not archaeology (Alpers 1975). Hence began the slow but steady decline in African cities and hinterlands, visible even today (Kusimba 1999a, 2004; Walz and Brandt 2006).

In sum, the evidence discussed in this chapter points to the emergence of social stratification and complexity during the Iron Age along the EAC and in SZ. SZ exhibits clear signatures of social inequality symbolized in monumentality. At the height of its power, Great Zimbabwe exercised political and economic influence beyond its urban core to the hinterland and frontier societies by means of elite manipulation of ideological and monopolization of extractive technologies that restricted wealth creation within a small but power elite and its allies regionally. The EAC, by contrast, is a story that elaborates elite simultaneous manipulation of peaceful and cunning to restrict access to wealth-creating resources to a select few and their regional (Kusimba 1999b; Kusimba et al. 2013).

Archaeologists have emphasized peaceful and non-violent means as primary factors contributing to the rise of social complexity in SZ. However, a significant amount of physical force is necessary for any society to control resources, enforce labor, exact taxation and tribute, enforce cleavages in social rank, accumulate and hoard wealth, create specialized goods, and engage in regional and international trade which required protection of traders and trade routes. Although the use or threat to use military force to compel commoners to do one's bidding is sometimes necessary, leaders may have understood that ideological persuasion and the mutual benefit of economic trade is preferable to brute force.

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Chapter 5
Feasting, Social Complexity, and the Emergence of the Early Neolithic of Upper Mesopotamia: A View from Göbekli Tepe

Oliver Dietrich, Jens Notroff and Klaus Schmidt

Introduction

Although several studies dealing with aspects of early Neolithic social complexity have appeared over the last 20 years (e.g., Price 1995; Davies 1998; Kuijt (ed.) 2000a; Bar-Yosef 2001; Kuijt and Goring-Morris 2002; Goring-Morris 2005; Twiss 2008; Price and Bar-Yosef 2010; Pearson et al. 2013), the basic lack of research into the topic and relevant data from some geographical regions observed by Asouti (2006, 105–106) can still be felt. The following lines explore the possible role of feasting in the emergence of social complexity, hierarchical societies and the shift to the Neolithic way of life in Upper Mesopotamia. They attempt to provide some new data and a broader basis for discussions for this region, which has long been placed at the periphery of the area relevant for crucial Early Neolithic innovations.

The earliest Neolithic of Upper Mesopotamia, following an Epipalaeolithic which is not well known yet (unlike the Natufian of the Southern Levant, c. 12,000–9600 cal BC; Bar-Yosef 1999), is traditionally addressed as Pre-Pottery Neolithic (PPN), after one of its main cultural traits, the absence of pottery. It is subdivided in an earlier PPN A (c. 9600–8800 cal BC) and a later PPN B (c. 8800–7000 cal BC), followed by the Pottery Neolithic. The transition to agriculture and livestock raising is usually set relatively late in this time span, between 8300–8000 calBC (Aurenche et al. 2001, 1201). The emergence of social stratification has often been seen as a direct result of this adoption of agriculture, when economic surplus was available as a basis for inequality (Price 1995; Price and Bar-Yosef 2010).

The chronological division for the Early Neolithic was adopted from the Southern Levant, where it was developed by K. Kenyon on the basis of the stratigraphy of Jericho (Kenyon 1981) based on differences in material culture as

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well as a fundamental distinction in the ground plans of buildings—round constructions in the PPN A, rectangular buildings in the PPN B. This adoption of chronological terminology from an area with (sometimes more than) slightly different cultural realities reveals the peripheral place Upper Mesopotamia long held in research on the events leading to early domestication of plants and animals. Ever since the seminal work of K. Kenyon at Jericho, the roots of food producing were sought in the southern Levant (Kenyon 1981). Not only was the traditional differentiation of the Pre-Pottery Neolithic devised at Jericho, but the existence of a wall and the famous tower seemed to be evidence for a strikingly early hierarchized society living in a 'town.' The function of wall and tower has been heavily disputed later on, as has the attribution 'town' (Bar-Yosef 1986; Hachmann 1994; Aurenche 2007, 63; Bar-Yosef 2010), and the role of the Southern Levant as the core area of Neolithization (Aurenche and Kozłowski 2001; Asouti 2006, 94–95, with bibliography; Aurenche 2007).

Starting with V.G. Childe's 'Oasis Model', theories on the reasons for the shift to food production had long been based on environmental triggers (for a summary of the manifold Neolithization models see Verhoeven 2004, 189–211). In the wake of the processual archaeology of the 1960s and 1970s, social stimulants gained ground, but were largely explored along the lines of population pressure leading to a demand for new food sources. It is hardly possible to discuss all the different approaches to the Neolithic transition here, which, as several very substantial contributions show, would need a deeper discussion. Of special importance, however, is the coevolution theory that has been quite influential and underlies in several variations many narratives of the Neolithization process today. D. Rindos (1984) saw the basis for domestication in unintentional mutual reactions between plants and humans. The latter would trigger domestication incidentally by protecting and dispersing certain wild plants, favoring robust genetic mutations in the process. This led to an ever increasing degree of interdependency between humans and plants over a long period of time. The second step in this model, specialized domestication, meant that some species of plants now relied upon dispersal by humans, their distribution areas being widened by human transformation of the landscape. In a last step, agricultural domestication, plants are completely managed by humans with selection of seeds as well as choice, restriction, and protection of agricultural areas and harvest (i.e., complete control of reproduction cycles). On the human part, the process of domesticating plants allowed for population growth, which produced a need for more food, leading to yet more population growth and dependency on success in domestication and agriculture in general, thus fuelling the development. Rindos' approach has mainly been criticized for sticking too much to a pure Darwinian model of evolution, largely excluding human intentionality (cf. Verhoeven 2004, 200, with literature), but, as stated above, nevertheless has not lost its appeal as an explanatory model.

Diametrically opposed to the ecological theories are a number of approaches that emphasize the importance of cultural and cognitive triggers for humans intentionally changing the world they live in to their benefit. J. Cauvin was one of the most influential exponents of this line of thought. Starting from the observation that a

sheer explosion of imagery, a 'revolution of symbols' took place already in the Natufian and thus predated the adoption of agriculture by millennia, he drew the conclusion that cognitive changes, a new 'psycho-cultural' mindset manifest in art and the use of symbols, allowed people to experience and interact with their world in a new way and was equally or even more important in this process than ecological reasons (Cauvin 2000: 67–72, 204–211). Although his concrete reconstruction of this mindset—centering around female and bull imagery understood as symbols of a goddess and a god—has seen considerable critique (Cauvin et al. 2001), and the range of depictions was proven to be much more manifold by later research (e.g., Stordeur 2003; Peters and Schmidt 2004) the notion of cognitive factors driving the Neolithization process has remained to play a significant role,[1] and so has the Southern Levant, where with the Natufian Culture the earliest evidence for rich figurative art as proof of a new mindset exists.

The northernmost Natufian sites, like, e.g., Mureybet, are situated at the Syrian Euphrates. In the northern part of the 'Fertile Crescent', the region under discussion here, sites of the 12th and 11th millennia BC are nearly completely absent until now. However, there is reason to take up the discussion from exactly this point of view.

Upper Mesopotamia: A Shift from Periphery to Center

With the influential research of the Braidwoods at Jarmo, the focus of archaeological studies into the earliest Neolithic shifted to the northeast of the 'Fertile Crescent,' or, as Braidwood put it, its 'hilly flanks' (Braidwood 1974, 1981; Braidwood and Braidwood 1953). In recent years it has become clear that the region encompassed between the middle and upper reaches of Euphrates and Tigris and the foothills of the Taurus Mountains, shortly Upper Mesopotamia, has the potential to be the cradle of the new way of life. Aurenche and Kozłowski (2001) termed this landscape, where wild forms of several early domesticated species concentrate, the 'Golden Triangle' and Lev-Yadun et al. (2000) refer to it as 'cradle of agriculture.' The distribution areas of the wild forms of einkorn and emmer wheat, barley, and the other 'Neolithic founder crops' overlap here, and the transition of the two wheat variants to domesticated crops has been pinpointed to this area (Harlan and Zohary 1966; Heun et al. 1997, 2008; Lev-Yadun et al. 2000; Nesbitt and Samuel 1996; Luo et al. 2007; Özkan et al. 2002, 2011).

At the same time, this region yields evidence for a social complexity unthought-of until recently. Nearly every site excavated on a larger scale shows a spatial division of residential and specialized workshop areas and special buildings or open courtyards for communal and ritual purposes accompanied by a rich iconography

[1]Compare the special issue of Paléorient dedicated to the influence of Cauvin's work: Coqueugniot and Aurenche 2011.

(Cauvin 2000; Hauptmann 1993; Özdoğan and Özdoğan 1998, 583–588; Schmidt 2006; Stordeur 2000; Watkins 2004a; Aurenche 2007). Çayönü (Schirmer 1990, 378–385), Nevali Çori (Hauptmann 1993, 1999, 70–78), Hallan Çemi (Rosenberg and Redding 2000) as well as Mureybet, Jerf el Ahmar (Stordeur et al. 2000), Tell 'Abr 3 (Yartah 2004), Dja'de (Coqueugniot 2000) and Tell Qaramel (Mazurowski 2003, 2004) are well-known examples. These sites date to the PPN A and PPN B, and the 'special' buildings by far outnumber similar constructions so far known from the south, like the wall and tower of Jericho or the impressive communal building from Wadi Faynan 16 (Mithen et al. 2011). They are not a short-term phenomenon, but show a long continuity. At Çayönü Tepesi, for example, 'special buildings' in different forms have been erected over a period of more than a millennium, starting with the 'Flagstone Building' of the grill plan phase, over the slightly younger 'Skull Building' to the 'Terrazzo Building' of the cell building phase (Schirmer 1988; Özdoğan and Özdoğan 1989, 71–71). Although some are rectangular and some circular to oval in shape, some build of stone and some of wood, most of these 'special buildings' share some basic features (Özdoğan and Özdoğan 1998, 587–588; Aurenche 2007, 55–61; Kornienko 2009; Watkins 2010, 625–627). There are usually benches running along the inner walls hinting at gatherings as one aspect of their function. Furthermore, the buildings are richly decorated and/or equipped with sculptures and other outstanding material culture. And there are obvious similarities in the treatment of these buildings in the moment of abandonment (Özdoğan and Özdoğan 1998, 589–592). Many were cleaned, interior features were partly removed, doorways blocked and the building backfilled in a way reminiscent of a burial. During this burial process, in many cases certain objects, like sculptures, but also tools, were intentionally deposited.

A few examples may help to illustrate the abovementioned traits. As the name implies, the floor of the 'Flagstone Building' of Çayönü is constructed of large stone slabs (Schirmer 1990, 378). The room was subdivided by buttresses, in the eastern part of the building presumably a bench was set in front of the wall. Standing stone plates were interpreted as roof supports. The slightly younger 'Skull Building' was named after the skulls which were deposited in 'ossuaries' inside the walls and in its so-called cellars (Schirmer 1990, 378–382). This building as well seems to have featured benches along the walls and standing stones carried the roof. Both buildings are of rectangular or square shape, uncertainties remain due to partly destructions. The rectangular 'Terrazzo Building' got its name from the special construction technique of its floor again (Schirmer 1990, 382–384). It resembles a Roman terrazzo, is red and shows four parallel white stripes. Approximately half of this floor was however destroyed by a pit dug into the middle of the room which features a basin of 1.25 m diameter in the northeastern corner and a table-like stone found above the northwest-corner as further peculiarities.

At Jerf el Ahmar in northern Syria several subterranean round enclosures—partially with interior subdivisions into small cells—have been interpreted as multifunctional buildings for storage, gatherings, and cult by the excavators (Stordeur et al. 2000, 32–37). One of these buildings, dating to the PPN A/PPN B transition has a diameter of 8 m and benches made of decorated stone plates along

the perimeter wall (Stordeur 2000, 3; Stordeur et al. 2000, 37–41). The interior of this building is subdivided by 30 wooden posts immediately in front of the bench which carried the roof (Stordeur 2000, 3; Stordeur 2000, 38–39, Figs. 9 and 10). A very similar complex is known from Tell 'Abr 3 in the middle Euphrates region (Yartah 2004, 143–150, Figs. 8–9; Yartah 2005, 5–6, Fig. 3). There, the aspect of gathering and collective celebration as part of the elaborately decorated round building's function is further pronounced by finds of large limestone vessels of a type which recently has been connected to the production and consumption of alcoholic beverages (Dietrich et al. 2012). At Dja'de, again in the Syrian Euphrates region, a subterranean round building with buttresses along the inner perimeter wall was decorated with complex polychrome geometric paintings on the mud plaster covering the walls (Coqueugniot 2000).

Going back to the north, the PPN B settlement of Nevalı Çori in southeastern Turkey, now flooded by the Atatürk barrage, features a 'special building' with three construction phases (Hauptmann 1993, 1999, 74–75). The stone construction has a quasi-quadratic ground plan and a terrazzo floor, again benches run along the walls (Fig. 5.1). In these benches, at more or less regular intervals orthostats were integrated. Completely preserved examples show a distinct Γ-shaped head, while one of originally two central pillars has a T-shaped head and arms depicted on its broad sides (the second one is missing, though).

'T'-shaped pillars are also the characteristic of the site that holds the key to understand these buildings, the hilltop sanctuary of Göbekli Tepe in the Turkish Euphrates region, which consists exclusively of monumental special purpose buildings and will be discussed in more detail below.

Approaches to Social Inequality and Feasting in Old World Neolithization

Although most of the evidence for early complexity presented above was still unknown at that time, B. Bender proposed a model focusing on social inequality as a key factor in Neolithization already in 1978, based mostly on Southern Levantine evidence. She argued that intra-societal pressures may force hunter-gatherers, who usually will rely on production for immediate use to not overstrain natural resources, into surplus production (Bender 1978, 209). Social obligations requiring surplus production in Benders's eyes are occasions like 'marriage, ceremonial and trade alliances' (Bender 1978, 210). Surplus has to be accumulated, stored, and redistributed. This is the point at which charismatic individuals may gain in power, and hierarchies can develop (Bender 1978, 211–214). Need for long-term storage will ultimately evolve into sedentism, sedentism promotes intra-group conflicts which will have to be settled—again the trend toward hierarchization is strengthened (Bender 1978, 213). Bender (1978, 215) then goes on to identify 'fully tribal societies' with 'chiefs' in the Natufian controlling trade networks for obsidian and

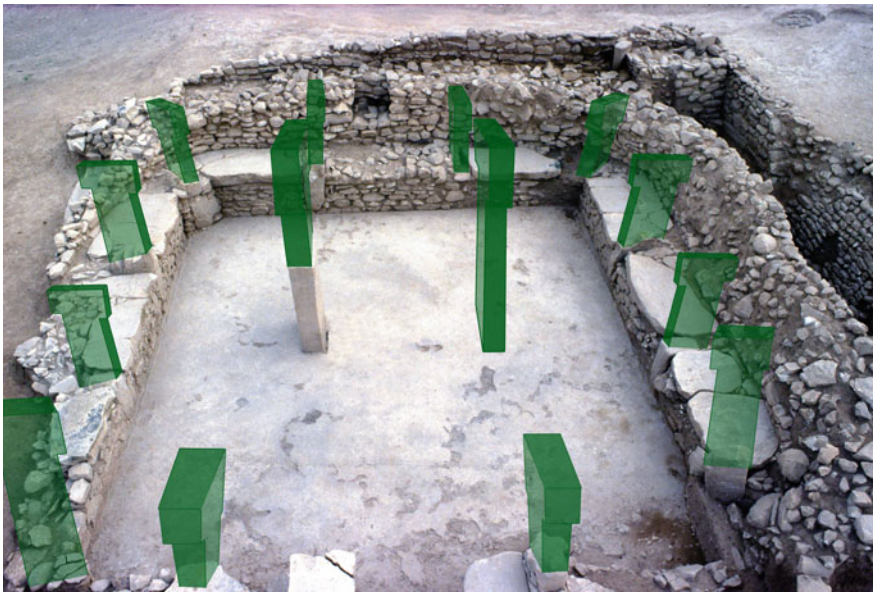

Fig. 5.1 The 'cult building' of Nevalı Çori with reconstructed T-shaped pillars (© Euphrat-Archiv Universität Heidelberg, reconstruction by N. Becker)

dentalium shells and inheriting their status. The scarce and unconvincing archaeological evidence brought forward to sustain this needs no further discussion here. However, elements of Bender's thinking recur in a more influential theory on the start of domestication, which centers on the mode of redistribution.

Combining economical and cognitive triggers, and integrating not only the 'symbolic revolution' prior to domestication, but also the evidence for communal buildings laid out for gatherings in one model, B. Hayden has proposed ritual feasts as the motor of the Neolithic Transition. In his eyes, resources abundant during the climatic optimum following the last Ice Age and improvements in pre-domestication food acquiring techniques enabled competitive individuals to accumulate surplus used to obtain powerful social positions through lavish feasts (Hayden 1990). The need to furnish ever increasing amounts of food for these feasts is seen as a possible reason for the start of domestication (Hayden 2003) and the emergence of 'transegalitarian societies,' e.g., groups with 'significant socioeconomic inequalities,' but less stratified than chiefdom societies (Hayden 2003, 459). In the original concept, the 'feasting model of domestication' was very much centered on competitive feasting and individuals rising to power. More recently, Hayden (2009, 600) has stressed that feasting can have quite different aims: work feasts thrown by an individual to accomplish a task which is well beyond his own forces, competitive feasting to gain social prestige, and 'solidarity feasts' where everybody contributes equally. With the so-called 'alliance feasts,' festivities also take on the role of a risk-reduction strategy. By redistributing stored surplus through

feasting, debts, and dependencies are created to form a 'social safety network,' which can be converted into assistance when needed, e.g., in the case of catastrophic events like famines (Hayden 2009, 599–600).[2] Food storage is perceived as a short-term strategy, while alliances and networks formed through feasting secure the long-term well-being of a society. The need to uphold these networks leads to a larger need for food items and storage, which, after Hayden, resulted in domestication events in several parts of the world (Hayden 2009, 600–601).

This model has not gone without critique, mainly from the point of view of the Southern Levantine sites. A succinct summary of the main arguments has been presented by Kuijt (2009). The lack of archaeological evidence for large-scale storage in the Natufian as the period in which the basis for Neolithization was laid, and the lack of evidence for systematic social stratification in the same period are the main question marks raised (see also Kuijt and Goring-Morris 2002, 421 who locate earliest evidence for social stratification in the southern Levant at the start of the PPN B). Kuijt (2009, 643–644) admits the importance of feasting as 'a means of political consolidation' or a risk-reduction strategy, but rejects it as a triggering factor for the origins of agriculture. In a systematic study on feasting in the following PPN of the southern Levant, Twiss (2008, 427–428) has found only scarce evidence for feasting even in the PPN A and concludes that 'feasting was probably limited both in frequency and scale.'

Broadening the view to the whole Near Eastern Neolithic, Benz (2006) sees feasting not as the trigger of domestication, but as an epiphenomenon of the new way of life. In the course of the transformation of hunter-gatherers into sedentary agriculturalists, founding principles of society were altered. General reciprocity between group members as a crisis management system had to be constricted to allow for storage of seeds and cultivation as new strategies, and at the same time the tendency of hunter-gatherer groups to split up in the event of social or economic crisis had to be counteracted for the new way of life to work (Benz 2006, 440). Feasts, with their ostentative redistribution of food, played the role of hiding the diminishing reciprocity within the group and were a way of bringing people together on fixed, ritualized occasions to strengthen the group's coherence in the long-term process of transformation to food production (Benz 2006, 455–458). Feasts in this model are ultimately an instrument to create new realities, to allow for innovation without destroying the foundations of society in the process.

To sum up, currently there are several divergent views on the role of feasting during domestication and also on the degree of social stratification visible in early Neolithic society. In his critique on the current use of feasting as an explanatory tool to understand the early Neolithic, Kuijt has correctly pointed out a problematic trend toward claims of universal importance instead of contextualized case studies within a distinct cultural context (Kuijt 2009, 642). The present contribution sets out to provide such a case study from a northern (Upper Mesopotamian) point of

[2]This model is implicitly very much based on Mauss (1966) ideas on gift exchange as the social glue of 'archaic' societies.

view. While evidence from Southern Levantine sites is scarce, the monumental enclosures discovered at Göbekli Tepe can shed some new light on the role of cult, feasting and social inequality at the start of the Neolithic.

Göbekli Tepe

The tell of Göbekli Tepe is situated about 15 km northeast of the modern town of Şanlıurfa on the highest point of the Germuş mountain range (Fig. 5.2). With a height of 15 m, the mound covers an area of about 9 ha, measuring 300 m in diameter. Neolithic traces were first recognized during a combined survey by the Universities of Chicago and Istanbul in the 1960s (Benedict 1980), but the architecture hidden by the mound remained unrecognized until its discovery in 1994 by Klaus Schmidt (Schmidt 2006). Since then annual excavation work has been conducted (Schmidt 2000, 2006, 2012a).

At the current state of research it is possible to distinguish at least two stratigraphic layers, differing in find material and building types. Their archaeological dating is backed up by a growing number of radiocarbon dates (Dietrich 2011; Dietrich and Schmidt 2010; Dietrich et al. 2013). The older Layer III with monumental architecture consisting of 10–30 m wide circles formed by huge monolithic pillars in a distinct T-shape is dated to the PPN A, i.e., 10th millennium BC

Fig. 5.2 Aerial view of Göbekli Tepe: new trenches on the north-western depression to the *left*, the main excavation area with the Enclosures A–D to the *right* (© DAI Institut, *Photo* E. Küçük)

(Fig. 5.3). The pillars, reaching a height of up to 4 m, are interconnected by walls and benches which define the inner and outer spaces of the enclosures. They are always orientated toward a central pair of even larger pillars of the same shape. Depictions of arms and hands on some of them indicate their anthropomorphic character. After the end of their use, the circular buildings of Layer III were backfilled intentionally. The fill material consists of limestone rubble, bones, fragments of stone artifacts (tools are more rare); its quite homogenous character makes the whole process of backfilling almost resembling a burial, similar to the 'special buildings' as discussed above.

A younger layer is superimposed on this monumental architecture in some parts of the mound. This Layer II is dated to the 9th millennium BC, i.e., the early and middle PPN B. Smaller rectangular buildings of about 3 × 4 m with terrazzo floors characterize this layer (Fig. 5.4). They may be understood as minimized versions of the older monumental enclosures, as they share a common element—the T-shaped pillars. However, number and height of the pillars are considerably reduced: now often only two small central pillars are present, the largest among them not

Fig. 5.3 View of the main excavation area at Göbekli Tepe with the characteristic circle-like enclosures. In the foreground Enclosure D, the one best preserved (© DAI, *Photo* N. Becker)

Fig. 5.4 The so-called lions' pillar building. *Rectangular* rooms with fewer and smaller T-shaped pillars are typical for the younger Layer II of Göbekli Tepe (© DAI, *Photo* K. Schmidt)

exceeding a height of 2 m. There are even rooms without any pillars. As with the large enclosures, no traces of domestic activities, e.g., hearths or ovens, have been detected so far. Thereafter, building activity at Göbekli Tepe seems to have come to an end. Layer I consists of the surface soil resulting from erosion processes as well as a plough horizon.

The PPN A enclosures are the most impressive part of Göbekli Tepe's archaeology (cf. Schmidt 2006, 2008a, 2012 for an overview). A geophysical survey, including ground-penetrating radar confirmed that these enclosures were not restricted to a specific part of the mound but existed all over the site (Fig. 5.5). More than ten enclosures were located on the geophysical map in addition to the nine already under excavation—the latter designated A to I in order of discovery. Five of these structures, A, B, C, D, and G, were unearthed in the main excavation area at the mound's southern depression; one, Enclosure F, at the southwestern hilltop; Enclosure H and I in the north-western depression, and another one, Enclosure E, on the western plateau.

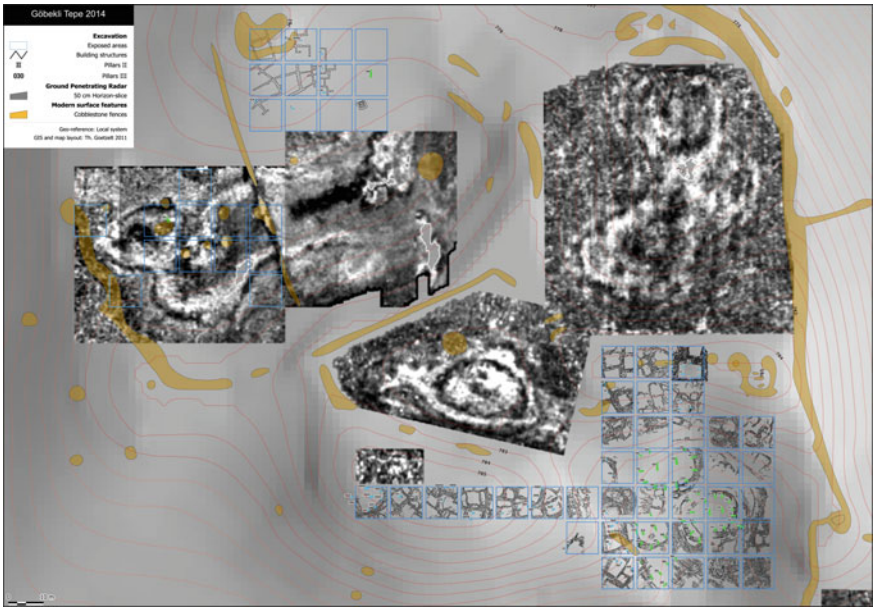

Fig. 5.5 Plan of excavations at Göbekli Tepe with results of the GPR survey (50 cm horizon-slice; © DAI, original GIS mapping by T. Götzelt, updated by O. Dietrich)

While Enclosure E was identified as a completely cleared stone circle of which only the floor and two pedestals cut out of the bedrock are still visible, Enclosures F and G, although close to the surface and quite small, show typical characteristics of the circular enclosures of Layer III. Their dating remains unclear so far. Enclosures C and D were excavated to ground level in recent campaigns. They can serve as good examples to characterize the general layout and character of Göbekli Tepe's older circular to elliptic PPN A enclosures, before we will have also a closer look at Enclosures A and B, as well as H.

Enclosure D is the largest and best preserved so far (Fig. 5.6). Two huge central pillars are surrounded by a circle formed by—at the current state of excavation—11 pillars. Most of these pillars are decorated with depictions of animals: foxes, birds (e.g., cranes, storks, and ducks), and snakes are the most common species, accompanied by a wide range of other representations such as boar, aurochs, gazelle, wild donkey, and larger carnivores. The two pillars in the center of this enclosure, measuring about 5.5 m in height and weighing some 8 metric tons, are founded in only 0.20 m high pedestals, which are—like the rest of the floor level—carved out of the carefully smoothed bedrock, and, in one case, decorated with a relief frieze of ducks (Fig. 5.7).

In particular, these central pillars of Enclosure D demonstrate the anthropomorphic appearance of the T-shaped pillars (Fig. 5.8). The oblong T-heads can be regarded as abstract depictions of the human head, the narrow side representing the

Fig. 5.6 Aerial view of Enclosure D (© DAI, *Photo* N. Becker)

face. Clearly visible are arms on the shafts with hands brought together above the abdomen. The depiction of belts and loincloths in the shape of animal skins underlines the impression that these T-shaped pillars have an anthropomorphic meaning. Since the loincloth relief covers the genital region of the pillars, the sex of the two individuals depicted in the center is not clear. However, of the PPN clay figurines known from Nevalı Çori, only the ones depicting male individuals wear belts (Morsch 2002, 148, 151). Thus, it seems probable that the pair of pillars in Enclosure D also represents two male individuals.[3]

Enclosure C, situated to the southeast of Enclosure D, has several concentric, interleaved walls with pillars (Fig. 5.9). It measures about 30 m in diameter. The structure and layout of this peculiar enclosure changed significantly over time (Piesker 2014). For instance, an earlier entrance arrangement reminiscent of a dromos was blocked by a wall, and many pillars seem to stand in secondary positions or were re-erected after severe damage occurred during the PPN. Like in Enclosure D, the smoothened natural bedrock forms the floor. Again, two pedestals for the central pillars were carved out of the bedrock. However, both of the central pillars were destroyed in prehistoric times. A large post-PPN pit was dug into the already backfilled enclosure, obviously directed at finding the central pillars to carry

[3]Göbekli Tepe's iconography is generally dominated by masculinity. Whenever the sex of one of the animals depicted at Göbekli Tepe is indicated, it is a male specimen. The sole clearly female depiction thus far is a later added graffito on a stone slab in one of the buildings of Layer II, which was most likely not an original decoration of that room.

Fig. 5.7 Pillar 18, one of the central pillars of Enclosure D is decorated with arms, hands, stola, belt, and a loincloth (© DAI, *Foto* N. Becker)

out this destruction. The smashed pieces were found in the lower part of the pit. A virtual reconstruction was possible by laser scanning the individual pieces, the result showing an original pillar height of about 5 m. The surrounding pillars of this enclosure again present a number of reliefs, dominated by depictions of wild boars.

The ground plan of Enclosure A appears more rectangular than round. First radiocarbon data suggest that it may be a little younger than Enclosures C and D (Dietrich et al. 2013), and maybe the rectangular shape indicates the transition to the Layer II building type. However, Enclosure A is still not entirely excavated, so any description must remain preliminary. Pillars 1 and 2, the central pillars of Enclosure A, were excavated down to the level of the stone bench. Both pillars are richly adorned with reliefs. Particularly striking is a net-like pattern, possibly of snakes, on the southwestern side of Pillar 1 (Fig. 5.10). Pillar 2 carries on its southeastern side a vertical sequence of three motifs: bull, fox, and crane (Fig. 5.11). Currently, the number of pillars surrounding the two in the centre of Enclosure A lies at just four, though it is expected that this number will rise once

Fig. 5.8 Pillar 31, the second central pillar of Enclosure D (© DAI, *Foto* N. Becker)

excavations are continued. Enclosure A's imagery is generally dominated by snakes.

Turning to Enclosure B (Fig. 5.12), the ground plan of this structure is positively round compared to Enclosure A. Its internal diameter measures nearly 10 m, and a total of eight pillars have so far been discovered within its ring walls. Reliefs are comparatively rare on this enclsoure's pillars. Excavations reached the floor of Enclosure B between its two central pillars. The floor is not formed of the natural bedrock here, but is an artificial terrazzo floor. In front of one of the central pillars, Pillar 9 (Fig. 5.13), a stone bowl which had been sunk into the floor of the enclosure, thus constituting part of the stationary furnishings of this structure, was discovered.

Enclosure H lies at the north-western hilltop of Göbekli Tepe. So far one of the central pillars and five pillars of the surrounding ring were discovered. The central pillar, which is decorated with a jumping big felid (Fig. 5.14) had been toppled and broken in antiquity, thus mirroring the situation already attested in Enclosure C (Schmidt 2008a, 63–66).

Fig. 5.9 Aerial view of Enclosure C (© DAI, *Photo* K. Schmidt)

Another circular enclosure neighboring Enclosure H at the north-western hilltop was denoted Enclosure I recently. Still under excavation, a detailed description of layout and configuration remains subject to further investigation.

In addition to the animals and symbols depicted in flat relief, which often have a narrative character, Göbekli Tepe's buildings have yielded a large series of anthropomorphic and zoomorphic sculptures (Figs. 5.15 and 5.16) with a presumably apotropaic character (Schmidt 2008b, 2010), which repeat the same types canonically (e.g., wild boar, snarling predator). Some of these sculptures have conical taps to set them into the enclosures' walls, giving the impression of jumping at visitors; others were attached to the pillars, as the impressive high relief of a predator on Pillar 27 demonstrates (Fig. 5.17).

A Neolithic Central Sanctuary

Although recently called into question by Banning (2011), there is good reason to see Göbekli Tepe as a site related to cult (Dietrich and Notroff 2015). Without resuming the discussion here, we just want to shortly point out the lack of typical domestic features such as fire pits and hearths as well as the absence of certain find categories typical for settlement contexts, like clay figurines, awls, and points of bone (cf. Schmidt 2005). According to Banning, Göbekli Tepe has to be seen as a settlement with buildings yielding a rich symbolism but still of domestic nature.

Fig. 5.10 Pillar 1, one of the central pillars of Enclosure A, carries a net-like pattern, possibly of snakes (© DAI, *Photo* C. Gerber)

However, contemporaneous domestic architecture is well known in this region due to the stratigraphy at Çayönü (Özdoğan 2011; Schirmer 1988, 1990) as well as the excavations at Nevalı Çori (Hauptmann 1988), for example. The buildings of Çayönü's early and later 'grill–plan phase' (PPN A—early PPN B), as well as those with 'channeled' ground plans and the 'cobble paved buildings' (early, respectively, middle PPN B; cf. Özdoğan 2011: 192; Schirmer 1988, 1990: 365–377), can be considered contemporaneous with Göbekli Tepe; 'channeled–plan' buildings are also known from Nevalı Çori in the wider vicinity of Göbekli Tepe. But none of these building types have been detected at Göbekli Tepe as of yet (and the results of geophysical surveys are not indicating that such structures may be expected in future excavations). PPN settlements are usually situated in favorable environmental positions with easy access to water and resources. Göbekli Tepe in contrast has a very erratic topographical position at the highest point of a mountain range without access to springs. The landscape Göbekli was overlooking was a relatively open forest steppe dominated by pistachio and almond trees (Neef

Fig. 5.11 Pillar 2, the second central pillar of Enclosure A, shows depictions of bull, fox and crane on its broadside (© DAI, *Photo* C. Gerber)

2003: 14). The site would have been visible from afar as a natural landmark, and it was chosen to dominate also the cultural landscape of the early to middle PPN.

Probably the most astonishing aspect of Göbekli Tepe is the richness of its imagery obviously going far beyond mere decoration. The narrative character of several depictions in flat relief is underlined by Pillar 43 (Fig. 5.18), whose whole western broad side is covered by a variety of motifs. Dominant is a big vulture. It lifts its left wing, while the right wing points to the front. It is possible that this gesture aims at the sphere or disc that can be seen above the tip of the right wing. To the right of the vulture another bird, maybe an ibis, a snake, two H-shaped symbols and some wild fowl are depicted. On the pillar's shaft, a huge scorpion as well as the head and neck of another bird dominate the scene. To the right of the bird's neck an especially interesting motif is depicted. Due to damage to the pillar it is not preserved completely, but the representation of a headless human with an erect penis is quite clearly recognizable. His condition could indicate a violent death, and his company of scorpions, snakes and vultures strengthens this

Fig. 5.12 Enclosure B (© DAI, *Photo* I. Wagner)

impression. Another striking example for a probable narrative character is Pillar 56 of Enclosure H, which is densely populated with about 55 animals (Fig. 5.19).

Naturalistic depictions and abstract symbols are not only present on these pillars, but also on functional objects like shaft straighteners or bowls, and on small stone tablets which obviously served no other function than to bear these signs (Fig. 5.20). There is a strong possibility that these signs were readable (Morenz and Schmidt 2009), that they represent a form of external memorial storage (Watkins 2004b) fixing memory and knowledge of the society creating them in a form intelligible at least to initiated specialists, that a first step was made beyond pure oral tradition. This typical iconography appears in concentrated form at Göbekli Tepe, but is by no means limited to the site. On the contrary, it can be followed on sites throughout Upper Mesopotamia, thus describing Göbekli's catchment area as well as a community of people with a common symbolic background (Schmidt 2005).

T-shaped pillars resembling the smaller examples from Göbekli Tepe's Layer II were first recorded at the settlement site of Nevalı Çori (Hauptmann 1993). Several more sites in the near vicinity of Göbekli Tepe—Sefer Tepe, Karahan, and Hamzan Tepe (cf. Çelik 2011a; Moetz and Çelik 2012)—are known to have similar pillars, but no excavation work has been carried out so far. With the Neolithic site of Urfa-Yeni Yol, which seems to have revealed a small T-shaped pillar in the course of construction work in that area (cf. Çelik 2011b: 142, Fig. 5.19), with Taşlı Tepe (Çelik et al. 2011), and with Gusir Höyük (Karul 2011, 2013) three more related sites were added to this list recently. While most sites concentrate in a rather small

Fig. 5.13 Pillar 9, one of the central pillars of Enclosure B, is adorned with a fox relief. In front of the pillar a stone basin was set into the ground (© DAI, *Photo* K. Schmidt)

radius around Göbekli Tepe, Gusir Höyük in the Turkish Tigris region has considerably widened the distribution area of this type of architecture. Portable objects with symbols similar to Göbekli's imagery exceed this region by far. For example, shaft straighteners and plaquettes from Jerf el Ahmar (Stordeur and Abbès 2002, Fig. 16/1–3) and Tell Qaramel (Mazurowski 2003, Fig. 12, 2004, Fig. 10; Mazurowski and Jamous 2000, 341, Figs. 7 and 8; Mazurowski and Yartah 2001, 304, Figs. 10–11), as well as Tell 'Abr 3 (Yartah 2004, 155, Fig. 18/3), and Körtik Tepe (Özkaya and Coşkun 2011, Figs. 26–32) feature decorations in the form of snakes and scorpions, quadruped animals, insects, and birds strongly reminiscent of the iconography of Göbekli Tepe, where they appear not only on the pillars, but also on similar items. The same motifs occur on thin walled stone cups and bowls of the Hallan Çemi type (Rosenberg and Redding 2000, 50, Fig. 5). Fragments of this vessel type are known from Göbekli Tepe (Fig. 5.20), Çayönü (Özdoğan 2011: 225), Nevalı Çori, Jerf el Ahmar (Stordeur and Abbès 2002, 583, Fig. 12/1–4), Tell 'Abr 3 (Yartah 2004, 155, Fig. 18/2, 4–5), and Tell Qaramel (Mazurowski 2003: 369, Fig. 11/1–2), while complete vessels have been discovered at Körtik Tepe

Fig. 5.14 Pillar 51, one of the central pillars of Enclosure H, shows a leaping felid (© DAI, *Foto* N. Becker)

recently in large numbers (Özkaya and Coşkun 2011, Figs. 17–23) as part of rich grave inventories. Another connection is suggested by the zoomorphic scepters of the Nemrik type, which are present at Hallan Çemi, Nevalı Çori, Çayönü, Göbekli Tepe, Abu Hureyra, Mureybet, Jerf el Ahmar, and Dja'de (Kozłowski 2002, 77–80).

This symbolic world and Göbekli Tepe at its center clearly challenge conventional views on the organization, creative possibilities, and potential of hunter-gatherers. But to answer the very concrete question how hunter-gatherer groups were able to create a monumental site like Göbekli Tepe, and what repercussions this large-scale project may have had on their society, possible group sizes and the amount of labor invested have to be assessed (cf. Notroff et al. 2014).

Building Göbekli Tepe

Any attempt to exactly calculate the size of early Neolithic hunter-gatherer groups is confronted with a lack of data. Settlements are usually excavated on a small scale and developed over a longer period of time, so estimates for population size are

Fig. 5.15 Sculpture of a man with items of clothing. The cone at the lower part allowed for the sculpture to be set upright in the earth (© DAI, *Photo* D. Johannes)

hard to give (cf. Verhoeven 2001, 79). Few regions have seen systematic surveys allowing for settlement density estimates—besides the basic difficulties in establishing the contemporaneity of sites just from surface finds. Burial evidence is scarce and dependent on the chances of discovery, too, and formal, or better put, archaeologically visible burial, may have been restricted to a small part of the actual society. This means that we have to rely on estimations based on historic, respectively, ethnographic analogies.

Several examples and calculations collected in a number of studies (Helbling 1987; Hultkrantz and Vorren 1982; Kelly 1995; Lee and DeVore 1968) suggest rather small groups of 25 to maximum 50 individuals; larger numbers (as in the case of the sedentary foraging indigenous peoples of the Pacific Northwest Coast) being the exception (cf. Kelly 1995, 209–213; Petrasch 2010). Ethnographic observations furthermore imply a common identity (based on material culture, language, etc.) among 10 to 20 of such independent groups or bands, adding up to a number of 250 to 1000 individuals interacting in a collective sphere of communication (Petrasch 2010).

Fig. 5.16 A boar sculpture and several stone vessels, discovered in situ near one of the central pillars of Enclosure C (© DAI, *Photo* K. Schmidt)

No less vague, but showing a much larger variety, are estimations of labor costs and man–hours necessary for the construction of monumental structures. Figures for the erection of the giant *moai* statues of Rapa Nui (Easter Island) with (despite a few larger exceptions) a typical height of 4 m and a weight of 12 t (Kolb 2011, 140; Lipo et al. 2013, 2865)—somewhat smaller than the larger of the pillars of Göbekli Tepe—have been reckoned to include anything from a period of only days or a few weeks (Routledge 1920) to a year (Pavel 1990) and more (Heyerdahl 1958, 138). While according to Pavel (1990) a total of 20 individuals was sufficient to carve such a statue in their spare time within one year, at least 50–75 people were assumed to be required to move it a distance of 15 km over the course of a week (van Tilburg and Ralston 2005). In contrast to this and other calculations (e.g., Heyerdahl et al. 1989), recent experiments have demonstrated that efficient transport could be engineered by a comparably smaller number of about 18 individuals using a special technique by forward leaning and side rocking the statues with the help of ropes (Lipo et al. 2013).

Fig. 5.17 On pillar 27 in Enclosure C besides the flat relief of a boar there is the spectacular high relief of a predator. Pillar and sculpture are made from one piece (© DAI, *Photo* D. Johannes)

At Göbekli Tepe the enclosures of Layer III consist of several large megalithic elements cut from the surrounding limestone plateaus. The setting of the Neolithic quarries is demonstrated by numerous traces, between them an unfinished T–pillar with a size of about 7 m and volume of 20 m^3 (Fig. 5.21). The central pillars of Enclosure D weigh 10 metric tons each, and the pillars in the circle are only slightly smaller. Cutting, decorating, and transporting them is not a small task, if we assume that it was done in a relatively short period of time. There would of course also be the possibility that the enclosures were erected and added on over a longer period, but research into their construction does not seem to indicate this. There is on the other hand ample evidence for work in already existing enclosures, for ongoing rearrangement, repair, and, like with Enclosure E, depletion and reuse in other enclosures. Consistent and intense work at Göbekli is thus probable.

Recently, practical experiments of preparing and cutting limestone considerably harder than the material used at Göbekli Tepe, conducted by C. Beuger from the Martin Luther University of Halle–Wittenberg, have shown that about 22–44

Fig. 5.18 Pillar 43 in Enclosure D is one of the most richly decorated (© DAI, *Photo* K. Schmidt)

individuals[4] could have quarried a single pillar of the dimensions mentioned above within 4–5 months (Beuger, forthcoming). Furthermore, up to 60 persons were calculated in the preparation of an additional experiment (not conducted yet) as needed to lift and move such a work piece. These numbers may be in need of some extrapolation when projecting them onto about a dozen of these pillars forming one enclosure (cf. Schmidt 2012a, 102–104).

But there is another aspect which has to be stressed. Work must not necessarily have included only the number of persons absolutely necessary for the task. Ethnographic records from the early Twentieth century show that on the Indonesian

[4]This rather large range is explained by the level of training and experience of the individuals in question. The experiment was conducted with male and female students lacking the physique and know-how we might have to assume for the hunter-gatherer groups of the PPN. According to experience, a modern mason, trained and skilled, works twice as quickly as the students in this experiment, so maybe a Neolithic craftsman may be assumed to fit somewhere in the middle between these two extremes.

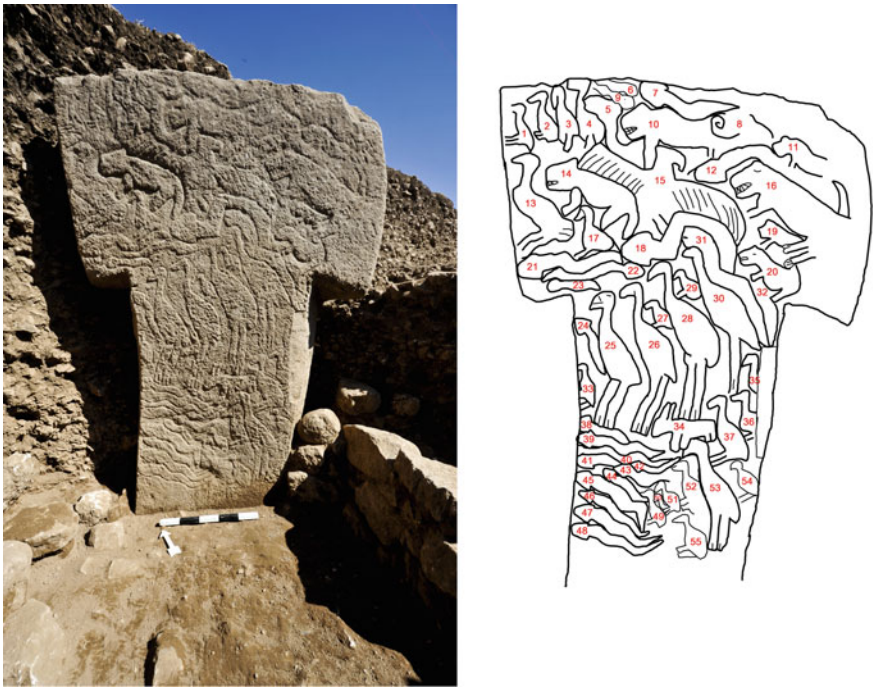

Fig. 5.19 The broad side of Pillar 56 in Enclosure H is densely packed with about 55 animal depictions (© DAI, *Photo* N. Becker)

Island of Nias even up to 525 men were involved in hauling a megalith of 4 m^3 over a distance of 3 km to its final location in three days using a wooden sledge (Schröder 1917). Another example from Indonesia points out that such a large number of participants was not necessarily required exclusively for the labor involved, but that other factors have to be considered as well. In Kodi, West Sumba, the transport of the stones used for the construction of megalithic tombs was ritualized and required a large number of people to be involved as witnesses (Hoskins 1986). Thus, other social aspects such as the acquisition and maintenance of prestige among the individuals participating need to be incorporated into the models of the erection of monumental structures as a possibility.

At Göbekli Tepe, there is some evidence for more than one group of people involved in construction work. As stated above, the image range of the different enclosures is far from random (Becker et al. 2012, Fig. 24). In Enclosure A snakes are the dominating species, in Enclosure B foxes are frequent, in Enclosure C boars take over this role, while Enclosure D is more varied, with birds playing an important role. A possible connection of these animals to totems of different groups working at Göbekli is a line of interpretation which has to be explored in future research. Further tentative evidence for different groups of people meeting at Göbekli comes from the sourcing of obsidian raw materials. In comparison to

Fig. 5.20 A selection of decorated stone plaquettes and a sherd of a Hallan Çemi type stone bowl from Göbekli Tepe (© DAI, *Photos* N. Becker)

settlements, obsidian is clearly underrepresented at the site. From 18 years of excavations at Göbekli Tepe only ca. 400 pieces are known, an exceptionally small number compared to the vast amounts of flint present at the site. But this small group is extremely heterogeneous on the other hand. Seven raw materials from four different volcanic regions have been detected.[5]

To sum up, there is reason to believe that large groups of people were active at Göbekli Tepe. This raises the question of planning, organizing, and coordinating

[5]Personal communication Tristan Carter, Toronto.

Fig. 5.21 An unfinished T-pillar with a size of about 7 m and volume of 20 m^3 was *left* where it broke in the quarry areas surrounding the mound (© DAI, *Photo* M. Morsch)

construction work, as well as the mode of gathering the needed workforce which most probably outnumbers the members of a single band or even a local group of hunter-gatherers.

Feasting in Cultic Context at Göbekli Tepe

The answer to the last part of the question is the simpler one to find. A close look at the massive amount of filling in Göbekli's enclosures reveals that we are not dealing with sterile sediments. The material used to backfill the monumental enclosures at the end of their use-lifes consists of limestone rubble from the quarries nearby, flint artifacts and animal bones smashed to get to the marrow, clearly the remains of meals. Enclosure D alone, the largest of the four circles, comprised nearly 500 m^3 of debris (Schmidt 2012b, 151). With traces of settlement absent, for Göbekli Tepe this readily leads to the idea of large, ritualized work feasts rooted in the belief systems of the people congregating there. Ongoing archaeobiological analysis will help to sketch a more coherent image of theses feasts and the points in time when they occurred in the future; for now their high intensity seems to be the most important aspect. Obviously, large amounts of wild game were hunted and consumed. However, in view of the controversy regarding the existence of feasts in the Near Eastern Neolithic sketched out in the introduction to this article, it seems prudent to review the available evidence systematically.

In her in-depth discussion of PPN feasting in the southern Levant, Twiss (2008, 419–426) has provided a review of ethnographically recorded feasting behaviors in hunter-gatherer and subsistence agricultural societies which most probably leave traces in the archaeological record. She identifies food and drink, the physical setting, ritual/performance and commemoration as the key fields.

The consumption of large amounts of food and drink is basic to every feast. Depositions of large amounts of food remains, storage facilities for the food which often has to be collected for a longer period in advance of the feast, numerous cooking equipment and food preparation facilities, special, rare, or high prestige foods as well as the consumption of alcohol are common attributes of feasts (Twiss 2008, 419–423).

The presence of large amounts of food remains at Göbekli Tepe has already been stated. Twiss (2008, 423) notes that meat is often the most common food at feasts, and large animals are often of peculiar importance as they provide large amounts of meat and—due to the dangers involved in killing them—also prestige to hunters. For the early Neolithic, Twiss (2008, 423) emphasizes the importance of the aurochs, the largest and most dangerous meat animal around at that time, which also plays a big role in PPN imagery and ritual deposits. A female aurochs could deliver as much as 280 kg of meat, while a bull would deliver up to 338 kg (Goring-Morris and Horwitz 2007, 910; Twiss 2008, 428). That makes cattle, in Twiss' (2008, 437) words the 'prime PPN feasting food.' At Göbekli Tepe, aurochs is with an portion of 20.1% of the total number of bones found on the second place of hunted species after the goitred gazelle (42.6%), but, in terms of bone weight, provides for more than 50% of the meat consumed (von den Driesch and Peters 1999, 24–27, Tables 1 and 2). This definitely fits the feasting pattern.

Storage facilities for food are absent from Göbekli Tepe, as are all domestic traces. As aurochs and gazelle seem to have been the main foodstuff consumed at feasts, communal hunts specifically organized to provide for the occasion are a distinct possibility. Food could also have been collected in settlements until the time for the feast came.

What is missing at Göbekli, too, are fireplaces. Short-time use of fire for cooking may not leave detectable traces however, and their removal could have been part of the ritualized activities surrounding feasting. Cooking installations on the other hand are definitely absent. Present is however a large variety of grinding equipment. Grinders, mortars, and pestles are abundant, although botanical macrorests, entirely of wild cereals (among them einkorn, wheat/rye and barley), are few (Neef 2003). Possibly only some steps of food preparation took place onsite, and most food may have been brought in a semi-prepared form.

The presence of prestige, rare, special, or labor-intensively prepared foods is hard to establish, but tentative evidence for the consumption of alcohol at the site has recently been brought forward (Dietrich et al. 2012). For two stone bowls from the PPN cemetery of Körtik Tepe, preliminary evidence of tartaric acid hinting at grape wine is reported (McGovern 2009, 81), and alcoholic beverages may already have been common in the Natufian Period (Hayden et al. 2013).

The second common point for feasts observed by Twiss (2008, 423–424), special structures to gather in and a special setting, does not need much further discussion in the case of Göbekli Tepe. The differences of the stone circles to contemporaneous domestic architecture have already been pointed out, as has the unique setting of the site at the highest point of a mountain range.

Her third point, the ritualistic and performative aspects of feasts, are hard to determine in the archaeological record in general, but in particular even more at Göbekli Tepe, where the enclosures were obviously cleaned and buried after the end of their use-lifes.

As archaeological correlates for ritual and performance, Twiss notes that feasting may be associated with special, sacred buildings, graves or human remains, religious and special serving paraphernalia (particularly items large enough for public viewing, Twiss 2008, 424). Many of these points obviously apply to Göbekli Tepe, including the occasional presence of human remains, especially skull fragments with cutting marks (Notroff et al. 2016). Nevertheless the determination of ritual in the archaeological record, and the characterization of ritual as sacred or profane, is a wide field and needs a specialized study and careful evaluation in the case of Göbekli Tepe (cf. Dietrich and Notroff 2015). However, it seems important to note that the food remains obviously were collected on site to be later used to refill the enclosures. That could hint at a special quality of those remains different from profane settlement waste. Of the singing, dancing, and music associated often with feasts (Twiss 2008, 424), especially the dancing has been highlighted as an aspect of PPN culture (Garfinkel 2003). One of the most remarkable examples of dancing scenes can be found on a sherd of a limestone bowl from Nevalı Çori (Fig. 5.22). It depicts two persons with raised arms, between them, maybe, a turtle (Hauptmann 1999: Fig. 16). The range of possible ritual paraphernalia is rich on the other hand, as is special serving ware in the form of the elaborately decorated Hallan Çemi type stone bowls. The last aspect raised by Twiss (2008, 424–425) is commemoration. She cites several cases in which feasting sites are marked by special constructions, posts and other devices, or feasts are commemorated by depictions of food animals, or trophies taken home. It would be easy to propose such a role for Göbekli Tepe' buildings or rich imagery. However, while Göbekli's enclosures hint at gatherings, the predominantly depicted taxa are not those hunted and eaten. A single role as feasting markers is thus unlikely, although maybe memories of the feast held to build an enclosure entered in the buildings biography and were kept by the group constructing it.

To sum up, there is ample evidence at Göbekli Tepe for large work feasts (Dietler and Herbich 1995; Hayden 2009) as a mode to gather the workforce necessary for erecting the monumental enclosures. It is obvious that complex construction activities like those at Göbekli Tepe need planning (including the procurement and storage of food), the knowledge of how to do things in the proper way, and monitoring of work in progress. Further, a certain degree of specialization

Fig. 5.22 A dancing scene on a bowl from Nevali Çori (after Hauptmann 1999, Fig. 16)

is necessary, especially for the demanding task of decorating the pillars and making sculptures. Of course, the knowledge what to depict in what way and arrangement will be needed for these tasks, too. The question then is not only what persons could have had the necessary knowledge and influence, respectively, power to summon people from a wider area to work and control them, but also what this power would be based on and whether it encompassed more than this one specialized task or was a permanent feature of society. In other words: Was there a permanent hierarchization in PPN A hunter-gatherer groups?

Signs of Social Inequality in the PPN a of the Northern Fertile Crescent

A general impression of the existence of hierarchical concepts within the groups constructing Göbekli Tepe is conferred by the layout of the enclosures. The smaller pillars in the circle walls are looking toward the central, and larger pair. Whatever gathering is depicted here, it does not seem to be one of equals. Another differentiation seems to exist between the clearly anthropomorphic, but abstract pillars and more natural human depictions in the style of the PPN sculpture of a man from Urfa-Yeni Mahalle (Bucak and Schmidt 2003). The 'Urfa statue,' regarded as the oldest naturalistic life-sized sculpture of a human, has a face, and its eyes are depicted by deep holes with inset blade segments of black obsidian, but it lacks a

mouth. The statue seems to be naked with the exception of a V-shaped necklace. It is not entirely clear, but it seems that its hands are holding his phallus. Legs are not depicted; below the body there is only a conical tap, which allows the statue to be set into the ground. From Göbekli Tepe there are several life-sized human heads made of limestone, which probably have been part of similar sculptures originally. The heads seem to have been intentionally removed from the statues and were in many cases deposited next to the abstract pillar-beings in the course of the refilling of the enclosures (Becker et al. 2012, 28, Figs. 19–21). While their exact relation to the pillars remains unclear, it seems possible to assume that they represent another hierarchical level compared to the abstracted pillar-beings (Schmidt 2010, 246–249). This would be evidence for the existence of the concept of hierarchy in the spiritual realm. The question is, if real life was also structured accordingly.

One symptom, and maybe a prerequisite for the evolution of hierarchy is specialization and division of labor. Göbekli Tepe stands witness to the existence of both. It is hard to imagine that the reliefs on the pillars and the elaborated sculptures were made by inexperienced people. The uniformity of the types, the coherent style, the exactness of realization speak in favor of a fixed canon of motifs and techniques that had to be learned. While transport and erection of the monoliths may have been accomplished in a short-time span by a large workforce, the artistry seems to hint at highly specialized craft(s). It seems possible that a part of the population had to be set free from subsistence activities and were cared for at least for some time of the year by the others while learning and executing work at Göbekli Tepe. Of course the intensity and duration of such work periods is hard to apprehend, and their effect may not have been decisive in restructuring a complete society in the short term.

When trying to infer social hierarchization, archaeologists frequently turn to special treatment of individuals in funerary rite (for the PPN (B) often based on the modification and caching of selected skulls; Kuijt 2000; Asouti 2006, 98–99) or ‚prestige' items of material culture as another line of argumentation. At Göbekli, burials are missing so far, but it is not hard to find 'special' items. Looking at the portable material culture, there are spacer beads and buttons, often made of greenstone (Fig. 5.23), zoomorphic pestles or 'scepters' of the Nemrik type (Fig. 5.24), elaborately decorated thin walled stone bowls, and, of course, the decorated shaft straighteners and the small stone tablets (Schmidt 2012b, 157–159). The problem with addressing these items as individual signs of social distinction at Göbekli lies in the fact that they come from the filling of the enclosures. They are not in the contexts of their primary use, and thus there is no possibility to determine whether, e.g., the stone bowls, the ‚scepters' (if this determination is right), or the tablets were the individual property of persons, or part of the paraphernalia of cultic ceremonies. There are some leads though. The buttons and spacer beads, often made from greenstone and most likely part of the personal adornment, do appear frequently in Göbekli Tepe and in settlements with ‚special buildings' like Nevalı Çori or Çayönü (Schmidt 2012b, 157). They seem to be bound to such special contexts and maybe to a group of ritual (maybe even religious) specialists present there.

Fig. 5.23 Stone buttons from Göbekli Tepe (© DAI, *Photos* K. Schmidt)

Fig. 5.24 Nemrik type stone 'sceptres' from Göbekli Tepe (© DAI, *Photos* D. Johannes, N. Becker)

A look at other sites may strengthen this image a little. While domestic architecture of the PPN seems to be highly normed in layout, there seem to exist some differences. Davies (1998) noted for late PPN B 'Cell Building phase' of Çayönü a difference in the size and elaboration of house architecture between the western part of the site, where workshop and domestic production areas lie, and the eastern part of the settlement where the so-called 'plaza' and the 'terrazzo building' are situated. The houses encircling the plaza are not only larger, but also contain the exotic artifacts and raw materials as well as lavish subfloor burials. A recent study of stable isotope evidence additionally hints at marked differences in male and female diet in that subphase—in favor of the male population (Pearson et al. 2013, 185). Further, individuals buried in the 'skull building' seem to have had a more varied and better diet than people buried beneath house floors in the 'round, grill and cell plan' phases. This impressive evidence for social stratification, however, dates relatively late in the PPN and does not correlate directly to the older site of Göbekli Tepe. More important for understanding the latter and earlier developments toward hierarchization in general are the richly furnished burials found at Körtik Tepe, a site partly contemporary with Göbekli's Layer III, and sharing much of its material culture, but situated more to the East in the Tigris region, and apparently starting much earlier (Özkaya and Coşkun 2011, 103–104). Besides the settlement, at Körtik Tepe 455 graves have been discovered. Of these, 301 contain burial goods, while 154 are lacking those. Many skeletons show evidence for complex rites prior and posterior to burial, including the decoration of bones with ochre and lime-plaster. There is a wide variety of grave goods, and at least in some cases the items were intentionally broken at the gravesite. A full appreciation of these remarkable finds will have to wait until they are comprehensively published, but it seems legitimate at the moment to state that there are clear differences in the number of grave goods and the intensity and elaboration of burial rites. Of course a simple relationship between burial gifts and the social status of the deceased cannot be drawn, as the furnishing of graves also, and in some cases even to a higher degree refers to the belief system and values of society or the views of the bereaved on the deceased. The broken objects at Körtik Tepe, in many cases stone bowls, could very well hint at the ritual deposition of equipment used in celebrations at the graves more than at the personal belongings of the dead. Such celebrations may implicitly and in the first place have served the purpose of handling the loss produced by the death for the social group. However, not all individuals seem to have received equal attention, and the excavators also observed that grave goods generally get more elaborated and numerous over time, which they take as a sign of increasing social hierarchization (Özkaya and Coşkun 2011, 94). The graves of Körtik Tepe thus seem to offer tentative evidence for social distinction among groups contemporary with Göbekli Tepe.

Most interestingly, also decorated stone plaquettes are part of burials at Körtik Tepe (Özkaya and Coşkun 2011, 97–98), marking them as possible individual property or signs of the social function of some of the deceased. The exact number of decorated plaquettes from Körtik is not clear, but it seems to be a quite restricted find group. It is possible that the possession of the plaquettes themselves and—

probably more important—the knowledge stored on them in abstract and symbolic form was restricted to a small group of people. This would again hint at specialists in memory, ritual, and maybe religion, drawing their importance to the group from memorizing, saving, and reproducing crucial knowledge.

Restriction of the access to knowledge and participation in rituals seems to be attestable also at Göbekli Tepe. On a general level, some object classes known from settlements are missing (Schmidt 2010, 70). For example, awls and points of bone are nearly completely absent. The tasks carried out with them probably were not practiced here, and it may well be that the part of the population carrying them out was absent, too. Further, clay figurines are absent completely from Göbekli. This observation gains importance in comparison to Nevalı Çori, where clay figurines are abundant, missing only in the 'cult building' with its stone sculptures and T-shaped pillars (Hauptmann 1993, 67; Morsch 2002, 148). Clay and stone sculptures may thus well form two different functional groups, one connected to domestic space (and cult?) and one to the specialized 'cult buildings'—and to another form of ritual also evident at Göbekli Tepe. Its iconography is exclusively male, and while evidence for some domestic tasks is missing, there is evidence for flint knapping on a much larger scale than in any contemporary settlement, and shaft straighteners are very frequent, too. Göbekli Tepe could have been a place for just a part of society, for male hunters. At least their ideology seems to be exclusively represented at the site.

Another element of restriction is posed by the enclosures. They are not of a size to accommodate very large groups of people at a time. If we imagine them open to the sky, then a certain public aspect would have to be taken into account, but another possibility is a reconstruction along the lines of largely subterranean buildings accessible through openings in the roof, similar to the *kivas* of the North-American Southwest, rather unimpressive and hidden from the outside. It is a distinct possibility that only a small group of ritual specialists had access to the enclosures.

As mentioned above, at Göbekli Tepe there is evidence for constant construction activity. In Addition to the erection of new monuments, activities also took place in already existing enclosures (cf. Piesker 2014 for an in-depth analysis of the building history of Enclosure C). New circle walls were added, and the re-use of pillars from other, dismantled enclosures (Enclosure E would be an example here) is a frequent phenomenon. The general impression is that working at Göbekli Tepe in itself was of central importance to PPN people. One reason for this may lie in the strengthening of social cohesion such activities in combination with feasting (maybe preluded by communal hunts) bring about, but building and rebuilding Göbekli Tepe —and maybe other sites like it—may also have been a way to gain and maintain social power and influence by those possessing the knowledge necessary to construct and meaningfully decorate the 'special buildings.'

Complementing the element of cohesion, there may also be signs of competition at Göbekli Tepe. The enclosures vary in size, in the density of iconography, and ultimately in the amount of labor invested. Also, as mentioned above, different species of animals dominate in different enclosures. That observation opens up the

possibility of the circles being constructed by different groups. The possibility of competitive behavior among those groups, or individuals leading them, can thus not be ruled out (cf. van Wees 2011, 14–23; Notroff et al. 2014, 96–97).

Discussion

The large-scale feasts at Göbekli Tepe seem primarily to have had the character of work feasts to accomplish a common, supposedly religiously motivated task. The enclosures erected there convey the impression of gatherings through their layout, and, while signs for social stratification exist, this aspect—the gathering of people for a collective aim—should not be lost from sight completely in favor of competition and power acquisition by individuals. Increased ritual activity accompanying art production may well have been a way to alleviate social stress brought about by increasing group sizes in at least semi-sedentary societies on the verge of a new style of living (Belfer-Cohen and Goring-Morris 2011, 92–93). Regular meetings and collective activities are crucial to hunter-gatherer societies in many ways, serving purposes such as the exchange of goods, information, marriage partners, and strengthening cohesion. The complex symbolic system visible in Upper Mesopotamia continued for more than a millennium. A prerequisite for its long life must have been an extensive network of supraregional contacts sustained on a regular basis (Watkins 2008, 2010, 630–632).

The work feast is thus inevitably and inextricably mixed with what Hayden calls ‘alliance feasts’ with the scope of knitting ‘social security nets.’ At the same time, these occasions may have offered individuals or groups the possibility to promote their social status. It would seem, however, that competition for influence—at least at Göbekli Tepe—was not open to everyone who was able to throw a large feast. Access to and command of knowledge crucial to the society’s identity and well-being may have served as a social barrier hindering individuals to step outside of the given limits, while being the basis for power over the workforce of others for a restricted group of people. In conclusion, Hayden’s notion of a ‘transegalitarian society’ with beginning social hierachization on several levels seems to fit the image emerging from sites like Göbekli Tepe and Körtik Tepe already for the PPN A of Upper Mesopotamia.

It may be premature, however, to move beyond the simple observation of the early evolution of social hierarchy. Concepts like the famous ‘Big Man’ are readily at hand in archaeology when trying to describe ‘first stages’ in hierarchy building with individuals rising to power through talents, merits, gift giving, and subtle control of social relations for a period of time, then disappearing without passing on their power to an heir. However, the ‘Big Man’ is a multifaceted phenomenon indigenous to a very special type of societies, and there is ongoing discussion on its wider applicability in anthropology (e.g., Godelier 1987). Further, we also have to take the limits of the momentarily available archaeological evidence into account. Göbekli Tepe is a very special site in the context of cult, the perpetuation of cultural

knowledge and, maybe, ultimately religion. This is an important aspect of a society, but it is just one facet of many. Feasting in a cultic context away from settlements may have been a way to gain influence in the early Neolithic world, but at the moment it is hard to integrate into a complete picture. Complementary evidence from settlements is needed to understand how far social differentiation already influenced all aspects of life in the PPN A, how stable power aggregated by an individual might have been and how far his authority over others may have reached. At Göbekli, the collective aspect of accomplishing work through feasting generally seems to hint at a more indirect and maybe fragile form of power connected to a certain task.

However, there is strong evidence for feasting and beginning social stratification in Upper Mesopotamia already in the PPN A, and this seems to be in contrast with the situation observed in the Southern Levant (Twiss 2008; Kuijt and Goring-Morris 2002; Kuijt 2009), where PPN art is also much more scarce. That makes it a possibility that Upper Mesopotamia actually had a leading role in the social developments that contributed to the process of Neolithization. At Göbekli Tepe, no signs of domestication are visible so far. Of course there is the possibility that first steps in that direction were already taken but not yet visible in the skeletal material of animals or the phenotypes of plants. However, taken together with the imagery and the material culture, Göbekli Tepe very expressively and exclusively represents the world of hunter-gatherers. One is thus inclined toward Cauvin's powerful image of a changing mindset well before domestication. Feasts of the magnitude visible at Göbekli Tepe—and a necessary factor in the process of its constrcution—may well have over-stressed the economic possibilities of hunter-gatherer groups and have been a contributing factor to the need to procure new, more reliable resources, leading ultimately to the shift to food production and rise of social complexity.

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Chapter 6
Highly Stratified Societies Without Permanent Leadership: The Yi in Liangshan of Southwestern China

Jianping Yi

Peoples and Geographic Environments

In 2010, there were 8714, 393 Yi Chinese who lived mostly in the southwestern part of China.[1] This paper will mainly address the pre-1956 Yi societies inhabiting Liangshan, along with the southwestern Sichuan, and northern Yunnan Provinces (an area less than 40,000 km^2).[2] In 1956, there were nearly 694,000 Yi and about 344,000 people of other ethnic backgrounds living in the study area.[3] The social structure of the Yi of Liangshan was also found in Ninglang of the northwestern Yunnan, Zhaotong of the northeastern Yunnan, Bijie of the western Guizhou, and other areas[4] (Du 1983, 49–50; Hill 2005, 4–62; Q. Hu 1964, 143–64; Jiari 2010,

[1]The Yi were referred to as "Luoluo" in the ancient Chinese literature (Q. Hu 2007b, 3). However, we have reasons to doubt that all ancestors of the people presently called Yi were referred to as "Luoluo" at that time. We know that before 1949, the Yi used at least 35 names when referring to themselves while outsiders used 44 names to identify the Yi (The Compiling Team of A Brief Yi History 1987, 239–41; Yi 2000, 4–6). Only in 1950s did they start to accept the name of Yi with the help of Chinese government. So how can it be possible for the Yi to have had a single name in ancient times?

[2]Before 1956, the nine counties of today's Liangshan Yi Autonomous Prefecture, Zhaojue, Meigu, Butuo, Xide, Puge, Ganluo, Jinyang, Yuexi, and Leibo, as well as the two counties, Mabian and Ebian, and the district Jinkouhe, of today's Leshan City, were referred to as the hinterland of Great Liangshan and Small Liangshan in Sichuan, with a size of more than 35,000 km^2 (Q. Hu 2007c, 15; Yi 2000, 6).

[3]Scholars disagree about this issue. This chapter employs the numbers put forth by Q. Hu (2007b, 1). Other figures are reported by X. Cheng (1984, 56–73), N. Liu (2012), The Chronicles Office of Liangshan Yi Autonomous Prefecture (2005b), The Ethnic Affairs Commission of the NPC (1957, 22), W. Wu (1982, 32–35), M. Xu (1983, 88–93, 1985, 155).

[4]In 1956, there were 84,300 people in Ninglang Yi Autonomous County, among whom 54,000 were Yi, accounting for 64% of the County's total population (Q. Hu 2007b, 1).

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101–06; The Investigation Team of Yunnan Ethnic Minorities from Institute of Ethnic Studies of Chinese Academy of Sciences, Department of Ethnic Minorities Studies of Yunnan Provincial Institute of Ethnic Studies, and The Compiling Team of *The Yi Slavery in Liangshan* 1977; The Yunnan Compiling Committee of Five Series of the Ethnic Issues 1984; The Yunnan Compiling Committee of Five Series of the Ethnic Issues 1987; The Yunnan Compiling Committee of Five Series of the Ethnic Issues 2009; M. Xu 1986c, 26–27; Ch. Zheng 2000, 125–30, 2006) (Figs. 6.1, 6.2 and 6.3).

Therefore, the Liangshan Yi addressed here are different from the Liangshan Yi of today's Liangshan Yi Autonomous Prefecture. Presently the Liangshan Yi Autonomous Prefecture is located between longitude 100°15′–103°53′ and North latitude 26°03′–29°27′ in the southwestern Sichuan Province. This is the largest region in China currently occupied by the Yi, with a size of over 60,000 km^2 (a region that is much bigger today than in former days).

The old Liangshan, composed of Big Liangshan and Small Liangshan, plus Ninglang (also known as Small Liangshan), Zhaotong, and Bijie mentioned above, was located on the eastern edge of the Qinghai–Tibet Plateau, the Yunnan–Guizhou Plateau, and the southern section of the Western Sichuan Plateau (one part of the southeastern margin of the Qinghai–Tibet Plateau and Hengduan Mountains). The altitudes in this region vary from 305 to 5598 m. Its complex geographical environment is comprised of mountainous plateaus (intertwined high mountains, hills, numerous rivers, valleys, and basins). Six decades ago, this complex terrain made traveling to or in this region very difficult (Q. Hu 2007c, 1–10).

Because of varying altitudes, topographic complexity, and microclimates, agriculture, raising livestock, fisheries, along with hunting were practiced in the region (Q. Hu 2007c, 2–8, 43–65). Small peasant farming was the principal means by which locals sustained themselves (Figs. 6.4, 6.5, 6.6 and 6.7).

History of Liangshan and Its Relations with Other Parts of China

Liangshan's history is of course, a history mainly about Liangshan. However, it is also important to note that Liangshan was directly and indirectly impacted by kingdoms, empires, and other political entities found outside this region, particularly from southwestern, northern, and central China (S. Lu 1980, 21–41).

In the past, peoples in the south-central Sichuan, the western Guizhou, and most parts of Yunnan shared a common name from ancient Chinese literature: "The Southwestern Barbarians."[5] They appeared as early as in the Warring States Period (476–221 BC) in the writings of the first Chinese historians (Sima 1959, 2991-98;

[5]Mention of such "Southwestern Barbarians" appears in the earliest Chinese historical books, such as in Sima (1959), Ban (1962), and Fan (1965).

Fig. 6.1 A Yi elder. Picture taken at Meigu, Liangshan in November 2014

Ban 1962, 3837-70; Fan 1965, 2844-68). From the scattered records, we find that those people in that time lived mainly on agriculture or on livestock, and thus organized their societies correspondingly (Q. Hu 2007c, 18–21).

The so-called Wuman (wu: white, man: barbarians) and Baiman (bai: white) from Southwestern China, in the writings from the Sui and Tang Dynasties, had a very close relation with those we will refer to as the Black Yi and White Yi of Liangshan (Q. Hu 2007c, 17-42; Shao. Li and Yu 1979, 62–69; W. Zhu 1997, 58–63). During the Tang Dynasty (618—907 AD), the Wuman subsisted mainly by raising livestock while the Baiman depended on farming. These two groups constantly waged war against each other. Ritual life was a very important component of both societies.[6] Every year, each Wuman household sacrificed a cattle or sheep in the priest's house. A priest was believed to be the host of ghosts (Ouyang and Q. Song 1975, 6315). It is said there was one junior priest for the service of 100

[6]Later sources seem to indicate that these rituals can be characterized as forms of ancestor worship. See Y. Cheng (2005, 106–11), Y. He (1983, 153–68), M. Xu (1990, 18–23).

Fig. 6.2 A Yi lady. Picture taken at Zhaojue, Liangshan in November 2014

households, one senior priest for an entire tribe, and one supreme priest for all 7 Wuman tribes (Shao. Li and Yu 1979, 62; Ouyang and Q. Song 1975, 6317).

Important political and cultural impacts from the Yellow River (Shaanxi, Shanxi, Henan, Hebei, Shandong) and other regions of China took place as early as in the Qin and Han dynasties. A man named Changan was a general under the First Emperor (259–210 BC) of the Qin Dynasty. This individual constructed a road leading from Sichuan into Yunnan, which expanded possibilities for cultural exchange between the aforementioned regions. This road also greatly facilitated travel for groups living along the Yellow River and other regions, including Yunnan, to Liangshan. Afterwards, Emperor Wu (156–87 BC) of the Western Han Dynasty (202 BC–9 AD), sent his army to conquer the southwestern barbarians in 111 BC. Around this time, one section of the imperial army entered Liangshan and

Fig. 6.3 An old Yi woman purchasing a baked potato. Picture taken at Meigu, Liangshan in November 2014

formally established a county there named Yuejuan (Sima 1959, 2997; Fan 1965, 2852). Since then, the Eastern Han (25–220 AD), Shu-Han (221–263 AD), Western Jin (266–316 AD), Nan-Bei Chao (420–589 AD), Sui (581–618 AD), Tang (618–907 AD), Wudai (907–960 AD), Song (960–1279 AD), Yuan (1271–1368 AD), Ming (1368–1644 AD), and Qing (1616–1912 AD) Dynasties, along with the Republic of China, have all become involved in the affairs of the region, setting up in Liangshan, administrations named Jun, Zhou, Si, Fu, Lu, Wei, and Ting. The strongest political rule came from People's Republic of China. In 1955, the number of counties increased to 11 and in 1956, the number grew to 14 (The Chronicles Office of Liangshan Yi Autonomous Prefecture 2005a).

One of the most important external influences that impacted Southwestern China (and Liangshan) is that after 1253, the Mongols gradually established the system of Tusi, that is, a system of appointing indigenous headmen to serve as local hereditary administrative officials (Q. Hu 2007c, 29–32, 223, 366–68; M. Xu 1981, 30–37). For the most part, the Ming and Qing Dynasties kept such a system in place in Liangshan (Q. Hu 2007c, 32–42). Emperor Yongzheng (1678–1735 AD) of the Qing Dynasty, tried to change this system but did not succeed (Q. Hu 2007c, 41). In fact, such a system persisted in some areas of Liangshan until the first half of the 1950s (Q. Hu 2007c, 42). In Liangshan, nevertheless, there was never a so-called supreme leader over a unified political entity. A so-called Tusi was only a

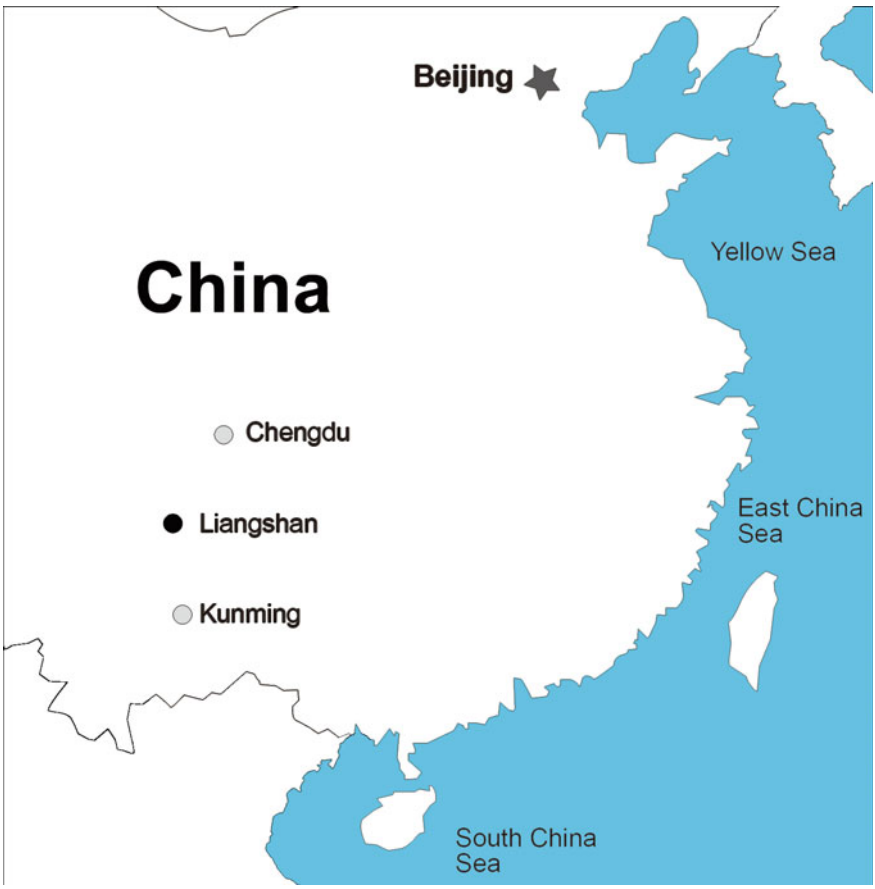


Fig. 6.4 Map showing the location of Liangshan, China

hereditary chief who controlled a certain area strongly or weakly, supported by the central government established in the core regions of China (Q. Hu 2007c, 223–26; Xia 1996, 9–15). He had no absolute power to rule over his people, particularly over the well organized Chujia and Chujie (the main social organizations that most of the Yi relied on). Nominally, a Tusi controlled all lands and allocated them to lower ranked individuals, who would pay him in the form of tribute and/or labor. However, in general, for instance, during the Ming and Qing Dynasties, even when a Tusi was powerful, any debt in the form of tribute and/or labor owed by a Wuman or Heiyi (Hei: black; yi: Yi) who was his close kin, was merely symbolic. Moreover, when a Tusi became weak, such duties might be ignored. In order to show that the Heiyi were quite independent, the ethnographer Yaohua cites the words of Zhongqi Yue, the early Qing Dynasty Governor of Shaanxi and Gansu: "The black bones (Heiyi) were always sturdy. They did not obey the constraints of a

Fig. 6.5 The Village of Machuqian, Liangshan. Picture taken at Ebian, Liangshan in November 2014

Tusi" (Y. He 1980, 40. For similar findings, see Y. He 1977, 39–43; Liang 1960, 20–31; X. Shi and J. Chen 1959, 25–36). This indeed, is a true description.

One of the first well-known polities in Southwestern China appears in Chinese records as the "Dian Kingdom" (278–109 BC). It was located in Kunming and its population was estimated to be in the tens of thousands (Sima 1959, 2997; Ban 1962, 3842). Rulers of this polity possessed the surname "Zhuang" and each was referred to as the "Dianwang," literally "King of Dian." At that time in Kumming, there were still a number of small towns. Emperor Wu of Western Han Dynasty, sent his army to conquer Southwestern China and in 109 BC, the Dianwang surrendered (Sima 1959, 2997). The Emperor placed conquered lands under the jurisdiction of his newly established county called Yizhou and permitted the defeated Dianwang maintain his rule as the Emperor's agent (i.e., indirect rule).

Fig. 6.6 The town of Xihe, Liangshan. Picture taken at Ebian of Liangshan in November 2014

Archeological excavations reveal that such a polity indeed existed (Ch. Ma 1987, 39–47; F. Zhang 1999, 315–415; The Compiling Team of *A Brief Yi History 1987*, 512–53).[7] However, its social structure remains unclear.

In 738, Piroge, a chief of the Wuman tribe of Mengshe Zhao (also known as Nanzhao) who was supported by the Tang Dynasty, established the well-known State of Nanzhao. During its heyday, Nanzhao dominated all of Yunnan, and some parts of Guizhou, Sichuan, Tibet, Vietnam, and Myanmar. In 902, Nanzhao was overthrown by Maisi Zheng, one of its high officials. Zheng changed the State's name to Dachanghe and made himself king. Nanzhao lasted for 165 years while

[7]From 1955 to 1960, at Mount Shizhai in Jinning County, archeologists excavated 50 ancient tombs dating from the Warring States Period to the Western Han Dynasty. Among the more than 4000 artifacts, mostly bronze, there is an impressive gold seal with four Chinese characters: "Dian Wang(King) Zhi(of) Yin (Seal)." This finding confirms the accuracy of Sima's assertion that the Emperor Wu of the Western Han Dynasty "granted Dianwang a king's seal" (Sima 1959, 2997). Moreover, the recovery of this seal provides strong evidence in favor of the existence of the Kingdom of Dian. See L. Chen and D. Ma (1957, 57), H. Feng (1961, 469–90), Zhen. Hu (1984, 73–77), Gu (1980, 78–79), Jiang (1994, 92–94), K. Li (1985, 78–81), N. Wang (1979, 423–39), P. Wu (1959, 49), Yunnan Provincial Museum (1959a, 56–61, b, 9), Zh. Wang (1959, 573–75), Zh. Zhang (1993, 28–34).

Fig. 6.7 A typical Liangshan scene along the way from Butuo to Xichang. Picture taken at Butuo, Liangshan in November 2014

Dachanghe lasted only for 27 years and was replaced by Datianxing, which was later changed to Dayining in 929. Then, we come to the year 937 when the State of Dali replaced Dayining. During its heyday, Dali dominated roughly all of Yunnan and Guizhou, the southwestern part of Sichuan, the northern part of Myanmar, and a few parts of Laos and Vietnam. In 1254, Kublai Khan destroyed Dali and later the Mongols appointed the last King Xingzhi Duan and his descendants as governors of their new province (Fang 1984, 205–305; Q. Hu 2007c, 21–31; Song et al. 1976a, 3910–11; The Compiling Team of *General History of Yi in China* 1993, 80–114).

It is interesting that in the above mentioned history, the relations between Wuman and Baiman were always changing. Generally speaking in Southwestern China during the Nanzhao period (738–902), the Wuman dominated the Baiman but later, particularly during Dali period (937–1253), the Baiman subjugated the Wuman (Q. Hu 2007c, 17–32).

The people of Nanzhao appeared in Liangshan many times since their State had become established. During the Xiantong Reign (860–874 AD) of the Tang Dynasty, Nanzhao built a city called Jianchang Prefecture located in today's Xichang region and "moved Wuman and Baiman into it" (Q. Hu 2007c, 25; L. Song et al. 1976b, 1471). This is most likely the earliest mass migration of the Black YiV and White YiV ancestors to Liangshan. However, according to their legends, the Yi arrived at that land much earlier. The Yi believe they are descended

from Guhou and Qunie, two brothers who arrived at Liangshan approximately 1600–1800 years ago (Q. Hu 2007c, 11; Shi. Qubi et al. 1978).

Although Nanzhao was a state established by the Wuman, Liangshan was dominated by the Baiman immigrants and their descendants for hundreds of years (Q. Hu 2007c, 28). This situation gradually changed after that Mongols entered Southwestern China and supported the Wuman who eventually gained the upper hand. From the Ming Dynasty onward, the Wuman and Baiman became more separated and gradually became known by the names of the Black Yi and White Yi respectively. The Black Yi enjoyed higher status than its counterpart and this situation continued until the early 1950s (Q. Hu 2007c, 29–42).

Five Major Social Classes

The Zimo, the Nuohuo, the Qunuo, the Anjia, and the Gaxi were the five major social classes existing in Liangshan before Chinese government started to destroy the old social structure in 1956.[8] Some scholars believe that this could be reduced into three social stratifications: the Zinuo (the Zimo and the Nuohuo), the Qunuo, and the Pujie (the Anjia along with the Gaxi) (R. Baqie 2000, 18–19; Q. Hu 2007c, 79). However, it might not be appropriate to link certain social classes with certain types of social inequality in Liangshan, if we employ the definition of social stratification put forth by Fried (1967, 186).

The highest social class is called Zimo, meaning "those in power" (Zh. Liu 2008b, 105; Meng 1979, 86–103; Yi 1989a, 59). Since the Yuan Dynasty, the Zimo contained those who were called the Tusi, the Tumu, and the Tushe by the Han Chinese (Q. Hu 2007c, 79, 86; Ou 1958, 47–51; M. Yang 1997, 88–95; Sh. Zhu 2007, 55–57). Usually, these hereditary chiefs were bestowed official posts, peerages, and official seals directly or indirectly by the imperial governments operating in the central regions of China. Primogeniture was practiced among the Zimo. The eldest son of a Tusi would inherit his father's position and the other sons of the senior Tusi would become the Tumus or the Tushes, headmen under the Tusi. Before 1956, the Zimo accounted for only about 0.1% of the total Yi population in Liangshan. This stems from the fact that beginning in the middle of the Ming

[8]In fact, the hierarchy and stratification of the Yi in Liangshan was much more complicated. As Yuting Du writes: "By carefully analyzing the differences among 'various social statuses,' one may find a ladder with at least more than thirty steps, some of which possess dissimilarities in form, but many are distinctions in the nature of social statuses." See Du (1978, 8). See also R. Baqie (2000, 18–25). Scholars usually believe there were four or five major social classes. Zimo was regarded as the upper part of Nuohuo by those who classify people into four major strata (For instance, see Dou 1981, 31; Du 1978, 7–13; Y. He 1987, 71–80; X. Shi and J. Chen 1959, 25–36; J. Wang 1963, 34–39; M. Xu 1992, 12–17). I adopt the classification of five major strata put forth by Q. Hu and others (For example, from Q. Hu 2007c; Shao. Li and G. Zhang 1985, 142–158; Yi 1986a, 55–62, 1989a, 58–66, 2000, 521–77).

Dynasty, the Nuohuo or the Black Yi used force to gradually expel the Zimo from central Liangshan (M. Xu 1986a, 32–37).[9]

A powerful Tusi might be very rich. He might build a large yamo in the style of a Chinese local bureaucrat's office and residence (yamen). For example, the yamo of a Tusi in Leibo County before 1911, was surrounded by fortifications and was big enough to accommodate hundreds of people (Q. Hu 2007c, 87). A Tusi usually lived a life of luxury when compared to an ordinary Yi. He might be served by many Gaxi at home and be protected by numerous Qunuo and Anjia while traveling. Additionally, he benefitted from exercising jurisdiction over his people (Q. Hu 2007c, 86–88; M. Xu 1986a, 32–37).

Tribute, from the Tumu, the Tushe, the ordinary Black Yi, and all others were received by the Tusi in the form of grain, horses, or other livestock. This constituted an important part of a Tusi's income. Additionally, people were compelled to complete certain tasks assigned by the Tusi. A subject's burden varied, depending on the person, time, and place. However, generally speaking, it was not a particularly heavy burden (Q. Hu 2007c, 82–83; M. Xu 1986a, 32–37) (Fig. 6.8).

The second social class is the Nuohuo or Nuo (Q. Hu 2007c, 88–95). Nuo means black, so this stratum of the Yi is called the Black Yi by the Han Chinese. They were directly related to the aforementioned Wuman. Many scholars regard the Nuohuo as the nobility (For instance, see Y. He 1977, 44–51, 1981, 205–220; Q. Hu 2007c, 78–79; X. Shi and J. Chen 1959, 28; M. Xu 1978, 44–51, 1992, 12; Yi 1986a, 56; D. Zhang 2003, 47–54; W. Zhu 2003, 28–32). However, it would be more accurate to refer to them as freemen. Before 1956, they accounted for about 6.9% of the total number of the Yi in Liangshan (Y. He 1978, 44; Q. Hu 1985b, 19–27, 39, 2007c, 78–79) while M. Xu and W. Zhu believe the number should be 7% (M. Xu 2000, 30; W. Zhu 2003, 31).

The third social class is the Qunuo or Quhuo (Q. Hu 2007c, 132–156). Qu means white, so this stratum of the Yi is called the White Yi by the Han Chinese. They are directly related to the above mentioned Baiman. The Qunuo, the most populous stratum in Liangshan, are a subject of intense debate among scholars. Classifications of this group include the following labels: 'slaves,' 'civilians,' 'laborers,' 'freemen,' 'subordinated people,' 'protected people,' 'universal slaves,' 'racial slaves (or slaves of the Heílôtes type),' 'subordinated farmers under slavery,' 'transitional middle class,' 'serfs,' 'feudal peasants,' 'people occupied by slave owners,' etc. (see Y. He 1977, 39–43, 1980, 32–42, 1987, 71–80; Q. Hu 1963, 135–52, 1982, 205–19, 1985a, 209–23, b, 19–27, 39, 1986, 112–20, 1993, 88, 1995, 61, 66, 69–70, 1996, 55–60; 2007c, 79, 131–56, 350–51; Pu 2007, 37–41; Shao. Li 1991, 88, 2008, 42; Y. Liu 1962, 43, 50–58; X. Shi and J. Chen 1959, 28; Yi 1986a, 55, b, 99–107; X. Zhang 2004, 852–66). I agree with those who hold that the Qunuo were some type of 'protected people' because they could support themselves by way of their own independent income, they had their own kin

[9]Up until 1956, only about 10% of all land and 10–20% of the total population of Liangshan was under the rule of the Zimo. See Yi (1986a, 56, 62), W. Zhu (2003, 31).

Fig. 6.8 The Keqie Yamo site. Picture taken at the Village Keqie of Zhaojue during November 2014

organizations, they could negotiate with those who were nominally their masters, and they even were free to decide whether their Chujie would remain in the region controlled by their masters or relocate. Before 1956, the Qunuo accounted for about 50% of the total Yi population in Liangshan (Y. He 1978, 44; Q. Hu 2007c, 79; Shao. Li and G. Zhang 1985, 145; M. Xu 2000, 31; D. Zhang 2003, 48).

It is interesting to note that the status of the White Yi was changing in comparison to that of the Black Yi. Before the Yuan Dynasty, in Liangshan, the status of the White Yi (Baiman) was higher than that of the Black Yi (Wuman). However, since the Yuan Dynasty, the Black Yi's status increased to a higher position due to receiving support from the central government (Q. Hu 2007c, 21–43; The Compiling Team of *General History of Yi in China* 1993, 80–144, 149–155).

The fourth social class is the Anjia, which means "gatekeepers of their owners" (Q. Hu 2007c, 113–31). These were married individuals who lived close to the homes of their owners.[10] Before 1956, the Anjia made up approximately 33% of the total Yi population in Liangshan (Y. He 1978, 44; Q. Hu 2007c, 79; D. Zhang 2003, 48).

[10]Many scholars consider the Anjia to have been slaves. For example, see Q. Hu (2007c, 113), Zh. Hu (1980, 17).

The fifth social class is the Gaxi, which means "hands and feet beside the fireplace and pot" (Dou 1981, 31–38; Q. Hu 2007c, 95, 95–113). A Gaxi was a slave who worked at his/her owner's home, usually a single man or woman. A few Gaxi were married and lived or at least ate at their owners' home. Before 1956, the Gaxi accounted for about 10% of the total Yi population in Liangshan (Y. He 1978, 44; Q. Hu 2007c, 79; J. Pan 1995, 43; D. Zhang 2003, 48).

Q. Hu places the Gaxi and the Anjia into a single group called Pujie (Q. Hu 2007c, 79), which means female and male slaves. Whether or not a person was born as a Yi was important to a Pujie for the following reason: A Pujie born as a Yi would have higher status and would experience better treatment than non-Yi individuals (Q. Hu 2007c, 114–55).

In fact, by 1956 in most areas of Liangshan dominated by the Black Yi, there were only four major social classes: the Nuohuo, the Qunuo, the Anjia, and the Gaxi (Q. Hu 2007c, 88–95; Shao. Li and G. Zhang 1985, 144–45; The Compiling Team of *General History of Yi in China* 1993, 184–85).

In Liangshan there were also some areas dominated by the independent White Yi, who were their own masters, such as in the town of Yutian in Ganluo County (Q. Hu 2007c, 132; Shao. Li 2001, 34–37; Mao 2011, 43–46; Yi 1986a, 57). Therefore, in this case, there were only three major social classes: the Qunuo, the Anjia, and the Gaxi.

Some scholars believe that the core of the relationship among social classes in the Yi societies is referred to as "Bo" by the Yi (Q. Hu 2007c, 79–80; Yi 1986a, 57–59, 2000, 666–67). A Bose means a slaveholder in possession of slaves and a Bojie refers to a slave who was owned by a slaveholder. Q. Hu says that the Tusi, the Tumu, the Tushe, and the Black Yi were the Bose who had the hereditary right to possess slaves, while the Qunuo, the Anjia, and the Gaxi were the Bojie for they were owned by the Bose for generations and thus had to fulfill subject obligations to the latter. I disagree with Q. Hu on this point. As Q. Hu tells us that in fact, the Qunuo, and even the Anjia and the Gaxi, also had the right to possess slaves. Therefore, they might also become the Bose in the true meaning of this term. Furthermore, we know that in some areas, the Qunuo were an independent people. Taking all of this into consideration, what should a Qunuo individual be called when he owns slaves while at the same time, he himself is a slave? What about when a Qunuo individual owns slaves but is himself free? I believe it is not easy for Q. Hu to answer these questions. I have reason to doubt that it is appropriate to study the core of the relationship among all social classes in Liangshan through the concept of Bo alone. At least it is not suitable when it relating to the Qunuo and the Nuohuo. I agree with scholars, such as Q. Hu who, on other occasions, have characterized the Qunuo as a kind of "protected people" (see Q. Hu 1963, 140–44, 1982, 205–19, 1985b, 19–20, 23–27, 1993, 88, 1995, 61, 66, 69–70, 1996, 55–60, 2007c, 79, 131–56; Shao. Li 1991, 88, 2008, 42), and thus I do not believe it is appropriate to think of Bo as being central to the relationship between a Qunuo and his protector (who typically was a Nuohuo).

The relation between the protector and the protected was called "Ba" by the Yi, which was widespread in the Yi societies (Q. Hu 2007c, 79, 147–49; A. Shi 2008,

46–57; The Investigation Team of the Societies and Histories of the Minorities in Sichuan from Institute of Ethnology of Chinese Academy of Sciences 1962, 26; The Yunnan Compiling Committee of Five Series of the Ethnic Issues 1987, 26–27, 108–09; Y. Zhu 2012, 5–10). The Yi proverb, "Possession is not precious but Ba is precious" (Q. Hu 2007c, 80), is good evidence indicating that Ba was even more significant than Bo among the Yi, and thus it is more accurate to use Ba than Bo in describing the characteristics of the relationship between some social classes in Liangshan before 1956. A protector was called Base and the protected was called Bajie. After 'Ba' was established, one party needed to fulfill certain obligations to another. The Base had to protect the Bajie and the latter had to pay for it in kind and with their labor. It is true, 'Se' means master or owner and 'Jie' refers to some sort of slave literally in Yi. What is more, most of the Base were indeed were from the higher strata, such as the Tusi, the Tumu, the Tushe, or the Black Yi, and almost all of the Bajie out of lower strata, such as the Qunuo or some wealthy Anjia. However, we should not forget that the key factor in Ba was that any Base and/or Bajie had the right to end the relationship between themselves, for instance, between a Nuohuo and a Qunuo (Q. Hu 2007c, 148, 379; The Investigation Team of the Societies and Histories of the Minorities in Sichuan from Institute of Ethnology of Chinese Academy of Sciences 1962, 28). A slave did not have the right to end his relationship with his owner (Q. Hu 2007c, 95–131).

Another point which should be noted regarding the Yi societies of Liangshan is that a man of higher social class or a lower social class mentioned above was not necessarily consistent with a man classified as a 'slave owner' or as a 'slave' by the Chinese government from 1956 to 1958. That is to say, in fact, a man of high social class or low social class might not necessarily be considered to be a man of high or low social stratification as measured in terms of material possessions necessary for human existence (Fried 1967, 186).

From 1956 to 1958, the Chinese government classified the households in Liangshan as follows: About 5% of all households as slaveholders, about 70% as slaves and semi-slaves, and about 25% as laborers (Q. Hu 2007c, 80–81). All the Tusis, most of the Tumus, most of the Black Yi, a small part of the Qunuo, and a very small number of the Anjia households were categorized as slaveholders. All the Gaxi, most of the Anjia, and some of the Qunuo households were classified as slaves and semi-slaves. In addition, more than half of all the Qunuo, some of the Tumus, some of the Black Yi, and some of the Anjia were considered to be laborers. The official criteria for the classification of a slave owner household were that it owned at least twice as much land vis-à-vis the average per capita and that the household in question possessed at least 3 Anjia households or 3 single Gaxi. The official criteria for the classification of a laborer household were that it owned as much land vis-à-vis the average per capita and that the household in question subsisted largely from what its members produced on its own land. In fact, a laborer's household might own 1 or 2 slaves (Q. Hu 2007c, 80–81).

All this indicates is that the amount of wealth was more significant than class affiliation for the Chinese government when it classified a household, which might explain well why a wealthy slave owner's household was not necessarily regarded

as being a member of the high social class (Q. Hu 2007c, 80–81; W. Pan 1987, 321–334).

Prior to 1956 in Liangshan, a high class man's status was inherited through customary law and could not be easily exchanged for wealth. However, under certain circumstances, the status of a lower class individual could be affected by the loss or accumaccumulationaulation of wealth. For instance, an impoverished Qunuo might become a lower status Anjia while a rich Anjia could become a higher status Qunuo (Q. Hu 2007c, 127–31, 146–47; Yi 1986a, 57–58).

Some scholars hold that the primary antagonism present in these complicated hierarchical and stratified societies was between the Zi/Nuo and the Jie (Q. Hu 2007c, 79–80, 100; Yi 2000, 566–67). The caste boundary between these two was insurmountable. Some argue that the Tusi, Tumu, Tushe, and Black Yi were ruling classes and that the Qunuo, Anjia, and Gaxi were subordinate classes. This is not likely all true, for reasons previously discussed.

The Bu, The Chujie, The Chujia, and Their Pedigrees

Interestingly we have not found any permanent leadership in those strictly hierarchical and highly stratified societies, except those ruled tightly or loosely by the Tusis. Therefore, it is reasonable to ask how did people in most areas of Liangshan protect themselves? Also, one can ask what mechanism did they rely on to maintain social order?

The Bu, the Chujie, and the Chujia were the main social organizations that a man relied on. The Bu refers to an individual's household, usually composed of parents and their children (Q. Hu 2007c, 202; M. Xu 1987, 78–83). The Chujie literally means "a man's root" (Q. Hu 2007c, 201–02), translated as Zhi (branch) by the Han Chinese. It is a sort of extended family, coming down from an ancestor many generations ago. A large Chujie may have a history involving dozens of generations and it might contain several small Chujies, each with a shorter history. The meaning of the Chujia is roughly equivalent to surname, translated as Jia (family) by the Han Chinese (Q. Hu 2007c, 201). Most of scholars consider it as a sort of kin organization similar to a clan. Normally, a Chujia is comprised of more than one Chujie. Such a kin system is called Jiazhi by the Han Chinese.[11]

[11]In fact, it is difficult to come up with definitions for the Jiazhi. Most scholars believe that the Jiazhi is a type of kin organization, such as a clan. See W. Baqie and K. Baqie (1995, 47–48), Y. He (1981, 205–20), Q. Hu (2007c, 202–253), Yao. Liu (1980b, 115, 161), Zh. Liu (2008a, 50–54), Qin (1990, 85–88), Sakurai (2000, 106–26), Tao (1993, 252–67), The Compiling Team of The Yi Slavery Societies in Liangshan (1982, 131–55), The Sichuan Provincial Association of Ethnic Studies, and the Sichuan Provincial Institute of Ethnic Studies (1985), The Sichuan Provincial Team (1987, 53–88), Wazha (1999, 58–62); X. Wu (2007, 23–26), Yi (1986c, 29–35, 1987, 34–38, 1989b, 56–59, 1991, 57–61), D. Zhang (2003, 47–54), Ch. Zheng (2000, 125–30), Z. Zhou (1983, 262–68).

Most of the Black Yi believe that their Chujia descended from the ancestor Guhou or Qunie, the two brothers who, according to legend, entered Liangshan 1600 or 1800 years ago. For instance, the people of the Chujia Ahou, Suga, Wupao, and Jidi think they came from Guhou while the men of Chujia Wazha, Baqie, Wuqi, and Buci claim descent from Qunie (Q. Hu 2007c, 202). The ability to recite his genealogy was very important for a Yi when traveling away from of his own Chujie. Therefore, most of the Black Yi had a good memory with regards to their long list of ancestors. It is said that some elders had memorized their genealogies, back to more than 70 generations all the way back to the time of Qunie and Guhou. Some elders with exceptional memories could trace their respective genealogies as far back as 140 generations, well into mythological times (M. Xu 1986b, 24).

Of course, not all Chujia genealogies were lengthy. In fact, typically, a Chujia usually was composed of only 10–20 generations with a history spanning 300–600 years. A Chujie generally might be traced back to a dozen generations. The older Chujie might be the larger one, which was often the mother Chujie of many younger and smaller Chujies. The following is the genealogical tree of the Chujia Ahou from the Puxiong region of Yuexi County. Prior to 1956, it was comprised of 7 large Chujie and each large Chujie was composed of a few small Chujies (Q. Hu 2007c, 202) (Table 6.1):

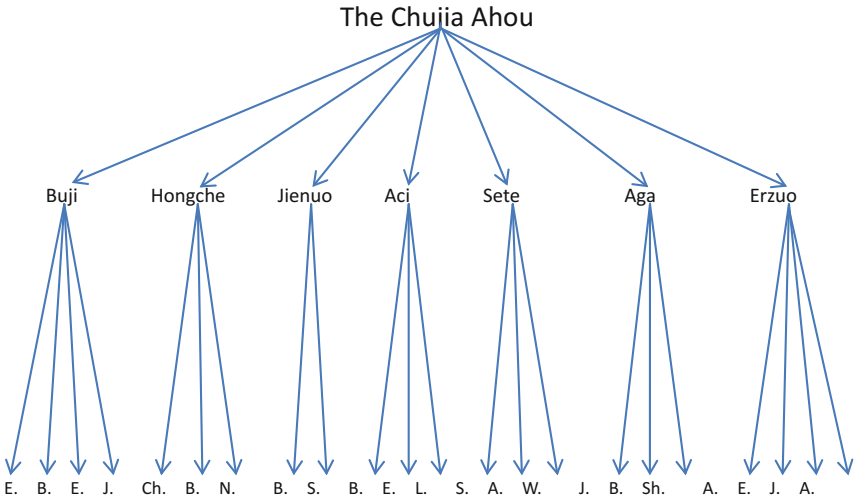
The 22 small Chujies shown in Fig. 6.2 contained 1700 individual Nuohuo Bu before 1956 (Q. Hu 2007c, 202; Shao. Li and G. Zhang 1985, 154).

Before 1956 in Liangshan, there were nearly one hundred Black Yi Chujias with a total population of less than 50,000, as estimated by Q. Hu (Q. 2007c, 202). There were 10 large Chujias, each with a population of over 1000 male members. The largest was the Luohong Chujia with about 12,000 male members. The smallest Chujia was called 'E' and by 1956, it consisted of only 1 member. It has now disappeared (Q. Hu 2007c, 202).

It is interesting to note that in their genealogical reckoning, birth order usually was not as significant as it is among chiefdom societies as described by Service (1971, 133–69, 1975, 72–80). Generally, birth order did not greatly affect a man's status in a family or the relationship between the Bues, the Chujies, or the Chujias, except in the few societies ruled by the Tusis. All men (of same age grade), all Bues, all Chujies, and all Chujias of same class were equal. In a Tusi's family and also in his adult sons' families, birth order was very important as it determined a man's status along with a family's rank or class standing (Q. Hu 2007c, 78–276; Huai. Yang et al. 1994, 44; Meng 1979, 89; Ou 1958, 49–50; The Compiling Team of *General History of Yi in China* 1993, 146–148).

The Black Yi practiced exogamy, which spurred the 'mother-Chujia' to divide itself into two Chujias and then, members of the 'mother-Chujia' might marry members of the 'daughter-Chujias.' Generally speaking, a Chuija might split in half every 6 or 7 generations (Q. Hu 2007c, 202; W. Zheng 2004, 101). However, if individuals experienced no difficulties in securing appropriate spouses, then it was no longer necessary for a Chujia to split every 6 or 7 generations. For instance, up to 1949, the aforementioned Chujia Ahou had not experienced a split in 23 generations (Q. Hu 2007c, 203).

Table 6.1 The Chujia Ahou Diagram



Large Chujie: Buji, Hongche, Jienuo, Aci, Sete, Aga, and Erzuo.

Small Chujie: 1. Eying, Benbu, Erhe, and Jihao; 2. Chutie, Bodi, and Nibo; 3. Bieye and Sege; 4. Bier, Echu, and Lari; 5. Sege, Ache, and Wuzu; 6. Jihe, Binei, and Shitie; 7. Age, Ergeng, Jihe, and Ayu.

Common ancestry and marriage were the framework for relations among the Chujia. For example, the four Chujia: Moshi, Buzi, Wuqi, and Jingqu, all intermarried and all descended from a man named Yilicezhi (Q. Hu 2007c, 203).

In order to calculate the population of a Chujia, not only should the Black Yi be included, but also the protected people, slaves, and all others under their control, should be taken into consideration. Therefore, some Chujia might be very large, such as the Ahou, which had a total population of ∼70,000, among which there were ∼7000 of the Black Yi and about 63,000 of the Qunuo along with others in 1954 (Q. Hu 2007c, 203).

Every Black Yi Chjia or Chujie had its own name, which might be the name of some ancestor or it might be named after the place where the ancestor lived (Q. Hu 2007c, 204; D. Zhang 2003, 48–49). The name of a Qunuo Chujia might be the name of some ancestor, the name of its protector- usually a Black Yi Chujia, or the composition of the two. Each Chujie had a pedigree, which in Yi, is normally called "Louyi" (W. Zheng 2004, 101) which refers to a combination of father and son's names (W. Baqie and K. Baqie 1995; J. Hu and Zh. Mi 1993, 242–43; Q. Hu 2007c, 204; Yao. Liu 1980a, 170–196; Zh. Liu 2006, 125; Qumu 1993, 64–65; G. Wang 1991, 71–72; D. Zhang 2003, 48–49). A Yi's full name might be composed of his Chujia's name, his father's name, along with his own name. Ahou Buji Jiha Lumuzi, for instance, means a man named Lumuzi, whose father is Jiha, whose Chujie is Buji, and whose Chujia is Ahou (Q. Hu 2007c, 204; D. Zhang 2003, 49). To employ this

type of name, a Tusi or a Black Yi might trace his ancestry back to Guhou or Qunie, which allowed him to prove his high status, and this was particularly important in matters of safety when traveling far from his own Chujie (J. Hu and Zh. Mi 1993, 242–51; Yao. Liu 1980b, 109; X. Qubi 2010, 21–26; W. Zheng 2004, 101–04). By doing so, he would receive assistance from his relatives or friendly Chujie if he could firmly establish his pedigree, which was particularly important in wartime so as to avoid being enslaved by the latter who likely were unacquainted with him up until then (Q. Hu 2007c, 204; D. Zhang 2003, 49).

Each Chujie had its own place of residence. Generally, all Black Yi members of a Chujie would live together. However, it was also the case that members of a Chujie lived in different areas. Additionally, a Chujie usually had a common cemetery along with common forests and pastures in the mountains. Typically, each Bu had its own farmland (Q. Hu 2007c, 206).

There were some differences between the White Yi and Black Yi types of social organization. Generally, up to 1957, the pedigree of a White Yi's Chujie or Chujia was not as long as that of a Black Yi. However, there were also some exceptions. For instance, up to 1957, the White Yi Chujia Aku had a pedigree going back 76 generations (Q. Hu 2007c, 203). Another difference was that usually the White Yi did not live together with their Chujie fellows in an area with clear boundaries as the Black Yi regularly did because many of the White Yi were scattered. Usually the White Yi were dominated by different Black Yi thus, they lived separately in different areas from where their protectors inhabited (M. Xu 2000, 31). That is why it was not that easy for the White Yi to have such a close-knit organization as the Black Yi did. To accurately calculate the population of a Qunuo Chujia or Chujie, all Qunuo, and all their people under the Yi lineage, whether Anjia or Gaxi, should be included in the tally.

Members of a Chujia would render mutual aid and protect each other (Q. Hu 2007c, 208; D. Zhang 2003, 49). Members fought alongside each other, fending off attacks, looting slaves and livestock, paying redemption for their men who were caught by enemy, and paying compensation for those killed by their fellow Chujia members. Kin revenge was the crucial component of their mutual aid and protection (Q. Hu 2007c, 208; G. Liu 1988, 31).

Anybody violating the customary law would be punished.[12] A man would be executed if he murdered another man who was his relative within eight generations. The murderer would be expelled from his Chujie or Chujia and all his slaves, land,

[12]On this matter, there are abundant materials and research. See Q. Hu (2007a, 377–90), G. Liu (1988, 28–34), Ren (2013, 147–50), Sun (2007), M. Wang (2008, 2012, 53–56), Huai. Yang (1994); Yin and J. Li (2011, 144–47), X. Zhang (2006, 20–22). Presently, the Yi customary law in Liangshan is still in effect. Some scholars believe that, for the most part, national laws are applicable only at the county level. In rural areas, most disputes are settled by traditional customary law. Each year, approximately 90% of all disputes are resolved by Yi customary law. For example, each year in Meigu County, 70–80 of civil cases brought to the county court account for 10% of all cases, while the remaining 90% of all cases are resolved by the traditional Yi customary law. See M. Wang (2007, 62). For other similar views and related materials consult Cai (1999, 187–91, 2001, 144–48), J. Chen and D. Baqie (2008), Sheng. Li (2010, 172–73), L. Ma and L. Zhang (2011, 52–60), L. Ma and J. Zhang (2012, 60–67), H. Wu (2012, 250–52).

cattle, and other property would be confiscated and handed over to the deceased's family if he escaped. A murderer's family was compelled to make a vow to the victim's family and their representatives ensuring that these actions would be taken (Q. Hu 2007c, 209–10; Huai. Yang et al. 1994, 62–65).

A man would be compelled to make a sizeable compensation if he severely wounded a fellow Chujia member. For instance, if a man wounded the eye of a fellow Chujia member, he would have to give the victim a golden eye or livestock might be given for having inflicted an ear injury. Additionally, a man would be severely punished for having stolen some item from a fellow Chujia member (Q. Hu 2007c, 210–11; Huai. Yang et al. 1994, 67–72).

Leadership

Without permanent leadership, who was taking the lead in dealing with public affairs among most societies in Liangshan? The answer is that the provisional headmen accomplished this task. These nonhereditary and nonprivileged headmen were only temporary leaders. The key to securing and maintaining such a position was having shown the ability to be fair when mediating disputes and handling public affairs, just as an indigenous saying goes: "Where comes a brave man, there people have someone to rely on. Where comes a wise man who is nice and impartial in settling disputes, there they will have be fewer conflicts. Only a kind-hearted man is able to become a Suyi [one kind of provisional headman]" (The Sichuan Provincial Team 1987, 58; L. Yang and Yuan 2009, 85).

In Liangshan, a Black Yi would be well known and then would naturally become a headman after he successfully settled a few disputes.[13] People would frequently turn to him for assistance and advice. However, logically, he would lose his status if he developed a reputation for being unfair when adjudicating disputes. Similarities may be found in the ancient legends dating back ~4000 years ago (Jiao 1987, 644) and also in the old stories of some minorities in China, such as the Wa of Ximeng County in Yunnan (Luo 1995, 262; Tian and Luo 1980, 87–88).

Three important types of headmen are worthy of being mentioned here.

1. Suyi (Q. Hu 2007c, 211–17). A Suyi was roughly equivalent to the headman of a Chujie. He was usually a man over 40 years of age. A Chujie might have several Suyi.
2. Degu (J. Chen and J. Li 2007, 91–96; L. He 2011, 21–26; Q. Hu 2007c, 211–17; Lobian 2012, 90–92; Hong. Yang 2008, 39–44; L. Yang 2000, 75–81; X. Zhou 1997, 240–49. Degu still function now among the Yi societies of Liangshan: See Cai 2009, 95–102; Wei 2009, 83–86; L. Yang and Yuan 2009, 82–86). A man over 25 years of age might gain renown within and outside his Chujie. In order to become a Degu, a man had to be intelligent, brave,

[13]Many years ago, some argued that such leaders were elected or appointed. See Y. Xu (1942, 55).

knowledgeable, familiar with customary law, adept in calendric and divination, possess good oratorical skills, and particularly in being impartial when mediating disputes (X. Zhou 1997, 243–49). There were fewer Degu than Suyi. Some Black Yi Chujie only had Suyi but no Degu (Q. Hu 2007c, 211–14).

3. Zakua (Q. Hu 2007c, 217). In addition to the political headmen, Zakua were another kind of influential men who won their own fame by demonstrating courage in battle. A famous Zakua would dress himself in special armor. Anyone could rise to become a Zakua as long as he had proven himself in battle (Q. Hu 2007c, 217).

Headmen were mediators and arbiters of all types of disputes, executors of customary law, or commanders in war (Q. Hu 2007c, 211–17). Generally, Degu and Suyi would meditate disputes concerning marriage, debt, land, murder, fugitive slaves, theft, adultery, etc. (R. Baqie and Chen 2012; J. Chen and R. Baqie 2008; Hainai et al. 1998; Q. Hu 2007c, 211–17; J. Li 2010a, 2010b, 1–117; Y. Wu 2010, 99–103; Huai. Yang et al. 1994; Xiao. Zhang and Fang 2003).

Headmen would also arbitrate disputes between Chujie factions in accordance with customary law and judicial precedents. People from both sides of a dispute had the right to explain or defend themselves. A headman of a particular Chujie was only allowed to adjudicate internal disputes within his Chujie. In the case of disputes involving individuals from two different Chujies, headman from the Chujies involved were not allowed to sit in judgment over such cases. Instead, a third party would be invited to adjudicate the conflict (Q. Hu 2007c, 212–14; Ren 2013, 147–50; Huai. Yang et al. 1994, 257; L. Yang and Yuan 2009, 84; X. Zhou 1997, 243–49).

A Suyi, as a Chujie headman, usually on behalf of his own Chujie, and a Degu, as a Chujia chief, was often invited to mediate a dispute between two Chujies. However, Suyi and Degu were equal. Differences between headmen consisted in their abilities and reputations, not their statuses (Q. Hu 2007c, 211–14; X. Zhou 1997, 243–49).

In addition to mediating personal disputes, headmen would also handle public affairs within their Chujie or Chujia, such as chairing a communal meeting, mobilizing, organizing, or leading his men to fight an enemy, etc. (Q. Hu 2007c, 211–13; X. Zhou 1997, 243–49).

Before 1956, a few Degu and Suyi were also found in some Quhuo Chujias and Chujies, and were as significant as the headmen of the Black Yi in the Nuohuo social organizations (Q. Hu 2007c, 215–16; M. Xu 2000, 32–33). The former worked together with the latter on certain public affairs, mediated disputes involving the Black Yi Chujies, or came forward to preside over meetings of the Black Yi and White Yi. Interestingly, it was customary throughout Liangshan that the distribution of the estate of a Black Yi without heirs was presided over by a Suyi (Q. Hu 2007c, 215–16; Huai. Yang et al. 1994, 227).

Headmen did not receive a salary. Instead, payment for their service mainly came from mediating large disputes such as those concerned with murder, marriage, or significant debt (Q. Hu 2007c, 216–17). Headmen might receive ten percent of the total amount of money being disputed (Y. He 1981, 210; Q. Hu 2007c, 216–17; L. Yang and Yuan 2009, 85; D. Zhang 2003, 49; X. Zhou 1997, 243).

Assemblies

On special occasions, the Yi would meet with each other in order to handle important affairs, mediate major disputes, or to mobilize themselves for war. They had many types of gatherings, which varied in name and also in the number of participants involved. The following three types of assemblies were significant among the Yi societies of Liangshan:

1. "Jizijire" (Q. Hu 2007c, 218) which means discussion. Generally, the number of the participants of a Jizijire was less than 20. Typically, its purpose was to severely punish a fellow member or a slave within a Chujie. Such a meeting was often held in secret in order to prevent the accused man from becoming aware of what was transpiring. The Jizijire played an important role in Liangshan's social and political life.
2. "Jierjitie" (Q. Hu 2007c, 218) which means gathering for discussion. This type of meeting could involve hundreds of participants. Such assemblies were held on matters of concern to all Chujie members such as a trial of someone accused of murder or on issues regarding the securing of compensation for a victim. There was no fixed time and place for a Jierjitie to occur and it could be held indoors or outdoors.
3. "Mengge" (Q. Hu 2007c, 218, 221–22) which means meeting. There were several kinds of Mengge in Liangshan and one particular type of meeting was called Wunimengge, or the Jiazhi meeting. This was the most important type of assembly in the Yi societies. The participants of a Wunimengge might number in the thousands. It would only be held on important occasions such as the mobilization of all members of a Chujie or several Chujies of their Chujia in times of war (Q. Hu 2007c, 221–22; W. Zheng 2004, 101–04). A Wunimengge would be held on a selected auspicious day. For the Chujia Ahou, it was on the Day of the Tiger and for the Chujia Guoji, it was on the Day of the Pig or the Day of the Mouse. Every Chujia or Chujie had its own location for holing a Wunimengge. Participants would bring wine, cattle, or sheep for a feast. All men and women of the Black Yi and White Yi along with all their male Anjia and Gaxi could take part in the Wunimengge held by a Chujie or Chujia of the Black Yi (Y. He 1981, 210; Q. Hu 2007c, 221–22; The Compiling Team of *General History of Yi in China* 1993, 205).

A Wunimongge was generally chaired by a Degu of high status if the participants were from more than one Chujie. At the beginning, the aggrieved party would explain what had happened to them and they would state their claim if the homicide was caused by someone from another Chujia. Then, the witnesses along with the headmen from each Chujie would speak on what they knew and/or what they thought about the matter at hand. Usually, most of the speakers would ask all in attendance to avenge the death of victim by killing the murderer. To demonstrate the importance of maintaining unity in these situations, a speaker often cited Yi proverbs, such as, "If you do not protect an ear of millet, ten ears will be cut off; If

you do not protect one individual person, a whole Chujia will be killed" (The Compiling Team of *The Yi Slavery Societies in Liangshan* 1982, 146; Q. Hu 2007c, 222). In order to ensure that resolutions would in fact be carried out, participants would sometimes take a vow that included the ritual killing of chickens or cattle. Anyone who did not obey the resolution passed by the Mengge would suffer public condemnation. Regardless of how individual felt about the resolution or if they had been physically present at the meeting, everyone was obliged to obey the resolution. If someone failed to live up to this resolution, his Chujie and thus his Chujia, would not recognize him as being a member. As a result of this action, nobody from his Chujie and thus, his Chujia would protect him if he was in danger. If no consensus had been reached during the course of a Wunimengge, often the aggrieved group would attack the enemy thus forcing the entire Chujie and maybe even the entire Chujia to render support to the attacking faction (The Compiling Team of *The Yi Slavery Societies in Liangshan* 1982, 146; Q. Hu 2007c, 221–22).

Interestingly, one may find a fundamental difference between such a case and an Iroquois example (Morgan 1877, 119, 124–54). A resolution among the Iroquois would be executed only if it had been passed unanimously. Furthermore, the Iroquois followed the principle of voluntary participation even if fellow members had already been involved in a war. Thus, those who did wish to fight could not be compelled to act against their will (Morgan 1877).

An example, in 1936, the Chujie Jienuo asked the Aci, Buji, Aga, Sete, and other Chujies of the Chujia Ahou for help because the Chujie Wulei of another Chujia had encroached on Jienuo land. Then, under the auspices of Degu Ahou Luo Muzi, a Wunimengge of Ahou was held. A resolution was passed to fight the Wulei and the allied combatants were bound by a vow solidified by the ceremonial slaughter of cattle. These allied combatants eventually defeated the Wulei and captured many people from the encroaching group (Q. Hu 2007c, 222).

Conclusions

The Yi societies in Liangshan evolved for more than 1300 years if calculated from the Tang Dynasty on. The Yi might have continued living in this matter had they not been interrupted by an enormous external force in 1956. This means that their social structure was well suited to the environments of the Liangshan region. This reality might prompt us to make the following conclusions:

1. The Yi societies in Liangshan before 1956 were strictly hierarchical, and, except for those dominated by a Tusi, there was no permanent leadership. The social order there was maintained by the combined principles of egalitarian society and complex society. It seems that the theories put forth by Service (1971, 1975) and Fried (1967) are both ineffective in explaining such a situation.
2. Having a close proximity to the ancestral founder of his Chujie or Chujia was not crucial for a man in his quest for rank or status within his Chujie or Chujia (except

in those societies dominated by the Tusis). Thus, the eldest son of the eldest son and so on was not necessarily a chief; needless to say he was not necessarily the paramount chief for no such position existed. Therefore, this situation was certainly not like those found in chiefdoms or ranked societies as described by Service (1971, 133–69, 1975, 72–80) or Fried (1967, 116, 126–27).

3. Such a society was not a society of redistribution dominated by chiefs as in the case of chiefdoms as described by Service (1971, 133–69, 1975, 72–83). The most important mechanism of redistribution was war which also was the driving force for the evolution of hierarchy and social stratification (Q. Hu 1956, 14–26, 1957a, 4–11, 1963, 135–52, 1964, 143–47, 157, 2007c, 17–25, 30–32, 245–53; Shao. Li 1987, 43–49; Y. Liu 1962, 43, 50–58; Yi 2000, 8).[14]
4. However, no matter how frequently people fought each other, war was not always associated with the evolution of leadership in Liangshan, as some scholars hold (Carneiro 1970, 733–38, 2012, 5–30; Oppenheimer 1907, 1–106; Spencer 1967, 32–47, 63–96, 153–65). Wars between some Black Yi and some Tusis resulted in the disintegration of the leadership of the Tusis in many areas and did not result in the creation of permanent leadership among the local Black Yi societies.
5. Social stratification evolved in Liangshan for more than one thousand years nevertheless, no state ever arose in this region, as pointed out by Q. Hu (1957a, 7–8, 1957b, 7). Not even so much as a hint of such an organization ever appeared. People of higher strata who otherwise took advantage of their elevated positions in society never established a state to protect their positions, as Morton Fried imagined (Fried 1967, 185–242).
6. Nominally, a Tusi owned all the land under his jurisdiction. A Tusi's political dominance over his people allowed him to take over land. In other words, it was not the possession of land that gave rise to a Tusi's political dominance. So, we may need to reconsider Fried's theory which holds that control over the basic resources needed to sustain life (such as land) is what generates the power to rule (Fried 1967, 227–42; Cohen 1978, 6; Service 1978, 27).
7. The Yi were always under the influence of other developed state level societies. However, these Yi societies evolved along their own unique trajectories, which were mainly the products of local (internal) demographic and geographic conditions. Thus, we might conclude that external influences on a society, such as the Yi of Liangshan, might not always be as significant as some scholars imagined. Hence, the differences between a primary society and a secondary society might not always be as remarkable as once thought.
8. Since the pattern of leadership was that of an egalitarian society and the social structure was that of a highly stratified society, the question remains: How are we to categorize the political organization of the pre-1956 Liangshan societies?

[14] He holds that the main cause for the Yi hierarchical differentiation in Liangshan was internal differentiation within a clan, rather than wars of conquest. However, he admits that war was an important historical phenomenon in Yi history, including Yi history in Liangshan. See Y. He (1978, 44–51).

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Chapter 7
Coercive Power and State Formation in Northern Vietnam

Nam C. Kim

Introduction

One of the most momentous developments within the human career has been the formation of politically consolidated, highly complex societies marked by pronounced social differentiation, inequality, and asymmetries in power. Referred to as "states", such societies manifested in different times and places worldwide and have been subject to much research. The wide range of cases from varied geographic and temporal settings has reflected notable historical particularities and cultural variability for trajectories toward statehood. At the same time, however, many studies have also allowed researchers to recognize some degrees of commonality and general patterning, thus affording opportunities to formulate theoretical models to account for the emergence of archaic states, whether of the primary (pristine) or secondary variety. Within many models, one of the most significant factors commonly cited is coercive power. Often associated with strategies of militarism, warfare, threats of organized violence, or ideological influence, coercive power can be a key variable for social interactions leading to tremendous sociopolitical change. As I will argue in this chapter, coercive power can be an instrumental part of a sociopolitically transformative process, one which sees the establishment of permanent and institutionalized forms of political authority.

One of the most prominent anthropological voices to highlight the potential relationship between coercive power and social evolution has been Robert Carneiro, whose seminal paper on circumscription theory (1970) offered an elegant model exploring the development of the state. While stressing the importance of environmental and demographic causes, his paper also highlighted the significance of

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warfare and coercive power. In the decades since publication of his original paper, Carneiro has moved state formation research forward through exploration of both synchronic and diachronic bodies of data (see Carneiro 1992, 1998; see also Feinman 2012). In a recent reconsideration of circumscription theory, Carneiro (2012) offers a reformulation of his model based on recent data and evidence. One of the case studies briefly mentioned in his paper (Carneiro 2012, 24) comes from the Red River delta of northern Vietnam.

In this chapter, I offer a closer examination of this particular case from Vietnam, citing current archaeological information. Specifically, I discuss the formation of an Iron Age archaic state known as the Co Loa Polity, along with material evidence indicating a significant correlation between coercive power and the polity's developmental trajectory. Reviewed are material data from the capital settlement of the polity, a site known as Co Loa, and contemporaneous communities within the wider Red River valley region. I argue that the use of coercive power as part of leadership strategies was crucial for the formation, maintenance, and durability of institutions of political authority, thus allowing the Co Loa Polity to both emerge and persist at some point near 300 BC. Accordingly, the Co Loa phenomenon offers insights into one of the earliest instances of ancient state development in Southeast Asia. In the end, I argue that whereas the global archaeological and historical records clearly show the importance for many variables in accounting for the onset of ancient states, the role of coercive power cannot be ignored or discounted.

Defining Ancient States

In describing politically centralized societies commonly referred to as archaic states, researchers stress inherent degrees of social complexity. Complexity in societies can be characterized as having many parts, implying social hierarchies or heterarchies and/or occupational specialization (after Ames 2008, 490). Societies can, of course, become more or less complex over time, experiencing changes in political economy, and expanding, or contracting along various dimensions and scales, such as population size, territorial extent, and others. A key observation to note, then, is that unilinear models of social evolution are spurious in accounting for cultural changes associated with nascent states (see Feinman 1998 and Haas 2001a). Instead, it is more useful to consider the ways in which leaders, groups, and factions of societies, whether politically elite or nonelite, interact in highly complex fashion, both cooperatively and competitively (see Blanton and Fargher 2009 and Brumfiel 1994). Within this view, members of societies pursue variable, culturally contingent, and historically specific political strategies that can result in various outcomes of social configurations, including politically centralized societies.

To be sure, a growing global archaeological database has increasingly indicated an astonishing amount of variability for trajectories to statehood along cultural, geographic, and historical dimensions. Given this range of diversity, a general category of "state" is not without problems (see Campbell 2009). Nonetheless, the

concept of state is not without utility, as it offers a way for researchers to engage in cross-cultural and cross-temporal, comparative research for large-scale complex polities that share rough commonalities. In that regard, an archaeological conceptualization of "state" needs to be relatively comprehensive to allow a full appraisal of the cultural variability evident in the global material record.

Researchers have long noted certain patterns in the formation and operation of these complex social organizations. At a broad level, many researchers see states as highly centralized polities that govern substantially large populations, wherein leaders possess a legitimized monopoly over certain capabilities such as the application of deadly force (Carneiro 1970; Cowgill 2004; Pauketat 2007; Stanish 2004; Trigger 2003; Yoffee 2005). Against this generalized conceptual backdrop, I also use as a point of departure a definition offered by Stark (2006a, 146, following Feinman 1998) that broadly describes the state as "a polity characterized by at least two classes of social strata, in which the government is centralized and specialized." I would add a criterion of permanence and institutionalized durability to this definition. At its core, then, a state is characterized by social stratification and institutionalized power, with the latter constituting consolidated and durable political authority. Consequently, authority and leadership are not "situational" (Stanish 2010, 97), fleeting, or ephemeral. Instead, institutionalized and legitimate power exists over certain resources, the use of deadly force, and other aspects of society. Ultimately, a key attribute distinguishing states from other political organizations is enduring governance.

The Co Loa Polity

Several decades ago, Wheatley (1983, 419) argued that at 2000 BP, the highest level of political centralization anywhere in Southeast Asia did not exceed "chiefdoms". Winzeler (1976, 623) similarly commented that the earliest evidence for both urbanization and state formation in Southeast Asia does not appear before the first centuries of the Common Era. This perspective has remained somewhat prevalent, as many researchers have continued to suggest that material evidence for state-like societies is lacking prior to the historic period, which begins in the mid-first millennium (Stark 2006b, 407; Higham 2014; Moore 2007). However, recent archaeological investigations at the Co Loa settlement have furnished pertinent new data which can contribute to our understanding of prehistoric Southeast Asian trajectories of sociopolitical complexity. Combined with other research lines, these new data also speak to how coercive power was likely linked to social changes associated with state emergence.

The Vietnamese today view the northern region of modern-day Vietnam, known as Bac Bo, as the nucleus of Vietnamese cultural identity (see Fig. 7.1). This area consists of the Red River delta, situated within the wider valley region. Co Loa, a 600-ha settlement, was perhaps the most culturally significant settlement of this region's prehistory, and constitutes one of the earliest forms of city within Bac Bo.

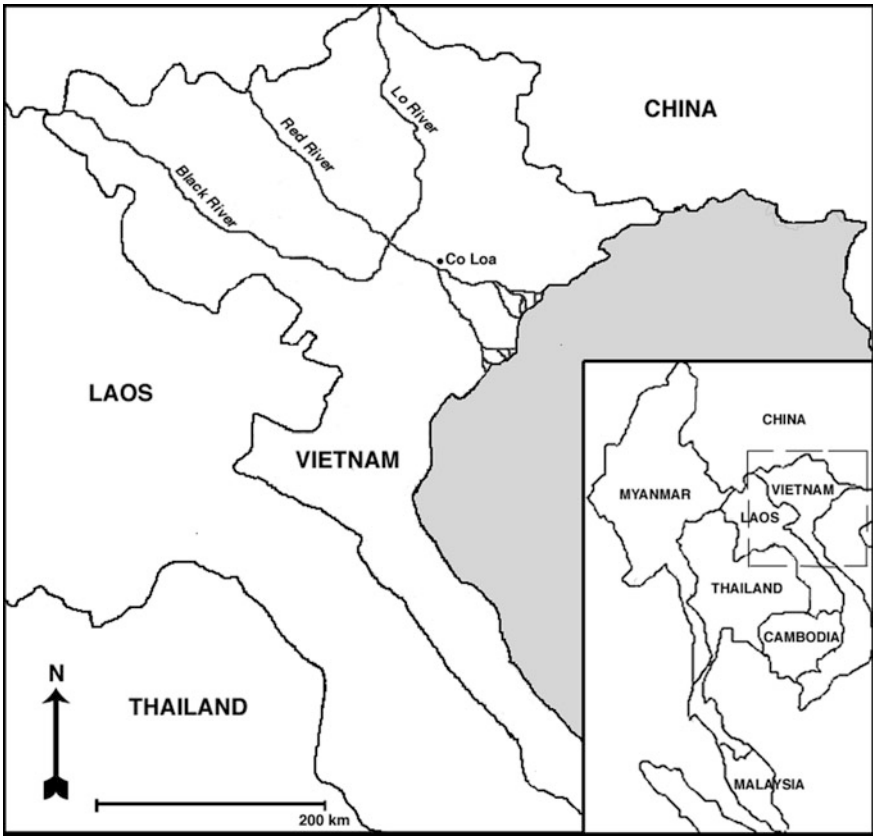

Fig. 7.1 The Bac Bo region of northern Vietnam. The Co Loa settlement is located just north of the Red River. Image produced by Tegan McGillivray

Marked by monumental earthen ramparts still extant today, Co Loa is viewed the first capital of an emerging Vietnamese civilization (Taylor 1983). Located 17 km from Vietnam's modern capital of Hanoi, Co Loa is one of the largest prehistoric sites of Southeast Asia. For several years, I have been codirecting excavations of the enclosure system. Data gathered to date suggest much of this system was constructed by the Co Loa Polity, and that these monumental features required substantial labor and investment for construction. As demonstrated by systematic investigations of the rampart system, the bulk of the fortifications appear to be coeval, and the main construction phases span the timeframe of the Co Loa Polity, specifically a window of 300–100 BC (see Kim et al. 2010 and Kim 2013).

Elsewhere, I have argued that the sheer size and scale of the fortification system suggest that its original and relatively rapid construction was directed by centralized, state-level political (Kim 2015). This argument is partly based on the chronology of building sequences for the majority of the rampart system.

An estimated one to two million cubic meters of earthen materials were involved in the construction project, which appears to have occurred within a space of approximately two centuries. I postulate that the successful completion of the construction project would have necessitated highly centralized planning and control over varied resources, a vast labor pool, and an organized military apparatus. The monumental system was not the result of accretional building, as there was no evidence of natural fill episodes between building sequences. Moreover, the polity responsible for the rampart construction clearly anticipated a persistent capacity to maintain and upkeep the system. Taken altogether, the rampart data suggest political authority was enduring and institutionalized to some degree. Additionally, recent field excavations of an area within the central precinct of the settlement yielded evidence of centralized control over production and distribution of various metal implements and weaponry, such as bronze crossbow bolts, providing support for the hypothesis that a highly consolidated political structure marked society at Co Loa (Lai 2014). The standardized, mass production of weaponry strongly suggests a monopoly over the use of deadly force, a distinguishing trait of state-level societies. The combination of rampart construction history and the data from the central precinct clearly support the presence of politically consolidated authority.

The Co Loa case is instructive in demonstrating how specific historical trajectories, environmental conditions, forms of political economic systems, and modes of social interaction can foster changes in sociopolitical organization. A review of the available archaeological evidence from the wider region demonstrates a mix of variables led to critical changes throughout the first millennium BC, culminating in the formation of the Co Loa Polity and the founding of its capital settlement. The Bac Bo region was home to numerous Iron Age communities associated with the Dongson Culture (c. 600 BC–AD 200), renowned for their production of ceremonial bronzes such as large drums (Pham 2004). With the appearance of the Dongson Culture came intensified agricultural production, major habitation sites, an increase in military and ritual practices, and a growing differentiation of status and wealth, as shown by rising disparities in grave furnishings (Murowchick 2001, 175). Mortuary data from various Dongson contexts show increased levels of social differentiation and ranking as compared to preceding archaeological sequences in the region. More than seventy Dongson sites have been discovered in varying environmental and geographic circumstances ranging from deltas, coastal areas, and mountains (Pham 2004, 197), though some sources place the estimate at over a hundred sites. The distribution of sites across different topographical and ecological areas strongly supports the notion of what Pham (1996) refers to as a fairly unified culture complex, marked by a high degree of interaction between communities.

Higham (2014, 197) notes the significant potential for cultural change brought about in Southeast Asia by innovations in iron smelting, and similar such effects are evident for Bac Bo's Dongson societies during the mid-first millennium BC. These impacts would have been related to agricultural productivity and wide-ranging exchange patterns, factors that would have contributed to inequalities in social status and wealth within communities. Whereas pre-Dongson political economies

hint at craft specialization and some degree of social ranking, Dongson phase sites offer much stronger evidence for a high degree of metallurgical expertise, craft specialization, interregional interaction, agricultural intensification, and status differences. Bronze plows only began to appear in Vietnam at Dongson sites, and some 200 specimens have been recovered (Pham 2004, 199). Pham (2004, 201) argues that the basis for the Bronze Age civilization of Vietnam was rice cultivation, and by Dongson times metal cultivation tools became more varied and specialized. Combined with the use of water buffalo for power, innovations in agricultural practice led to tremendous economic and political changes.

Additionally, as bronze became much more prevalent, the manufacture and circulation of highly specialized crafts and prestige goods intensified, and access to various raw materials and attached craft specialists would have been restricted to only certain segments of societies (Calo 2009; Murowchick 2001; Nguyen 2005). The geographic location of the Red River delta conferred benefits upon its local residents resulting from access to key interaction routes and resources (see Calo 2009, 59, Yang 2004, and Yao 2010). Links to materials, ideas, and innovations enabled leadership strategies to obtain greater wealth, higher status, and political legitimacy. During the first millennium BC, long standing exchange patterns, with roots in the Neolithic era, afforded new opportunities for certain groups to gain advantages in economic competition related to metal industries. Furthermore, political turmoil associated with Warring States China in the mid-first millennium BC would have meant movements of people connecting parts of southern China and northern Vietnam (Higham 2014, 198). As a result, various technologies and innovations related to military endeavors likely also found their way into the Red River delta. As discussed below, enmeshed within a package of coercive power were leadership strategies involving the application of force, and it is within this crucible that the Co Loa Polity was able to develop.

Competition and Coercive Power

Archaeological Recognition

For the purposes of this study, I offer a definition of warfare as organized violence between two independent political units in pursuit of social, economic, or political gain. Without doubt, the archaeology of warfare can encompass a vast array of cultural practices related to group violence, and these events need not be related to competition. However, many cases do involve competition and coercive strategies that result in either the application of physical force or the threat of it. Several decades ago, many researchers suggested that only politically centralized or state-level societies cause and engage in warfare, thus downplaying the existence or significance of warfare among smaller-scale, nonstate societies (see Keeley 1996). Today, however, ample studies point to organized violence being conducted by

nonstate societies, and how these forms of warfare should not be conceptually separated from a broader category of war as practiced by more centralized polities (Ferguson 2006, 475; LeBlanc 2003; Otterbein 2004, 9; Whitehead 2000). A review of archaeological, ethnohistoric, and ethnographic research from the past two decades reveals the ubiquity of warfare in the global, prehistoric and historic records (see Chacon and Mendoza 2007a, b, 2012). While beliefs, perceptions, and practices associated with organized violence may vary widely by along cultural dimensions, there can be little question as to the universal saliency of violence in understanding human behavior, societies, and culture change.

As the cultural practices associated with warfare can be highly variable, the archaeological recognition of warfare requires several independent lines of evidence to document the occurrence of warfare or concerns over it. A suite of material signatures is also necessary because warfare is an activity that involves the behavior and actions of many individuals and affects several aspects of social life (Keeley 2001, 339). Acknowledging the diversity in forms of warfare demonstrates the importance of using a package of indicators in recognizing and documenting organized violence. Generally speaking, evidence signaling warfare-related activity can be either direct or indirect (Allen and Arkush 2006; Carman and Harding 1999, 7; Haas 2001b; Kim and Keeley 2008; Vencl 1999). According to Keeley (1996, 36), the most direct and unequivocal evidence of armed conflict consists of human skeletons with weapons trauma (especially, embedded bone or projectile points) and fortifications. Outside of written, historical records, other forms of direct evidence include destruction horizons left by arson, iconographic depictions of organized violence, and surviving weapons or artifacts for killing. Indirect evidence includes the deliberate selection of defensible sites for habitation and the existence of buffer zones. For the Co Loa case, the categories of fortification, weaponry, and iconographic depictions are most pertinent given the currently available material evidence.

Coercive Power in Prehistoric Bac Bo

By the advent of iron working and the Dongson era, the evidence for warfare and coercive strategies becomes distinct and includes a combination of weaponry, folk tales of conquest, iconographic depictions, and fortifications. In discussing Southeast Asian prehistory, Higham notes (2014, 249) how friction and warfare between different groups can be a considerable stimulus to the vesting of authority in leadership, placing demands on iron production and weapons forging (2002, 195). With innovations related to iron production being introduced into Bac Bo, Dongson era societies experienced important changes. Agents and social segments in the area had new means to effectuate changes in political relationships within and between communities, and this time frame saw increased forms of competition. It is likely that competition and outbreaks of warfare between autonomous societies

occurred amidst periods of peaceful and cooperative interactions, and that once asymmetries of power and wealth began to become pronounced, organized competition and coercion became tied to political interactions.

Hints of warfare come through in various literary works. For centuries, Vietnamese knowledge about Co Loa has been based primarily on a mixture of folklore, legend, and semi-historical accounts. According to these narratives, Co Loa was the purported capital of a legendary kingdom known as the Au Lac (Bellwood 1992, 125; Miksic 2000; Tessitore 1989, 36; Wheatley 1983, 91–93). The Au Lac Kingdom was established through conquest by a man named An Duong Vuong (also known as Thuc Phan) during the third century BC, who became king and then proceeded to construct a large fortified citadel known as Co Loa as his seat of power (see Taylor 1983, 21).[1] Legendary accounts about An Duong Vuong were recorded in later Chinese and Vietnamese textual sources, describing his possession of a mystical crossbow, supposedly giving the king power to defeat all enemies. Wrapped in legend and the supernatural, these romanticized tales of An Duong Vuong, along with Co Loa and the crossbow, conjure up imagery not unlike other cases born of folklore and literary inventions, such as Arthurian legend and tales of Camelot and Excalibur. Some researchers have argued that the newly acquired archaeological data for the Co Loa Polity constitutes physical substantiation for the existence of the Au Lac Kingdom (see Lai 2014), but I hesitate to make a definitive connection to the legendary king or kingdom. For the time being, there is insufficient evidence to link them to the Co Loa site, and I choose instead to refer to the settlement's polity as the Co Loa Polity. Nevertheless, although the existence of An Duong Vuong and the Au Lac may never be substantiated, archaeological materials unearthed in recent decades has provided support for the notion that competition, conflict, and warfare, as alluded to in textual sources, may have been a significant part of cultural lifeways in Bac Bo during this time period.

For a glimpse into coercive cultural practices associated with Dongson societies, it is also informative to examine evidence for warfare among the contemporaneous Dian Culture societies of present-day China's Yunnan province, located at the headwaters of the Red River. There are clear cultural affinities between Dongson and Dian societies, including the production of ritual bronzes (see Yao 2010). As recorded in the Han text "Shiji" ("The Records of the Historian," written by Sima Qian from 145 to 90 BC), "south-western barbarians" inhabited the Yunnan area (Yao 2005, 379). These groups include pastoralists and nomads such as the Sui, Kunming, and the Di tribes, as well as more settled groups such as the Yelang and the Dian. Dian societies were highly stratified and militaristic, with power centralized in the hands of the local ruling elites who controlled craft specialists and the

[1]According to textual sources, the kingdom of Au Lac was purportedly founded when An Duong Vuong conquered the Van Lang Kingdom at approximately 258 BC, with Au Lac's rule ending at 208 BC upon its incorporation into the Nan Yueh (or Nam Viet) Kingdom. It must be noted that there are ongoing historiographical debates as to the accuracy and reliability of details within various narratives. See Taylor (1983) and Wheatley (1983).

production of bronzes (Murowchick 2001). As bronze moved beyond a merely utilitarian function, elites capitalized on the control and use of bronzes in order to augment their power and reinforce social cleavages. Dian leaders also made use of ideology to promote their status and power, using styles of textiles and clothing, along with ritual, and codified status in their bronze artifacts. This combination of materials reinforced the legitimacy of the existing sociopolitical system (Lee 2001, 126–127).

Bronze was important for Dian military power, and iconographic depictions on bronze drums show the prevalence of militarism in the region. The evidence suggests the Dian engaged in warfare against neighboring pastoralist communities. "Both archaeological and iconographic evidence make it very clear that warfare was an extremely important concern for the Dian elite" (Murowchick 2001, 159). Military activity seems to have served both external and internal functions, with bronze being critical to military power. A striking use for bronze was the creation of vast stores of weapons and armor, which appear as a major category of elite grave furnishings (Murowchick 2001, 160). They made up a high proportion of funerary goods, further demonstrating the importance of warfare in Dian society. Warfare was also depicted in much of Dian bronze art, with scenes showing bound enemies and the subjugation of neighboring enemies (Murowchick 2001, 163). Several bronze artifacts show what appear to be Dian warriors returning from battle with plunder, severed heads, and what may have been sacrificial victims. Possession of bronzes, and the means to produce them, gave the Dian elite an ability to acquire and maintain power and control over their own people and many of their neighbors (Murowchick 2001, 170). Accordingly, the introduction of metal weaponry greatly impacted strategies for competition and conflict in the Yunnan.

Dongson communities likely experienced analogous social developments and patterns. As with Dian societies, agricultural intensification, growing population, bronze working, and a growing prestige ideology around bronze goods appear to have led to increased militarism in Bac Bo. The appearance of bronze weapons in Dongson burials attest to the importance of conflict in Bac Bo, and 50% of recovered Dongson bronze implements are weapons (Hoang and Bui 1980, 64). Numerous bronze weapons can be divided into projectile weapons (javelins, socketed spearheads, socketed and tanged arrowheads), proximity or shock weapons such as swords, fighting axes, daggers, and ge halberds, and shields (Pham 2004, 199). Daggers were also very popular and more than 230 have been found in Dongson burial contexts. The plethora and diversity of recovered weapons in Bac Bo indicate that competition and warfare was not an uncommon phenomenon (see Figs. 7.2 and 7.3).

In addition to artifacts, depictions of a warrior class and military activities on Dongson bronze drums also suggest militarism. For Dian Culture bronze drums, which are morphologically similar, Chinese reports describe how drums were played at times of war and other major social events (Higham 2006, 19). Indeed, a ritual scene depicted on a Dian bronze drum shows what is suspected to be a paramount chief seated in a pavilion surrounded by subsidiary chiefs as a feast was being prepared and war captives being executed (Higham 2004, 58). On Dongson

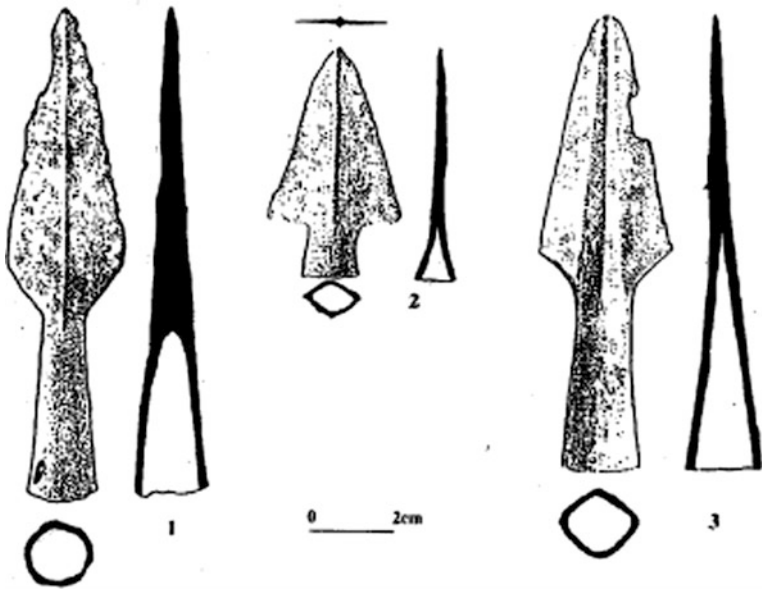

Fig. 7.2 Bronze spearheads excavated at the Dongson Culture site of Lang Ca. Courtesy of Trinh Sinh

bronze drums, similar lavish decorations depict ritual and ceremonial activities, along with battle scenes, along with war canoes with plumed warriors (Higham 2004, 58) (see Fig. 7.4). Warriors are shown standing on firing platforms on boats, in some cases with captives. Interestingly, the iconography of warriors on boats is reminiscent of material evidence from Late Bronze Age Europe, whose archaeological record is similarly marked by a proliferation of weaponry and armor, as well as signs of habitation in defensive locations (Hill and Wileman 2002, 35). Depictions of warriors on boats suggest the possibility that raiding by boat was a frequent occurrence in Bronze Age Scandinavia, which may explain the presence of defensive features (Hill and Wileman 2002, 36). It is plausible Dongson societies in Bac Bo were similarly engaged in the use of boats for raiding practices, and potential targets may have included settlements along the river. As intimated by Calo (2009, 2), the distribution of bronze drums throughout the region may have been tied to exchange systems related to strategies of power and alliance building, and I suspect competition and conflict were connected to such exchange networks. Overall, artifacts and iconography point to the role of coercive strategies, along with associated tactics of physical intimidation, raiding, conquest, and subjugation, in bringing about sociopolitical change.

Various strategies were enacted by elites to obtain economic wealth and political power. Elites living in the Red River plain were probably able to accumulate considerable power through the exchange of bronze goods within an interregional interaction network that connected southern and southwestern China, northern

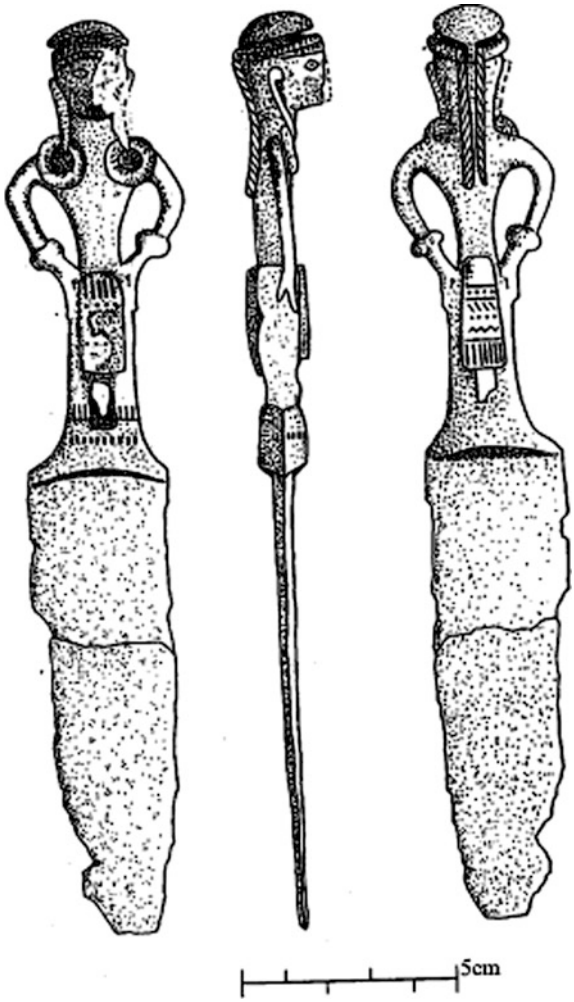

Fig. 7.3 Bronze dagger excavated at the Dongson Culture site of Lang Vac. Courtesy of Trinh Sinh

Vietnam, and parts of Southeast Asia through overland, riverine, and coastal routes. The bronze drums, for example, have been found throughout mainland and island Southeast Asia. High-status bronze goods functioned as status markers and emblems of authority, serving to ideologically endorse the existing social order of wealth and status asymmetries. In addition, increased use of bronze and iron undoubtedly furnished new advantages for military weaponry and agricultural intensification, allowing a higher, sustainable population density and affecting military tactics. Military power and coercive force, especially after the introduction of metal weaponry, presented additional avenues for consolidating power. For

Fig. 7.4 Drawing of warriors and musical procession depicted on the bronze drum excavated at Co Loa. Courtesy of the Vietnam Institute of Archaeology

Dongson societies of Bac Bo, materially manifested and manipulated forms of political currency included the various weapons, tools, ornaments, and drums that were specially crafted and circulated over long distances. Rituals depicted on Dongson drums may have been important ceremonies that also served a politically significant ideological role. Coercive strategies, warfare, and ideology all constituted important factors in the centralization, and maintenance, of political authority during the Iron Age.

The Fortification Features of Co Loa

Within both the world's archaeological and historical records, researchers have identified many forms of fortifications, which have been constructed by all kinds of societies, ranging from small-scale villages to larger, state-like societies (Keeley 1996). Hence, the term "fortification" refers to any type of human-made construction that serves a militarily defensive function, regardless of scale. The category encompasses, for instance, wooden palisades with exterior ditches, earthen walls or ramparts, or large structures of stone. Also included are other types of defensive constructions, such as watchtowers, bastions, and moats. In many cases, societies would use parts of the existing natural terrain when building their defensive works. This may have been the case for the Co Loa earthen ramparts as well, with the builders using existing waterways, rivers, and hills to construct their complex system of fortifications.

Regarding the archaeology of fortifications and defensive architecture, the prehistory of Bac Bo has been marked by a paucity of cases. This is due in large part to a lack of settlement archaeology conducted for Vietnamese sites. Today, Co Loa represents the best prehistoric case of fortified settlement in the region, and its tightly knit system of earthworks constitutes an integrated system of military

defense. The system consists of three massive earthen rampart enclosures, river-fed moats, and ditches, along with artificially constructed mounds and towers (see Figs. 7.5 and 7.6). The ramparts are marked by exterior ditches, which in ancient times may have been defensive ditches in the dry seasons and moats during rainy seasons, connected to a central reservoir located on the site. This reservoir was fed by the Hoang River, which in turn was connected to the Red River. Ground and aerial surveys confirm that much of the ramparts still remains standing, though in various states of disrepair, and are designated as the Outer, Middle, and Inner Walls. The Inner Wall is roughly rectangular in shape, punctuated by bastions, and measures 1.65 km in perimeter (Nguyen and Vu 2007, 173). In places, the wall still stands approximately 5 m in height, and some 20–30 m wide at the base. The Middle and Outer walls form irregularly shaped enclosures measuring 6.5 and 8 km in circumference, respectively, and range from 3 to 10 m in height and up to 30 m in base width (Nguyen and Vu 2007, 173). It is possible that the irregular shapes stem from the natural topography, with hilltops being intentionally connected to form the enclosures.

Excavations of the rampart system have provided stratigraphic data, artifacts, and radiocarbon determinations that combine to suggest much of the rampart

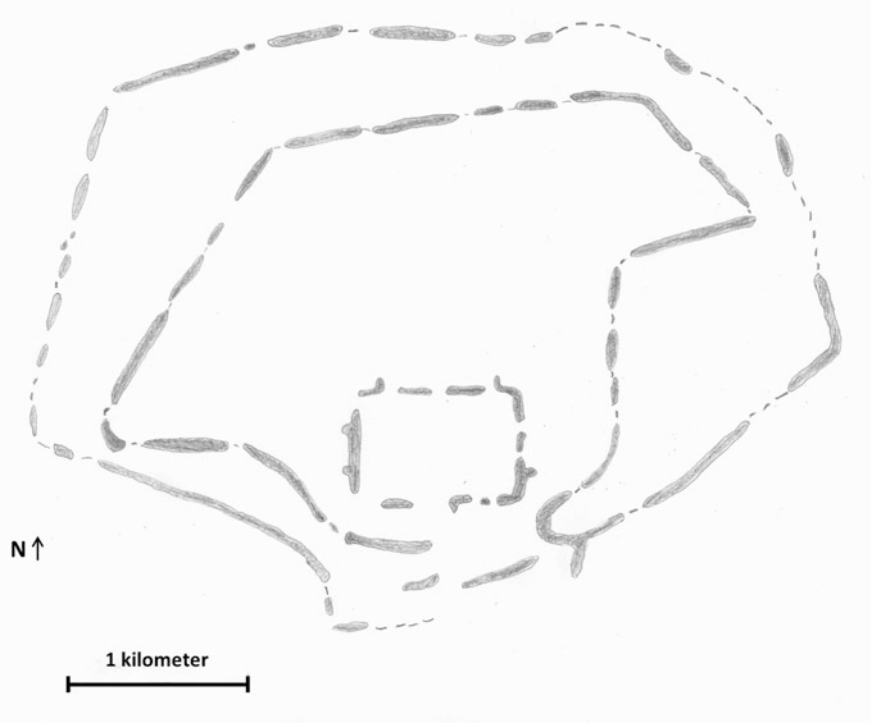

Fig. 7.5 Plan view drawing of Co Loa and its ramparts. Based on Wheatley (1983)

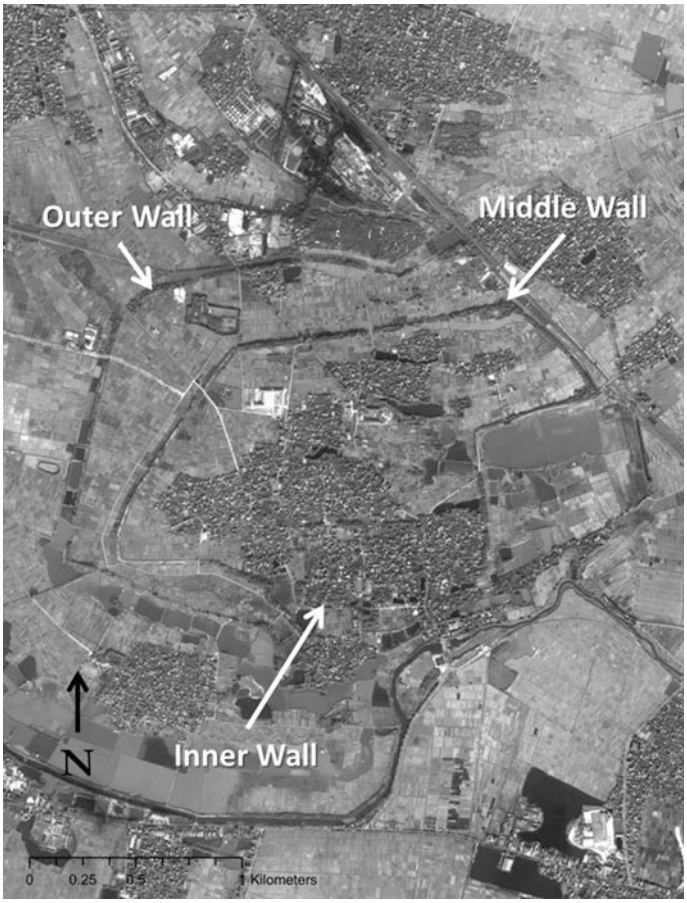

Fig. 7.6 Satellite image of the Co Loa settlement and its monumental system of earthen ramparts. The Outer Wall measures approximately 8 km in circumference. Image provided by Digital Globe and ArchaeoTerra

system was built concurrently during the Co Loa Polity period (c. 300–100 BC), with evidence of later refurbishment or amplification phases (see Kim et al. 2010; Kim 2013). Based on these investigations, my Vietnamese colleagues and I have concluded that the primary impetus for the system's construction would have been related to defense and concerns over security. The architectural nature of the ramparts, which includes a possible parapet feature as well as a v-shaped morphology as seen in the Middle Wall's original exterior ditch, reflect military function (see Fig. 7.7).

This defensive interpretation is also bolstered by the contemporaneous military implements and production facilities for weaponry uncovered at various locations throughout Co Loa. There is evidence of standardized production of bronze crossbow bolts, as revealed by recent excavations by the Vietnam Institute of

Fig. 7.7 View of the Middle Wall rampart's interior face prior to excavation. Photograph by author

Archaeology within the southwestern corner of the Inner Wall area at the location known as Den Thuong (see Lai 2014; Fig. 7.8). The material remains, dating to the third century BC, included a firing kiln, bricks, stylized ceramic roof tiles, and lithic molds for casting bronze projectile points. Several lithic molds for casting bronze arrow- and spearheads have been excavated, and all of the molds were disposed of in middens within the area. At the site of Cau Vuc, situated just outside Co Loa's southern entrance, a hoard of about 10,000 bronze tanged projectile points was found (Pham 2004, 199). When combined with the finds from Den Thuong, it becomes apparent that the Co Loa Polity monopolized valuable resources and skillsets associated with the specialized production of bronze tools and weaponry. According to Pham (2004, 201), this level of production could not have been handled by an ordinary village workshop and thus would have required an elite authority of some kind. For bronze working on this scale, Nguyen (1983, 185) posits that specialization would have been required in a number of areas and stages, including: the extraction of ores (copper, tin, and lead); the preparation of a variety of different alloys; the manufacture of molds; the casting process itself; and the retouching and finishing of cast articles. Having a production facility within the Inner Wall area speaks to the likelihood that a highly centralized polity had some form of restricted control over the production of important implements of both war and agriculture.

Fig. 7.8 Fragment of stone casting mold for bronze point production excavated at Co Loa in 2006. Courtesy of Lai Van Toi

In an analysis of craft specialization associated with crossbow technology during China's imperial Qin period of the third century BC, Li et al. (2014) argue that crossbow technology was not likely to be common or widespread at the time, and that associated knowledge, skills, and materials would have been restricted. They also maintain that the introduction of trigger-fired crossbows during the Warring States period revolutionized military warfare. It is possible that the introduction of new military technologies and associated tactics into Bac Bo, such as the crossbow, may have affected levels of militarism.

In 1982, the outstanding Co Loa bronze drum was excavated 500 m outside the south-east corner of the Inner Wall (Nguyen and Nguyen 1983) (see Fig. 7.9). Weighing 72 kg, the drum is the largest recovered from Bac Bo and held some 200 bronze objects, including 96 plowshares, six hoes, a chisel and a variety of axes, spearheads, daggers and arrowheads. Interestingly, Nguyen and Nguyen (1983) suspect the Co Loa drum may have been buried and hidden intentionally due to threat of attack and war. A similar scenario may account for the burial cache at Cau Vuc. That these materials were perhaps buried hurriedly hints at the possibility that residents of Co Loa abandoned valuable possessions either just before or during potential conflict. Beyond an obvious utilitarian function, these bronzes likely also symbolized wealth and currency of some kind. In any case, these artifacts at a minimum suggest tremendous wealth being possessed by the inhabitants of the Co Loa settlement, along with a capacity for centralized production. They also support the hypothesis that coercive power, conflict, and outbreaks of organized violence

Fig. 7.9 Bronze drum found at Co Loa. Courtesy of the Vietnam Institute of Archaeology

were important for cultural lifeways in Bac Bo from the mid-first millennium BC onward. I would argue that growing social differentiation and competition fostered an increase of military and ritual activities, and that these trends contributed to the eventual florescence of the Co Loa Polity. The preponderance of evidence suggests warfare would have been an important part of social lifeways, and the emergence of a centralized political authority would have required the means to both consolidate its power and safeguard it.

One of the more intriguing discoveries made during excavation of the Middle Wall was the remains of a set of smaller-scale, defensive features found buried in situ within the larger rampart. This set consisted of a much smaller wall made of soil and clay, a platform mound and structure also made of soil and clay, and ditches associated with them (see Fig. 7.10). The small wall was constructed on top of culturally sterile soil using material dug up from adjacent ditches, and it extended in a straight line across our excavation trench into both profile faces. The feature was built using dark brown topsoil followed by reddish laterized clay being used to buttress the exterior faces of the wall. The slumped appearance of the reddish clay suggests the wall was larger when first constructed and likely suffered a period of disrepair before eventually being buried and preserved beneath the rampart. Associated with this clay wall was an earthen mound feature at the same depth, and sitting atop the mound was a roughly rectangular earthen structure with the remains of a wall still present. Surrounding the platform mound was an extensive ditch with sterile soil just beneath it. The clay wall, raised platform mound, and structure were all constructed using the same method and materials,

Fig. 7.10 Smaller-scale defensive features as seen in the excavation through the Middle Wall. The smaller-scale clay wall is visible in the foreground, with the platform and earth structure beyond. Photograph by author

with topsoil and reddish laterized clay soil being dug up from adjacent trenches and ditches. Given their characteristics, the features may have served a military function (see Kim et al. 2010). We suspect they constitute a single system of defensive works, and the platform and its structure may have been used as a guardhouse, crossbow firing platform, or the base of a watchtower.

Found in association with these defensive features were Dongson potsherds and charcoal. Radiocarbon dates were determined from the charcoal samples of the structure floor and surrounding ditch, ranging from approximately 500–300 BC. These data indicate the early features not only significantly predate the monumental rampart, but that they were constructed by a community culturally and politically distinct from the Co Loa Polity, which was responsible for the rampart. Indeed, there would be no structural or architectural purpose for building the smaller features if construction of the larger rampart were to follow shortly thereafter. The scale of construction is vastly different, by several orders of magnitude, signaling a different set of available labor and technological capacities, along with a different scale of perceived threats. The presence of two distinct defensive systems is not surprising, as there are many cases worldwide of later military fortifications are built right over older ones (Keeley 1996; Keeley et al. 2007). For the time being, these smaller fortification features represent the earliest archaeologically detected

anywhere within Vietnam, and they support the notion that intraregional competition and warfare among smaller scale societies was occurring during the mid-first millennium BC. In concert with other material evidence, these features highlight the impact of conflict on social change, reflecting the occurrence of intraregional competition and militarism among smaller scale, nonstate societies of the area.

Moving into the third century BC, the evidence of larger scale competition and concerns over security should not be completely unexpected given Bac Bo's geographic standing as a crossroads of interaction and the agricultural potential of the Red River delta. It is thus interesting to contemplate changing defensive strategies and concerns over security, and how these shifted concomitantly with changing political topographies. The difference in scales of construction and requisite resources for the two contrasting fortifications highlight not only different organizational structures, but also differences in the nature of threats faced by the two distinct societies. The contrasts in defensive architecture also reflect differences in military tactics and technologies.

In the end, the massive scale and morphological characteristics of the Co Loa ramparts suggest that militarism and defense were important parts of social lifeways during the mid- to late first millennium BC. This does not preclude, of course, other possible functions for these monumental features, which may have included social demarcation of space, ritual practices, flood control, and waterway transport. Symbolically, the impressive scale and extent of the ramparts would have indicated tremendous wealth and power. The ramparts, along with other associated features and constructions, would have conveyed considerable control over resources, labor, and physical power. Hence, the walls likely served an ideological function as well as a physical one.

The Variable Functionality of Co Loa's Ramparts

Chronologically and geographically varied cases of urbanism show a diverse range of functions for city walls and enclosures (Smith 2003, 278). While city walls can operate in a defensive capacity, they are often part of a social investment that can yield value in different cultural spheres. In a consideration of Neolithic Europe, for example, Parkinson and Duffy (2007, 98) note how the wide geographic, temporal, and formal variability of monumental fortification and enclosure features have "stymied" archaeological understanding of their functions. Given the numerous examples of enclosed settlements known from both archaeology and history, ancient walls unquestionably had multiple functions. When it comes to walls, defensive and nondefensive functions are by no means mutually exclusive and are highly variable across time and space (Arkush and Stanish 2005; Hill and Wileman 2002; Keeley 1996, 55–58; Keeley et al. 2007; Kusimba 2006; Marcus and Sabloff 2008, 325-326; Milner 2000; Moore and Win 2007; Parkinson and Duffy 2007; Roscoe 2008; Underhill 2006). This extensive range of functionality notwithstanding, a major impetus for ancient enclosures is concern over security and

defense. For Chinese prehistory, which yields some of the earliest examples of cities in the world, the character for "wall" (cheng) is customarily translated as "city" (Steinhardt 2000, 421), and von Falkenhausen (2008, 209) observes that the meaning of cheng as "city" is almost certainly derived from its meaning as "city wall," via a third, related meaning of "fortress." In a comprehensive review of ancient cities, Yoffee (2009, 281) notes that tensions, struggles, conflicts, and warfare affected the daily life for cities and states, and it is thus evident that aggregation in early large-scale settlements offered a means of security for many populations.

An important primary and ostensible motive for Co Loa's elaborate system of earthworks would have pertained to defensive utility, coercive power, and military symbolism. Potential threats consisted of both local adversaries and looming, powerful neighbors to the north in the form of a slowly expanding Sinitic imperial power (see Higham 2014, 328–329). In terms of extra-regional threats, the third century BC constituted the closing moments of the Warring States era of China, wherein imperial and increasingly predatory power was solidifying. Indeed, the Han Empire would eventually annex much of Bac Bo during the first century AD, starting a period of Sinitic domination that would last almost continuously for a millennium. A coalescing imperial power in the Central Plain had a more direct impact on the various "Yue" societies of southern China's Yunnan and Lingnan areas (see Allard 2014), but Bac Bo inhabitants would have surely been aware of potential threats. In this way, historical trends in nascent imperial China could have played a role in motivating the construction of Co Loa's defenses. Intra-regionally, it is plausible that local, potential adversaries could have also fomented concerns over defense. Even the various Yue polities of southern China, with whom Bac Bo communities were actively trading with, may have also been perceived periodically as threats during the third and second centuries BC as the Co Loa Polity coalesced and began constructing a fortified capital. As discussed above, the material record of Dongson societies shows ample signs of competition and coercive interaction, and conquest warfare is described in Vietnamese folk traditions.

Against a backdrop of potential political adversaries and perceived threats, Co Loa's ramparts would have provided physical, symbolic, and psychological protection for the Co Loa Polity. The walls would have also served in a semiotic capacity, displaying an unprecedented degree of power. One important social consequence of producing the walls was demonstration of the means to adequately defend a seat of power, and in doing so the rulers of Co Loa would have made apparent the capacity to project force afield when necessary. Defensive fortifications not only demonstrate the ability to defend, but also communicate the offensive ability, whether or not this message is intentional (Pauketat 2009, 255). Working as deterrent, fortifications can thus redefine entire social and political landscapes by reconfiguring the spatiality of offensive or defensive force. Dominating the landscape, the physicality of the ramparts and the power that they represented could have had a pacifying effect, thus enhancing security and stability within the region. I argue that the military value of the rampart system would have been a crucial part of leadership strategies in the consolidation and legitimization of political authority,

especially as emerging rulers employed strategies related to intimidation and the application of force to defend the integrity of a newly consolidated authority.

Defensive concerns do not prohibit other purposes for the rampart system, nor does it preclude the addition of other architectural features, with different functions, to the original constructions. For example, the system moats and channels likely facilitated movement and transport throughout the settlement, perhaps for naval forces as well as merchants, farmers, and other community members. According to the Vietnamese traditions, the Au Lac Kingdom deployed naval vessels throughout the site on the moats (Larew 2003, 15). Whether or not the Au Lac Kingdom actually existed, the system of moats and canals would have connected the residents of Co Loa with the Red River and the coast.

Another significant use of the system would have been related to large-scale food production. Similar to other Southeast Asian sites marked by monsoonal rains, periodic flood control, and the provision of irrigation water would have been important. Today vast tracts of land within the Co Loa site are still dedicated to farming with use of irrigation channels, and ancient water management systems would have been critical for agricultural intensification. Chinese textual descriptions maintain that, when Han military forces solidified control of Bac Bo during the first century AD, they took the opportunity to seize what had been known as the rice fields of the local, indigenous aristocracy and their associated irrigation systems (Taylor 1983, 46). Additionally, Taylor (2013, 21) notes that a climatic feature historically documented to have affected warfare in Vietnam for centuries is monsoonal rains. During the summer months, the landscape becomes heavily waterlogged and would preclude the deployment and movement of large armies, and it is probable the ditches and moats would have been used for irrigation purposes in the summer.

A diversity of spatial functions within the Co Loa expanse is intimated by Vietnamese chronicles describing the legendary Au Lac and its capital, wherein precincts purportedly included administrative-religious spaces, a military encampment or barracks, and a central market (Tessitore 1989, 36). Based on accounts in Vietnamese traditions, the Inner Wall area was essentially the citadel of Co Loa, and the polity's palace and royal guard were situated within it (Nguyen and Nguyen 1971, 11). Currently, insufficient archaeological evidence is available to speculate much beyond the tantalizing clues offered by the chronicles, but there is little reason to doubt the existence of functionally discrete spaces for the Co Loa Polity. As such, the walls of Co Loa could have operated as a means for social and ritual demarcation of space.

Writing about Mississippian societies in North America, Milner (2000, 66) stresses that people gravitated toward powerful leaders, abandoning places between competing polities. In this respect, the striking ramparts of Co Loa could have advertised power in a way that would have attracted adherents and followers, thereby allowing the polity to monopolize surplus labor. For Mississippian communities, Milner (2000, 67) argues that siphoning off surplus labor to build imposing walls would have given highly ranked chiefs a distinct advantage in any internal power struggles by simultaneously reinforcing the impression of their

strength while augmenting their defensive position. I believe it reasonable to regard Co Loa's fortifications in a similar light, producing an analogous effect on a very grand scale.

The various functions of the ramparts certainly morphed over time. As observed by Pauketat (2013, 37), it is necessary for archaeologists to examine relational ontologies, specifically the ways in which people perceived the world and landscape around them, and how spiritual and ideological qualities may have marked places of importance. The walls of Co Loa, and other architectural forms that no longer remain, held not only multiple practical functions but meanings as well, operating as variable symbols for different people in the settlement and outside of it. These meanings no doubt changed over the generations and throughout the local historical trajectories of the region, following the fluctuating political, economic, and spiritual usages of the settlement. Moreover, the physical act of building the walls could have also involved meaning and rituals in construction, as well as any rebuilding or refurbishment phases occurring in subsequent, historic eras.

Ultimately, Co Loa's monumental system of fortifications speaks directly to both tremendous political power as well as concern over threats of attack. Seen from this perspective, coercive power surely played a pivotal role in the consolidation of unprecedented political authority for the region. Beyond defense, the walls held value as a symbol of authority and legitimized power, thus serving as what DeMarrais et al. (1996) have referred to as the materialization of physical and ideological power as related to political strategies. On the subject of power, Arnold (2011, 152) contends that ideologically sanctioned systems of social inequality are often associated with the first phase of the consolidation of power structures. Co Loa's ramparts arguably helped to support an ideological system conducive to the state and institutionalized forms of inequality.

Theoretical Implications: Coercive Power and State Formation

Over the course of several centuries leading into the Dongson Culture period, a combination of long-range variables worked in concert to provide local Bac Bo communities with new sets of choices in their lifeways and sociopolitical interactions. Emergent social differentiation and the evolution of middle-range societies involved a multicausal package of variables. The agricultural productivity of the area, its strategic location as an interregional interaction hub or node, and the growing use of bronze and iron, all contributed to growing population levels, wealth disparities, and social stratification. By the closing centuries BC, the Co Loa settlement attests to the presence of a highly centralized, overarching, and durable political structure.

I contend that the leadership strategies of local communities, as related to militarism, warfare and coercive power, functioned as a key proximate variable in the

formation of a permanent authority, centered at Co Loa. The presence of two culturally distinct defensive systems of vastly different scale speaks to the notion that competition and intermittent warfare among nonstate communities in the region may have been critical in Co Loa's political consolidation. The fortifications, in combination with other evidence for coercive activities such as warrior iconography and weaponry found throughout Bac Bo, all signal the import of physical power and threat. Leadership strategies that ultimately resulted in the centralization of power must have necessitated military capabilities. In this way, coercion, whether actualized or merely threatened, operated as a proximate cause for the centralization of state-like power.

Moving beyond the initial consolidation of political authority, we must also scrutinize how coercive power is significant for the maintenance of institutional power, a key criterion in my conceptualization of the state. In a discussion of state-level societies, Stanish (2010, 116) acknowledges the coercive nature of political change, as "political elites assume policing powers and other forms of subordination, both material and ideological, over the rest of the population." As put forth by Campbell (2009, 824), the work of political legitimation is never quite finished, and the violence that is part of the circulation of power always at least partially escapes the production of authority. "Violence is generally assumed to be an exception to normal stable sociopolitical orders, in our modern statist way of thinking, but a cursory look at any hundred years of human history will show the omnipresence of violence and its role in the creation, dissolution, or dynamic maintenance of social and political networks" (Campbell 2009, 824). In agreement with these sorts of perspectives, I believe any consideration of archaic state development cannot discount the uses of physical power, which correspond to coercive instruments and cultural practices.

Revisiting Carneiro's Model of Circumscription

In a recent reformulation of his circumscription theory on the origins of the state, Carneiro (2012, 6) writes that a parsimonious theory ought to account for the largest number of instances of a phenomenon with the smallest number of factors. In his estimation, the core of circumscription theory remains intact after decades of accumulating evidence. "A heightened incidence of conquest warfare, due largely to an increase in population pressure, gave rise to the formation of successively larger political units, with autonomous villages being followed by chiefdoms, the process culminating in certain areas with the emergence of the state" (Carneiro 2012, 27).

Regarding the Co Loa phenomenon, I see support for certain elements of Carneiro's theory. Coercive power and conquest warfare were not the only variables, as the evidence speaks to a mix of factors, some of which involved both cooperative and competitive forms of interactions. That being said, growing population levels and militarism do appear to be coincident in the Red River delta and

larger valley region, and I suspect coercive strategies would have been instrumental in effectuating tremendous cultural changes. Moreover, the natural features of the valley meant that those societies in Bac Bo were geospatially bounded to some extent, given the presence of the sea to the east and southeast and mountainous terrain to the north and west. In that sense, any population growth would have enhanced the effects of circumscription (see Fig. 7.11).

Not only does the Red River plain currently boast one of the densest populations for Southeast Asia, it also has the longest period of occupation for any of mainland Southeast Asia's lowland plains (Nishimura 2005, 99). Unfortunately, there is a scarcity of settlement data for the region with which to generate estimates of ancient population densities. However, there are Sinitic imperial accounts of the area after the Han began to take control over it during the first centuries BC and AD, and census records indicate high population levels. Though some element of inaccuracy or colonial bias may be attached to these figures, the numbers provide a valuable starting point. According to figures generated in at the start of the first century AD, the region was the most densely populated area in the Han Empire south of the Yangzi River, and the estimated total population for the proto-Vietnamese territories was 981,735 individuals in 143,643 households (O'Harrow 1979, 156). If these accounts are even remotely accurate, it is entirely plausible that tens of thousands of people, if not hundreds of thousands, were living in the Red River delta three centuries after the Co Loa settlement was founded. Although it is possible high population numbers resulted from the arrival of Han groups, Holmgren (1980, 66) cites evidence showing that population levels were not radically affected by colonial Chinese influx until the second century AD. Consequently, it is reasonable to conclude that the Red River delta was home to thousands during pre-Co Loa and Co Loa periods, during which societies were engaged in intensified and innovative agricultural production. Involving the use of ox-drawn, metal plows, surpluses would have been generated well above subsistence requirements, thus sustaining high population levels (Higham 2002, 177).

In this light, the Co Loa case provides some support for circumscription theory. However, I would also stress the need to consider agentive and group strategies in bringing about major sociopolitical change, which necessitates evaluation of both long- and short-term factors. While long-range trends contributed to social ranking, population growth, and higher levels of complexity and integration, the actual emergence of a state-level political structure was preceded by a set of more proximate variables. Political integration resulting in a state required the actual and permanent cession of autonomy by various families, groups, villages, and societies, and I propose that this would only have occurred through some form of coercion. I find it unlikely that populations of people would have willingly ceded political autonomy to a newly forming authority without being compelled to do so in some way, at least not on an indefinite and permanent basis. In that regard, state formation was dependent on a pivotal, short-term catalyst related to coercive activity, which may have included actual conquest, compulsion through threat of economic or religious sanctions, or aggregation in defense against some outside military threat. Furthermore, physical and ideological bases of power would have

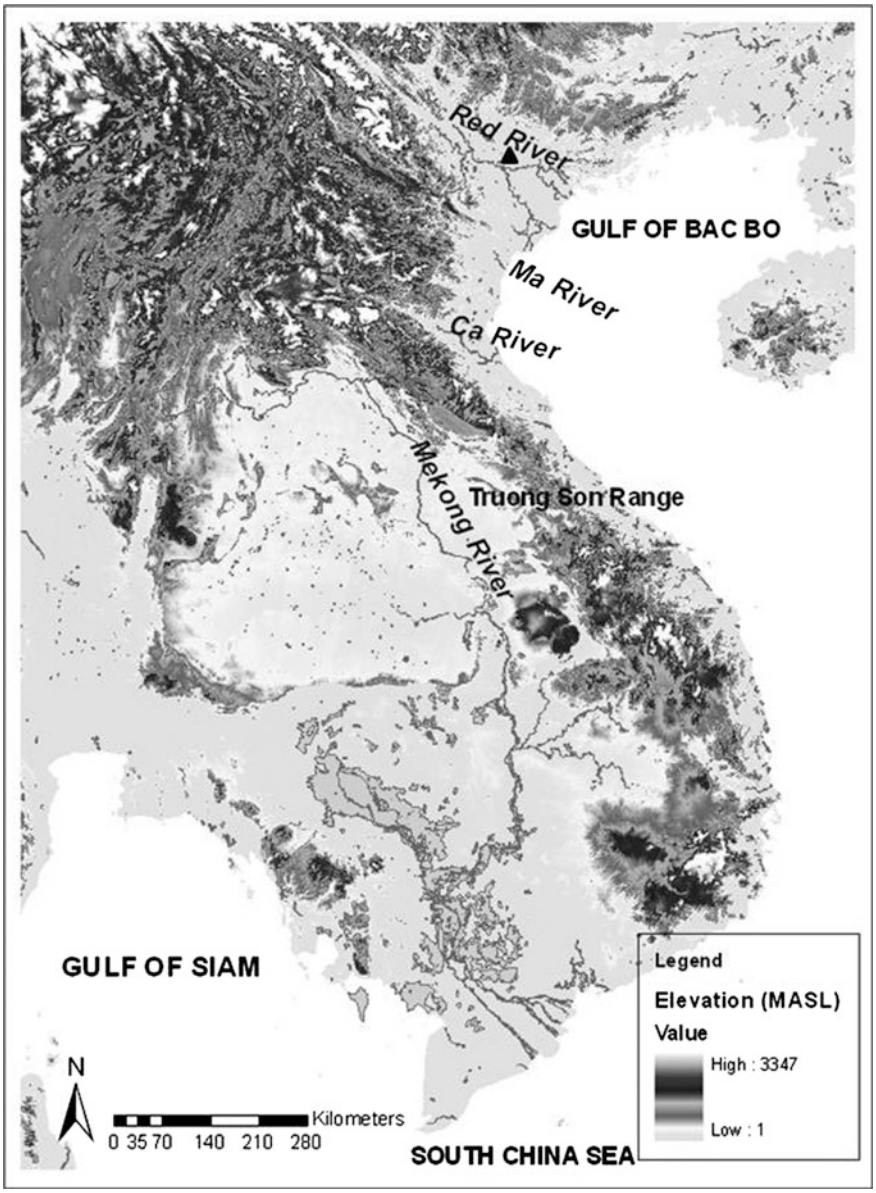

Fig. 7.11 Elevation and major rivers of Vietnam. Vietnam's stretch of mixed coastal and mountainous terrain is readily visible. The topography generally consists of hills and densely forested mountains, with level land covering less than 20%. Co Loa is represented by the triangle in the Red River delta. *Source(s)* United States Geological Survey (USGS), Environmental Systems Research Institute (ESRI), and American Geological Institute (AGI), "Global GIS Database: Atlas of Southeast Asia" (2003)

complemented one another in guaranteeing that the state, once formed, did not fragment and instead persisted beyond a generation or the lifespan of a charismatic leader.

As discussed earlier, competitive and coercive strategies have been employed by groups and factions in many archaeological cases throughout human history, often involving warfare, but these situations did not always result in the formation of a state where one was absent. This would suggest that warfare and coercive power do not constitute a sufficient condition for the consolidation of state-level political power. However, the Co Loa case arguably suggests that the intentional use of coercive power may have been a necessary condition. Whether in explicit forms of physical power or in tacit forms of ideological influence, agentive strategies related to coercion would have been critical for the emergence and persistence of the Co Loa state apparatus. If this pattern holds validity in general across ancient cases, this can help to explain why states are not omnipresent in the archaeological record of the Holocene, despite the many instances where certain seemingly embryonic conditions are judged to have been present. Ultimately, state formation results from the actions of both cooperating and competing people, grouped in alliances or opposing factions with different agendas and interests. The interactions can be quite complex, fluid, and unpredictable.

Mann (1986, 1) notes that societies are not unitary actors, but instead comprise "multiple overlapping and intersecting sociospatial networks of power." Building on this notion, I see the emergence of state-level societies, marked by durable institutions of power that persist beyond the life or career of a particular leader, as the product of interactions, which can be human-human and human-environment by nature. This view is similar to ideas offered by Blanton and Fargher (2009) regarding a behavioral theory of collective action and the formation of a collective, premodern state, where variations in the juxtaposition of power between different groups and factions will affect the development and ultimate forms of the state. In their argument, collective action can account for varying strategies across a continuum of interactions, from cooperative to conflictive. I would agree with this assertion, given the enormous variation discernible in the category of premodern states. Moreover, I would recognize how shifting political circumstances affected the weight and impact of different variables, thus leading to different pathways to state formation.

In evaluating the onset of hierarchical sociopolitical systems and the development of centralized and permanent leadership in middle-range societies, Kantner (2010, 281) stresses the importance of agentive behavior and decision-making in the face of social and structural forces. Kantner (2010, 280) identifies, for most of human history, the presence of what he calls "the collective force of reverse dominance hierarchies and leveling mechanisms" that prevents the perseverance of inequality. In this light, agency approaches that recognize the efficacy and significance of strategies carried out by various segments of a society, and not just those regarded as elite, can complement perspectives on competition and conflict. If various agents and factions, within a society or between neighboring communities, are fulfilling different objectives and agendas, there will be occasions for conflict

that can either be peacefully negotiated and resolved, or that might lead to struggles wherein physical power becomes an instrumental tool. In this way, conflict, coercion, and sometimes outright conquest can lead to consolidation of power, and this momentous event need not be premeditated. Consequently, since the selective application and use of coercive power is based on human choice and strategy, the state cannot be seen as forming automatically and mechanically. The development of states is a product (or sometimes byproduct) of human decision-making, strategies, and interactions. As I see it, these sorts of social transformations are marked by punctuated change, and rather than seeing state origins as simply a unique developmental event or historical endpoint, perhaps it would be useful to study them in terms of regime transition.

Concluding Remarks

Evident in the Bac Bo region are pulses of sociopolitical change, suggesting that governing bodies do not emerge from a strictly singular, evolutionary trajectory—rather, they emerge in more punctuated fashion as an outcome of variables. The transition from either a noncentralized or a nondurable form of centralized polity (marked by more transitory or impermanent forms of leadership) to one marked by more durable forms of institutionalized authority does not happen in a unilinear progression, automatically, or as a matter of natural course. Permanent state authority is perhaps more aptly viewed as one of several possible outcomes, whether intended by agents or not, resulting from some combination of events, trends, and proximate decisions and actions. The known cases of archaic state formation point to common permissible conditions, but state formation remains highly variable. Important to survey are the crucial roles of agents and groups, and their involvement in the process of state formation, even if their existence, specific motivations, and behaviors are not always visible in the archaeological record. Archaeologists cannot study state formation solely from a macro-temporal scale of long-range processes, developments, and changes, and explanatory models must also address a micro-temporal timeframe, even if the material record does not always lend itself to such fine-grained examination. Yoffee (2005, 15) argues that we must be cognizant of the various subsystems of ancient complex societies, different local community authorities, ethnic groups and their leaders, and social corporations of elites, all or some of whom can "aspire to their own autonomy are at least partly independent of other parts of society, and compete for power." In this spirit, I would advocate a general assumption that those in leadership positions would want to hold their positions of power, higher status, access to better standards of living, and other advantages. On the other hand, those who do not occupy these positions must accept, ignore, resist, or reject such inherent states of inequality. All the while, there would be those moving between these two general categories.

According to Feinman (2012, 45), recent shifts in archaeological theory away from deterministic, unitary thinking and modeling have been constructive. Many

researchers have seen the need to rethink what Feinman sees as long standing rigidities, and he rightly points out the importance of ancient interactions, negotiations, and shifting strategies between groups within societies. The role of agency in social networks is potentially far more nuanced than rigid dichotomies would indicate. Coercion and outright warfare, as strategic choices, would have been vital in political evolution, and I would echo Feinman's sentiment (2012) that it is also worthwhile to move beyond a general perspective of warfare as a central component of social evolution and to distinguish between offensive and defensive objectives. He notes that concerns with defense can be a far more likely basis for cooperation, shared sacrifices, and ceding of elements of autonomy than are calls for risky offensive conquests.

In summary, the formation of a state is a highly complex and interactive process, with countless agendas and motivations, ensuring that state formation is by no means an inevitable development. Chance is certainly involved, as is an extremely complex hierarchy of variables causing changes in sociopolitical systems. It is the task of archaeologists to draw correlations between the material data and substantive variables. In the end, I would argue that some form of coercive power is pivotal for political centralization to occur and persist. The prehistoric record for the Red River plain appears to have been marked by just such a set of circumstances, wherein centuries of relatively peaceable history witnessed intermittent periods of competition, conflict, and possible warfare, before the momentous event of state emergence actually occurred. As evinced by the Co Loa phenomenon, the correlation between coercive power and state formation is undeniable.

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Chapter 8
The Emergence of Sociopolitical Complexity: Evidence from Contact-Era New Guinea

Paul Roscoe

Introduction

The question of how and why an *ur*-state of egalitarian, pre-Holocene forager bands in the past became a world of vast, politically centralized nation-states today is still as vexing to social theorists as it is fraught with implications for humanity. A better understanding of the processes that sparked this sociopolitical Big Bang could tell us a lot about our current, rapidly globalizing world as well as our future on the planet. Archeology provides us with one vital window onto this event. As a kind of telescope through which to scrutinize the past, it allows us to glimpse what was going on at the dawn of the Holocene. But it is a glass that is dark indeed, its aperture constrained by a few, ambiguous material remnants that have survived to the present. To illuminate what material remains alone cannot, we must therefore look elsewhere, and in this paper I review what the small-scale communities of contact-era New Guinea might tell us. These communities, which survived long enough for anthropologists and other researchers to subject them to intensive study are not, of course, some perfect mirror of the past, but they furnish a wealth of resources from which to build models and theories of what might have provoked the emergence of sociopolitical complexity so long ago.

Because its leadership forms spanned the entire spectrum from egalitarian forager bands through trans-egalitarian cultivators to petty chiefdom fisher-foragers, contact-era New Guinea provides what may be the finest ethnographic theater we shall ever have for researching small-scale polities and emergent sociopolitical complexity. Drawing on comparative data from 92 of these communities, this chapter investigates the circumstances that generated these leadership configurations. Because community leadership, when it emerged, lay primarily in male

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hands, the investigation necessarily focuses on male political privilege. This is not to say that females were denied status or were always bereft of power. Although a marked male bias in New Guinea ethnography has left a far richer record of male than female politics, it is nevertheless clear that women, in some communities at least, competed among themselves for influence and renown. If any woman ever reached the highest echelons of status and power in a contact-era New Guinea community, however, her achievement appears to have left no ethnographic trace.

I find that the New Guinea evidence strongly corroborates Clarke and Blake's (1994: 18) proposition that leadership in small-scale society is first and foremost the product of status competition not of power games: it revolves around "ambitious males (aggrandizers) competing for prestige within a regional setting". This is a critical insight, which I seek to advance in two ways. The first is to investigate the forms that status competition takes. Social scientists have devoted a lot of attention to understanding why humans compete for status, but much less to a second question: why do different communities pursue status through different channels? In any one community, members can usually accrue at least some status in a variety of ways, but usually a subset of these receives particular cultural emphasis. It might be headhunting or military performance in some communities, pig exchange or ritual expertise in others, and conspicuous consumption in yet others.

In New Guinea, the two most important channels of status competition were warfare and material display—that is to say, the conspicuous distribution of material goods—but different communities placed different emphasis on each. Warfare, I show, was by far the more common and highly valued source of male status, a function of the chronic military threat to which New Guineans were exposed. Performance in war, though, appears to have been more important a source of status in lower than in higher density communities. At higher densities, material display—feasting, food distributions, wealth payments, and pig exchange—emerged as a particularly important avenue to status, manifest in the leadership form with which everyone is familiar: the classic Big-man.

The reason why male status competition shifted to material display in higher density societies brings us to the second issue I wish to investigate: the relationship of status to power in the emergence of sociopolitical complexity. Conspicuous material displays, I argue, were proxies for individual and collective power, a means by which individuals (Big-men) and the groups to which they belonged could objectify their power, their ability to get things done. In competing to outdo others in organizing and contributing to material displays, in other words, men were really competing for status by displaying in concrete form their otherwise invisible individual and collective power. In these Big-men societies, emergent sociopolitical complexity was motivated by a quest for power, but as a vehicle for the pursuit of status.

What explains the switch from martial to material display? Why would densely populated societies place a higher value on males who excelled in material display while lower density societies preferred to value great warriors? The answer, I suggest, is that, in small-scale communities, the ability to amass power is heavily dependent on population density. Low densities severely constrain the

accumulation of power, limiting the importance of material distribution as a mode of status competition. As densities rise, though, these constraints erode until, at a threshold of around 50–55 people/km^2 power—manifest as material display—becomes the main channel of status competition.

Status, Prestige, Influence, and Power

A major difficulty in discussing the emergence of incipient elites in small-scale societies is a confusion of terms. Words such as "leader" or "leadership" are poorly defined, and definitional wrangles persist over the differences between terms such as "power" and "influence," "status" and "office," "prestige" and "reputation." For our purposes, however, it is sufficient to clarify two terms: *status* and *power*.

Status is problematic because of its polysemy. Commonly, social scientists identify or associate it with terms such as *dominance*, *prestige*, *esteem*, *reputation*, *distinction*, and *symbolic capital*, but these terms can mean different things, while different terms can refer to the same thing. Henrich and Gil-White (2001) point out, for instance, that dominance is a different quality from prestige. Dominance has to do with relations of power, of domination and submission. Prestige, esteem, reputation, and the like are moral phenomena having to do with social approval (Riches 1984).

Here, I shall use *status* as shorthand for terms such as *prestige*, *esteem*, *standing*, and *reputation* that refer to a moral community's positive evaluation of particular qualities or behaviors that certain individuals or subgroups among its members manifest. I shall use *power* to mean what Giddens (1984, 16) defines as social power. Giddens argues persuasively that, in its broadest sense, power should be considered the capacity to secure outcomes, to get things done. He defines social power—i.e., power as it is deployed in human social relationships—as the capacity to secure outcomes (get things done) *through the agency of others* (Roscoe 2000a). *Influence* I take to mean slight amounts of power, the kind of small-scale capability that characterized at least some of New Guinea's leadership forms. I shall use *leadership*, *position*, *importance*, and *prominence* as general terms for men who had status, power, or both.

Power, lest it need emphasizing, is not status—that is, prestige, esteem, symbolic capital, etc. The two are intimately connected, though, because power can confer status, and prestige is a resource that can be used to build power. In most New Guinea communities, for instance, men competed for status, but in Big-men communities, as we shall see, they did so by competing for power: the massive distributions of material commodities for which they were famous were simply a means of objectifying their power for comparative purposes in their pursuit of status. For its part, status is not just a moral approbation; it is also a resource, a form of capital that actors can deploy under certain conditions to amass power (Bourdieu 1986). Thus, in New Guinea, a Big-man accrued status by objectifying his power in

conspicuous distributions, but because he had status he could better attract wives and affines, whose labor and support augmented his power.

Contact-Era New Guinea

New Guinea (Fig. 8.1) is a land of ecological diversity, its biomes ranging from swamplands, rivers, and coasts, through grass plains and foothills, to high mountain valleys and peak lands. In adapting to this environmental heterogeneity, its contact-era inhabitants developed several distinct subsistence regimes: sago-gathering coupled with hunting or fishing, horticulture supplemented by hunting or pig-rearing, and intensive agriculture combined with large-scale pig-rearing. Population densities correlated strongly with subsistence regime (Roscoe 2016), ranging from hunter-gatherers scattered across the landscape at 2 people/km^2 or less to intensive cultivators and pig-rearers whose densities reached as high as 110/km^2.

This diverse economic and demographic base supported an equally heterogeneous set of leadership forms that straddled the transition from egalitarian through trans-egalitarian to petty chiefdom polities. These differences notwithstanding, political structure and organization were much the same throughout the island (Fig. 8.2). At the core was the political community or polity, an autonomous unit variously referred to in the literature as a longhouse community, hamlet group, clan, or village group. New Guinea is renowned as the land of a thousand languages, but at contact there were tens of thousands of these political communities, some with as

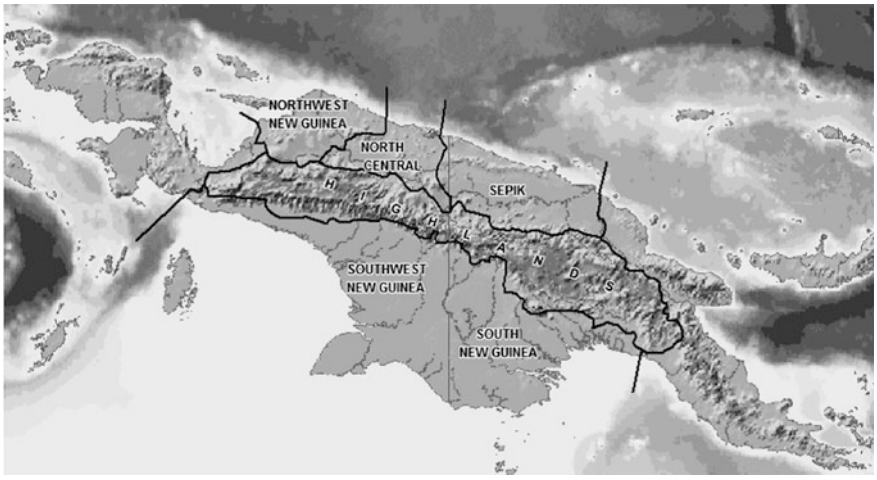

Fig. 8.1 The New Guinea study area and its subregions. The Bird's Head in the west and the southeast of New Guinea are not included in the study. Subregions of the study area are labeled

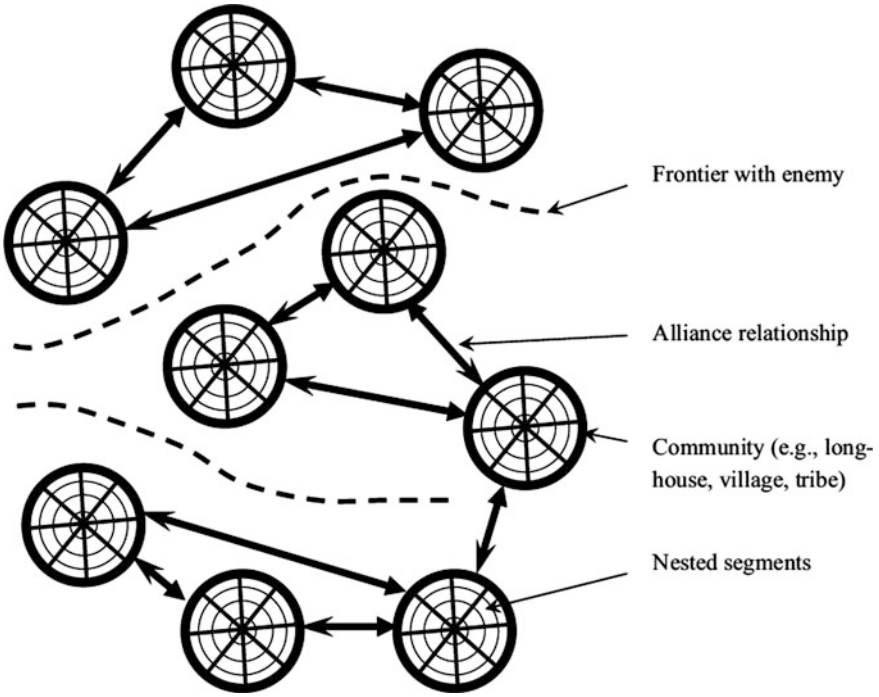

Fig. 8.2 Schematic diagram of New Guinea political structure and organization

few as 10–15 members, others with 2000 or more. In most areas of New Guinea, polities enjoyed relations of peace ("alliance") with a handful of neighboring polities, relations based on the mutual interest that closely proximate communities have in reducing military threats on their doorstep (Fig. 8.2). The diplomacy on which these relations depended, however, was by no means always successful, and a political community was invariably either permanently or at least episodically at war with one or more other polities in its vicinity (Roscoe 2009a, 87–88).

As "The Last Unknown," New Guinea came under colonial control at a propitious anthropological moment, providing a sudden abundance of fresh field sites as the production of anthropologists boomed in the wake of World War II. The result was a historical and ethnographic record of recently contacted, small-scale societies unparalleled in its breadth and documentary depth (Roscoe 2000b). Because it is impractical to access and analyze the entire record for New Guinea (Roscoe 2000b, 80–81), the dataset I use here is limited to five key regions of the mainland: the Sepik Basin; South and Southwest New Guinea (henceforth, the South Coast); North Central and Northwest New Guinea (henceforth, the North Coast); and the highlands that run down the center of the island (Fig. 8.1). Although only a subset of New Guinea's societies, this database embraces more

than half of the island's cultures and appears to cover the full spectrum of its environmental, demographic, subsistence, and political forms. The Sepik, in addition, is home to the Yangoru Boiken, a horticultural and pig-rearing people among whom I have conducted over 2 years of fieldwork.

The ethnographic record on male prestige and power in contact-era New Guinea is variable in its quality and a challenge to interpret.[1] To begin with, numerous observers have ventured opinions about the "leaders," "chiefs," "headmen," "elders," and so on that they encountered during the early years of contact, but comparatively few were in a position to grasp the complexities of local politics. The database, therefore, only includes information provided by one or both of two sources. The first and main source are authorities —anthropologists and nonanthropologists alike—who lived for at least 6 months with the people they described and whom we can therefore expect to have achieved at least some understanding of the political system about which they were reporting. A number of these observers were missionaries, most of them untrained in anthropology. Many, though, became fluent in the local language, an achievement that only a minority of Melanesian anthropologists have ever attained, and in several cases subsequent anthropological research has substantiated the bulk of their reports. The second source of information comes from a handful of academic anthropologists who conducted less than 6 months of fieldwork but who, because of their training, can be looked to for tolerably accurate data.

A further challenge in using the New Guinea ethnographic record is interpretative. In more than a few instances, a qualified source refers to the presence in a community of "leaders," "men of influence," or such like but fails to make any explicit comment on how or why these men came to be leaders. In some of these cases, it is possible to read into the source's observations a picture of what *might* have been going on, and such a strategy would greatly enhance the scope of the database. In the interests of constructing a more "objective" dataset, however, I have only included societies for which the ethnographic record contains *explicit* mention of at least one pursuit or qualification related to status, influence, or power. By *explicit*, I mean a description of a particular behavior, activity, or qualification as "associated with" or "important," "required," "needed," or "necessary" to gain "prestige," "status", "reputation", "political standing", "influence," "power," or "leadership." All facts are interpretations, of course, but this strategy reduced the

[1]As I have noted elsewhere (Roscoe 2000a), ascribed leadership was far more common in New Guinea than Sahlins's (1963) distinction between Melanesian big-men and Polynesian chiefs would suggest. In a few communities, such as the Koriki (Maher 1967) and Waropen (Held 1957) ascription even appears to have prevailed over achieved leadership. In this paper, though, I focus on those societies, the majority, where achieved leadership was the dominant mode.

density of interpretation required to construct the database, and it better allows others evaluating the ethnographic record to replicate or reject my conclusions.[2]

Because it was apparent at an early point in this project that population density fundamentally shaped the contours of contact-era New Guinea leadership, one final criterion for including a society in the database was whether sufficient census and contact-era settlement location data existed to calculate a reliable population density figure.[3]

New Guinea Leadership

Thanks largely to Sahlins's (1963) influential article on big-men and chiefs, archeologists and many anthropologists unfamiliar with Melanesia might presume that the political systems of contact-era New Guinea were dominated by Big-men, men who gained status and influence by their ability to muster massive contributions to great public giveaways of material goods. Yet, as Godelier (1986) made clear some while ago, Big Men societies were actually the exception rather than the rule in New Guinea. Most leaders, in fact, were what he termed Great-Men, men who became prominent not for their contributions to feasts, pig-kills, and other conspicuous distributions but for their superior performance as warriors, hunters, gardeners, or various kinds of ritual expert.

[2]In a couple of cases—communities where more than one ethnographer conducted fieldwork—I found explicit ethnographic statements about status and power to be at variance (e.g., Görlich 1998: 152, cf Jackson 1975: 200. I interpreted these cases as indicating that the pursuit or qualification in question is marginal to status or influence.

[3]Although early census records for New Guinea are often incomplete, difficult to procure, and taxing to analyze, they provide an unparalleled source of demographic data on so-called "band" and "tribal" societies under early colonial influence. Most of the density figures used in this paper were derived from these registers—those compiled by Australian patrol officers for Papua New Guinea and by Dutch authorities for West Papua.

From detailed analyses of runs of these registers, it is possible to establish the point at which administrative officers had achieved a more or less full census, and I have used the earliest available 'full' census to compute the density figures for the societies in the database. Census figures, of course, refer to various periods after first contact and 'pacification,' and we know that New Guinea population levels were seriously affected by diseases and other mortal processes in the early years of contact (Roscoe 2009b: 606–608). Unfortunately, it is rarely possible to establish just how accurately post-contact census figures reflected contact-era population levels. An analysis of cases in which both early and later census records have survived provides some reason to believe that the figures I use are not greatly off the mark as proxies for contact-era populations (Held 1957: 24–25; cf. Groenewegen and van der Kaa 1965: 9; NNG 1937–1961; Roscoe, n.d.; 2000b: 606–608; but cf. Maher 1961: 105). To the extent that post-contact census data do not match contact-era figures, however, they do at least provide a common temporal baseline for the purposes of comparison. In other words, if the population figures I use to compute densities are faulty as *absolute* measures of contact-era population, they still retain some value as *relative* measures.

For his part, Godelier overlooked a number of small, low-density communities in which leaders were neither Big-men nor Great-men but virtually undetectable. Townsend, who conducted fieldwork among the Sanio-Hiowe of the Sepik Hills within a decade or so of first contact reported that: "Formal leadership" was lacking and "informal leadership… weak" (1969, 8). Among the Gebusi of southern New Guinea, Knauft (1985: 33) observed that an "egalitarian ethic is very strong among all men, and there is a conspicuous absence of competitive rivalry or striving for prestige. There are no secular leadership roles and no gerontocracy." Similarly, among the hunter-gatherer groups of the Upper Tor:

> Everyone is the same, no-one has more to say than the other. There is no nobility, no landed gentry and no moneyed gentry…. Everyone is equally poor or equally rich, however one looks at it. Everyone occupies the same place in their community. The elders here have no more say than the youths….Everyone performs the same work; because there is no difference in occupations, differences in social position also are absent. Men and women also stand equal (Oosterwal 1963, 99, my translation).[4]

I shall return to these egalitarian societies later.

In those New Guinea societies in which males did compete for status and/or influence, hunting, ritual expertise, and warfare were avenues to leadership as Godelier claimed, alongside conspicuous displays of material goods, the hallmark of Sahlins's Big-man. Figure 8.3 shows the incidence of these four pursuits among the 92 communities in the database. Black bars represent the overall number of societies in which each activity is mentioned (numbers above each bar), white bars the number in which they are explicitly mentioned as the *main* or *prime* source of male status and/or influence.[5]

Hunting emerges as the least common and least important means of gaining status or influence: it was reported as a path to prestige or power in only 20 societies (21.7% of all societies in the database) and in none as the main avenue. Ritual knowledge and/or expertise were more prevalent, mentioned as a source of eminence or influence in 47 societies (51.1% of the total) but in only 2 of these (4.3%) as the principal route. Display, the conspicuous distribution of material goods (principally food, pigs, and other valuables), was about as widespread. It was said to afford status or influence in 49 communities (53.3% of the total) but was cited as the *primary* source in only 15 (30.6%) of the 49. By any measure, the most ubiquitous avenue to leadership was warfare. At least 76 database societies (82.6% of the total)

[4]In a surprising number of further cases, ethnographers who have published voluminously about small, low-density New Guinea communities have been all but mute on the subject of leadership, suggesting perhaps that there was nothing to write about. For all of his distinguished writings about the Kaluli, for instance, Schieffelin has mentioned nothing about male status rivalry, influence, power, or leadership beyond noting the absence of Big-men (Schieffelin 1991: 61).

[5]A number of other pursuits or achievements that neither Sahlins nor Godelier refer to also provided a path to eminence of influence. These include visual and plastic artistry, long-yam production, singing, dancing, polygyny, numbers of offspring, and trading. Figure 8.3 omits these avenues because of their relatively low incidence.

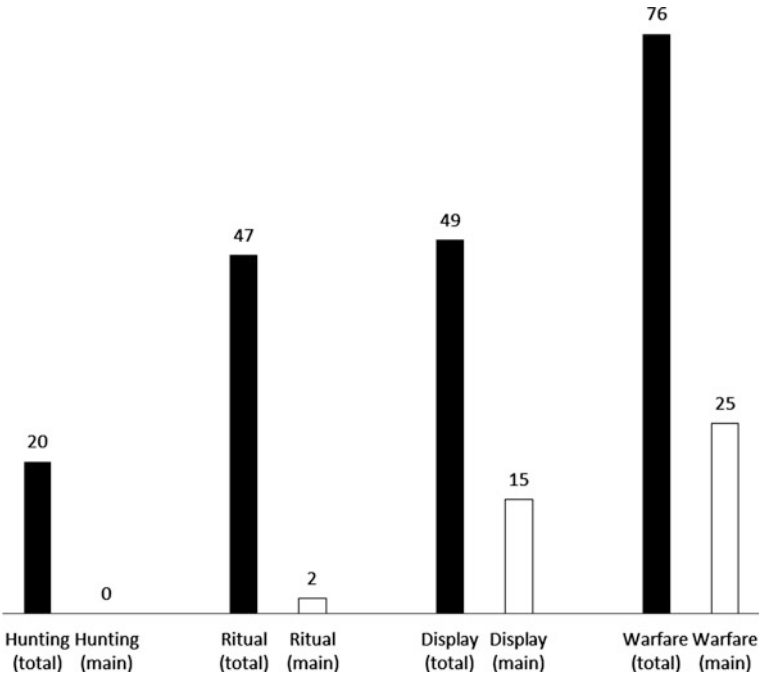

Fig. 8.3 Status Pursuits in contact-era New Guinea. Counts above *bars* denote the number of societies (out of 92) in which an activity or quality (warfare, material display, ritual knowledge or expertise, and hunting) is mentioned as a source of status or influence. *Black bars* represent all societies in which the status source is mentioned, *white bars* those in which the activity or quality is said to be the *main* source of status or influence

conferred eminence or influence on skilled or courageous warriors, with at least 25 of these 76 (32.9%) treating it as the main avenue.

Warriorhood, Status, and Power

Because space constraints prevent a thorough analysis of the determinants of all four of these paths to male leadership, I focus in on the two most important: warfare and material distribution. To begin with war, my data corroborate Keesing's (1985, 237) long-standing claim that military performance—demonstrations of bravery, military skill, and/or tallies of heads or kills—was by far the most important path to leadership in Melanesia (Fig. 8.3). In at least 76 (82.6%) database communities, as just noted, leaders had distinguished themselves in war at some point in their political careers, and in at least 25 (27.2% of all communities), it was the primary path to leadership. Since war was so prevalent a path to prominence, and since an absence of evidence is not necessarily evidence of absence, it is plausible that, had

we a perfect ethnographic record, we might find that war was actually a universal or near-universal source of male leadership in New Guinea.

What these figures do not tell us, however, is whether it was status, influence, or both that men gained from their military courage and talent. A closer examination of the documentary record, though, finds that, in at least 62 of the 76 communities (81.6%) in which performance in war was noted as a leadership attribute, it was said to be a source of *status*.[6] In contrast, only in 24 (31.6%) communities was it said to afford *influence* or *power*.[7] In many of these 24 cases, furthermore, the influence or power that a man gained for his military ability appears to have been an indirect product of the *status* that war conferred. To put this another way, war afforded these men status, and in these communities they could then convert that symbolic capital into influence or power. As Fitz-Patrick and Kimbuna (1983, 124) explained for the Gende:

> A good warrior becomes involved in decision-making even before marriage and is encouraged to find a wife and have children while he is still young. His prowess as a fighter enables him to attract many young girls, and so it is easy for him to have two or more wives. Each wife has her own gardens and pigs, which places the husband in a position to acquire much wealth. With his wealth he can buy secrets of sorcery and sing sings and contribute towards parties. Thus, by placing many people in his debt, he consolidates his power.

Similarly, among the Asmat, "the equation between prowess in warfare on the one hand, and wealthy plural wives and surplus sago on the other hand, is extremely important. It is by this equation that prowess in warfare becomes transformed into the ability to make massive distributions of food, and thus into political power" (Eyde 1967, 228). (See also Görlich 1999: 152; Watson 1971, 265).

To summarize, the data presented to this point indicate two things. First, it is likely that courage and skill in war was a universal or near-universal route to male *status* in New Guinea. Second, it was probably less important as a direct route to male *influence* or *power*. Less than a third as many communities (24/76) conferred influence on a successful warrior as conferred status, and what influence these men gained in any case may well have come from converting status into influence.

At first blush, it seems intuitively obvious why communities would confer prestige on the most successful of its warriors. At contact, warfare was endemic throughout New Guinea and constituted an enduring existential threat. Males were overwhelmingly the ones who went to war. Hence, we would expect New Guineans to fete those males who were most proficient in war. A moment's reflection, though,

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[6]A community was judged to award *status* to performance in war if: (a) an ethnography described it as conferring "esteem," "fame", "glory", "honor", "prestige", "renown", "reputation", "respect", "symbolic capital", "standing", "status" (in the sense of prestige as opposed to office), or (positive) "worth"; (b) if a successful warrior was "admired", "revered", or "valued"; or (c) if he became a "hero" or "distinguished" himself in war.

[7]A successful warrior was judged to have influence or power if: (a) he was said to have "influence", "power" (or be "influential" or "powerful" in the sense of *social* power), or "followers" or "a following"; (b) his "opinion carried (greater) weight"; (c) he "exerted (social) control" or "made the decisions in tribal and clan affairs"; or (d) other people "submitted to" or "supported" him in his endeavors.

indicates that the linkage is anything but obvious. By placing a value on warriorhood, communities encouraged warfare. Eager to make a reputation, men had an interest in going to war, which elevated the level of regional lethal violence, leaving everybody worse off than if they had rewarded men for their gentleness.

What would induce a community to institute to such a counterintuitive valuation? The answer lies in the Janus-like quality of war. We are inclined to think of war in terms of its *offensive* face, as an attack against a target. But warfare has a defensive face as well, the military actions that limit the damage that offensive warfare seeks to wreak. In New Guinea, as I have argued elsewhere (Roscoe 2009a), it was defensive—not offensive—warfare that drove a community's moral approval of military performance.

The mechanics of this linkage begin with the very structure of New Guinea political society. Autonomous political communities—the sovereign units in New Guinea social organization (Fig. 8.2)—were first and foremost mutual defense units, groupings dedicated to protecting their members from military threat (Alexander 1979, 221–223; 1987, 79; Roscoe 2009a, 81–88; 2013, 61–64). Throughout the ethnographic literature, these communities were said to "unite for defensive purposes," to "provide mutual defense," to "act as a unit in defense," to "protect" the unit from "military threats," to "protect each other against people attacking them," or "to act as a unit to protect members from being killed and their gardens from being destroyed." Members were "expected to aid each other against outside attackers," "against outsiders…to come to one another's aid," or to "feel some responsibility to repulse an invader." They displayed "unity in the face of the enemy," "cohesion through opposition" in war, or were "unified in opposition to other like groups." Alternatively, a polity was described as a "basic" or "primary" "territorial unit," whose members "joined in mutual protection" or "fought to defend"— against "outsiders"—their "land," "the (home) territory," or their "domains" (for references, see Roscoe 2009a, 83).

Although most descriptions cast the political community as a defensive unit, some did refer to it as, in addition or alternatively, a unit that practiced offensive warfare (or "vengeance"). Other accounts are more ambiguous, referring to the polity simply as a "fighting," "warring," "war-making," or "military" unit, or as a group whose members are "concerned with the organization of force," or who "fight united" or "act collectively" in war (for references, see Roscoe 2009a, 83). On closer inspection, it turns out that these descriptions refer to some of the large clan communities of the central and western highlands, which were unusual in acting as both offensive *and* defensive military units. Although it is accurate to describe these polities as offensive military units, in other words, it overlooks their parallel defensive function.

An important clue that political communities were at their core defensive rather than offensive units, however, comes from those regions of New Guinea where offensive and defensive warfare were conducted by different structural orders. In these regions, we find that offensive warfare was executed by smaller, structurally subordinate units *within* the political community. Among the Yangoru Boiken, the subjects of my own fieldwork, for instance, the warriors of a village *never* combined to mount an attack. Offensive actions were the precinct of a clan—or, more commonly yet, a subclan—if only because terrain, vegetation, and the difficulty of

maintaining surprise restricted the viable size of ambush parties, and because the interests motivating attacks were seldom shared by every village member. By contrast, defensive actions *always* brought forth united village action: in the event of an attack, every capable village male rushed to defend those in jeopardy, while every available woman snatched up children and valuables and scrambled for safety.

We come across the same 'division of structural labor' in the river villages of the Middle Sepik. The component descent groups in these villages could, and often did, act quite independently of one another in launching war, but "a village acted as a unit only for defense" (Harrison 1993, 66). Among the Manambu of the Middle Sepik, for example, attacks "tended actually to be made by factions of a village, often in combination with external allies, rather than by a village in its entirety"; nevertheless, the village "combined to defend itself as a last resort when under serious threat" (Harrison 1993, 68). The large, Arapesh village of Ilahita "was exclusively a *defensive* unit. To be sure, there were offensive operations, but these were always prosecuted by individual wards, or at most two or three wards in temporary partnership" (Tuzin 1976, 59, emphasis in original); "Ilahita's constituent wards unanimously convened only when the village was under direct attack" (ibid., 56). Among the neighboring Abelam, the village group was "a defensive but not necessarily an offensive unit" (Forge 1990, 162). Among the Bena Bena of the Eastern Highlands, "a clan would respond defensively as a single unit," but it "was a rare man who could actually mobilize an entire clan for a raid, and in the cases I have heard described, the man who wanted revenge usually recruited only a portion of the clan to accompany him on his raid" (Langness 1971, 308). Further to the west, the hamlet group could "be considered the tactical unit of offensive warfare" among the South Fore, while the local group of which it was a part, could be "considered the unit of defensive warfare" (Schwoerer 2014, 342).

The New Guinea political community, in sum, was a mutual defense organization, an entity with defensive security as its *raison d'etre*.[8] To operate successfully, though, such an organization had to optimize its military strength, a major contribution to which was the commitment and capability of its adult males as military actors. Such a community therefore had an overriding collective interest in propagating a moral system that afforded prestige to males who displayed exceptional courage and proved themselves especially capable in wielding arms. Because it encouraged offensive warfare, a moral system such as this increased the level of

[8]Offensive warfare to annex neighboring territory and its resources might ensure survival in the event of extreme resource shortage, but as a number of anthropologists have pointed out, New Guineans did not commonly go to war for land (see summary in Sillitoe 1977: 72–74, though cf. Ember 1982). In the highlands, for instance, one community might displace another in war but the victors seldom moved into take over the vacated property. Indeed, after they had spent a few years in refuge, the remnants of a vanquished population were often allowed or invited back to reoccupy their domains (see, e.g., Brown and Brookfield 1959: 41; Rappaport 1968: 145; Reay 1959: 6–7). The main guise in which offensive warfare sometimes functioned as *defensive*—was as an attack to preempt a military threat on one's doorstep.

regional lethal violence relative to that to be expected in a counterfactual universe of peace. In an actual theater of enduring military threat, however, this cost was outweighed by the advantages to be gained from defensive efficacy. In the hostile landscapes of New Guinea, as Watson put it for the Northern Tairora, communities needed "to remain strong in order to remain at all" (Watson 1983, 193).

Material Display, Status, and Power

Although war was a medium of male status competition in most, perhaps all, of New Guinea's communities, it was not the only fount of prestige. As mentioned earlier, material displays—feasting, pig-kills, pig- or long-yam exchanges, and/or wealth payments during life cycle rituals—were an additional or alternative path to prominence in at least 53.3% of database communities and the *principal* avenue to high position in 16.3%.

Conspicuous material distribution, of course, was the classic road that a Big-man trod to leadership, and according to Sahlins he was lured along that path by the same temptation that enticed the New Guinean warrior: status. A Big-man mounted massive giveaways of material commodities because he aspired to become "some sort of hero," a "prince among men" (Sahlins 1963, 289, 290). "His every public action is designed to make a competitive and invidious comparison with others, to show a standing above the masses" (Sahlins 1963, 289). Sahlins's claim is supported by our ethnographic database. Of those communities in which material display was mentioned as a path to prominence, at least 84% were said to reward success with *status*. And since—to reiterate—an absence of evidence is not evidence of absence, a perfect ethnographic record might well reveal status to be the motivation *wherever* leadership derived from material display.

The data indicate, in sum, that men were motivated by the same ambition—the prospect of high status—in pursuing the two main channels to leadership in New Guinea, warfare, and material display. Material display, however, was not as widespread a source of status as performance in war. Whereas fully 82.6% of database communities were said to have afforded status to great warriors, only 53.3% were reported similarly to reward success in material display. The proportions of database communities in which warriorhood and material display were reported to be the *principal* avenues to leadership are just as skewed: 27.2 and 16.3%, respectively.

The differences might, of course, be due to chance.[9] Figure 8.4 and 8.5, though, suggests they are not. Figure 8.4 plots the frequency with which communities afforded importance to material display (light gray line) and military performance

[9]If an absence of evidence is assumed to be evidence of absence, then the frequency differences between warriorhood and material display as modes of status competition are highly significant ($p < 0.001$, Chi-squared test for independence). The evidential assumption is sufficiently fraught, however, as to cast doubt on this result.

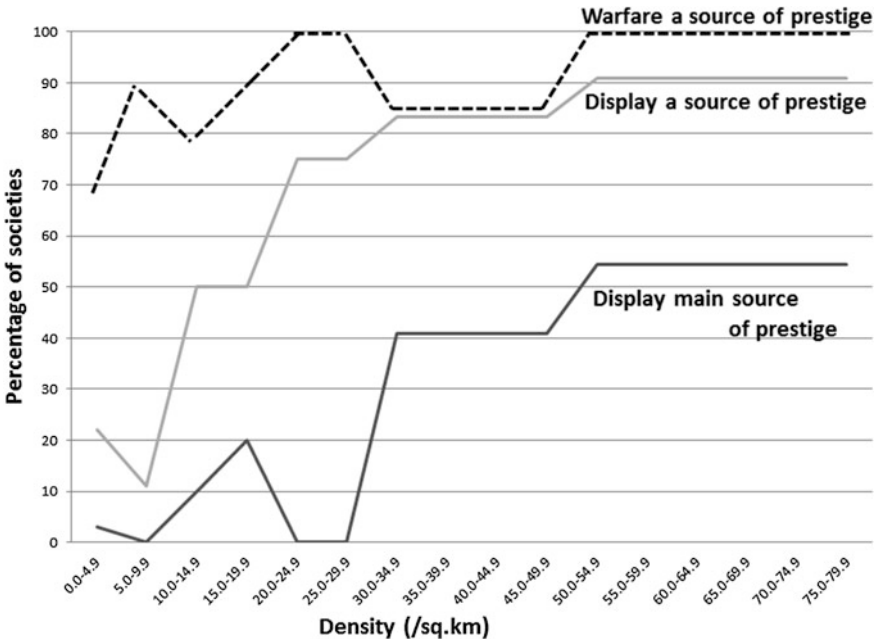

Fig. 8.4 War, material display, and density. Percentage of societies by density in which: **a** Warfare was a source of leadership (*black dotted line*); **b** Material displays were a source of leadership (*solid gray line*); **c** material displays were the main source of leadership (*solid black line*)

(dotted black line) against their population density. It shows that the reported frequencies of both channels were lower at very low densities (<5 people/km^2) than at higher densities. At low densities, though, material display was considerably *more* depressed than was warriorhood. Among database communities with densities below 10 people/km^2, in fact, only 20 % were noted to afford status or influence to material displays, and only when densities reached 20–25 people/km^2 did display approach the prevalence of warriorhood as an avenue to male importance. For some reason or another, in other words, low population densities inhibited the emergence of material display as a leadership mode, lending support to the idea that material display really was a less common mode of male leadership than warriorhood.

As we might expect from the foregoing, Fig. 8.5 shows that population density had a similar effect on those masters of material display, Big-men, as it had on the rise of material display itself (see also, Roscoe 2013). It is not as straightforward as it might seem to identify a Big-Man society in the ethnographic literature. In most Melanesian societies, for one thing, elder males were usually addressed with honorific terms that translated as "big" (or "great") "man", whether they were Big-men as Sahlins envisaged them or not. For another, Sahlins's Big-man concept confused matters further by feeding back on itself ethnographically. As Godelier

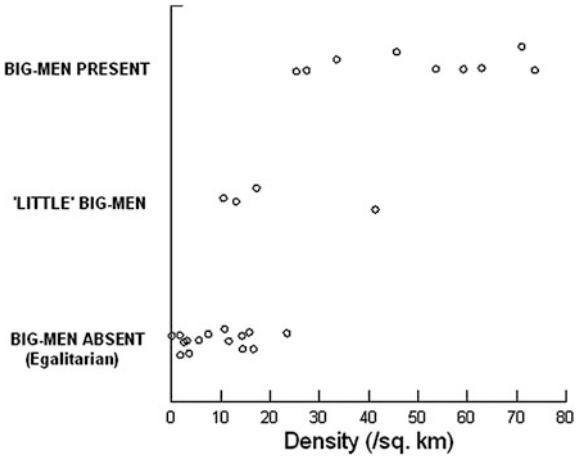

Fig. 8.5 The emergence of Big-men. Points are jittered to avoid overlap

pointed out, many anthropologists came to feel that they should identify leaders in the societies they studied as "Big-men," even though they then ended up "wasting a great deal of time trying to explain that these big men are not like the ones found in the great societies of the Western Highlands who genuinely appear to be 'true' big men" (Godelier 1986, 172).

These difficulties notwithstanding, the ethnographic record allows us to identify three types of New Guinea society with confidence. The first, represented as "Big-man Present" on the *y*-axis of Fig. 8.5, are societies (mainly from the Western and Central Highlands) whose leaders are widely recognized as—or explicitly stated in the ethnographic record to be—Sahlins's Big-man type. The second, represented as "Big-man Absent", are those in which the ethnographer explicitly denies the presence of Sahlins-type Big-men. The final type, represented as "'Little' Big-Men", are those societies where the ethnographer refers to the presence of Big-men but explicitly distinguishes them as less prominent or powerful than Sahlins's classic Big-man.

As Fig. 8.5 reveals, Big-men societies were a function of high densities. At low densities (<10/km^2), only a small proportion of men had begun to walk the path to prominence that material display afforded and none had become Big-men. At higher densities (10–25/km^2), some had succeeded to the extent that ethnographers began to recognize them as "little Big-men". But not until densities exceeded about 30 people/km^2 did 'true' Big-men, the masters of material distributions, reach ethnographic visibility.

To summarize, then, material display did not become an ubiquitous channel of male status competition, and Big-men—the exemplary practitioners of these displays—did not emerge to ethnographic visibility, until community densities reached the 20–30 people/km^2 range. This systematic density-bias in the distribution of both material display and the Big-men who specialized in it indicates that chance alone was not the reason that warriorhood was a more common mode of status competition than material display. It suggests that, for some reason or another, low densities either interfered with the pursuit of status through material display or reduced the chances that ethnographers would notice it. Why should this be? An important clue lies in examining more closely just what it was that Big-men were proving when they engaged in material displays.

The Rise of Material Display and the Emergence of Big-Men

In Sahlins's telling, the Big-man was after renown, and he procured it primarily as an economic entrepreneur, as a man skilled in finessing the system to his financial advantage. By capitalizing on kinship obligations and relations, through "calculated generosities," by establishing "special personal relations of compulsion or reciprocity" with other Big-men (Sahlins 1963, 290–292), and so on, he was able to accumulate an economic surplus, which he then used to finance great material displays—the feasts, gifts of pigs, bride wealth, subsidies, or compensations to allies that would eventually bring him renown (Sahlins 1963, 281). This idea that the Big-man, in a sense, traded economic contributions for prestige is not wrong. Men certainly did gain status by outdoing other men with their prestations to community displays. But Sahlins failed to emphasize the most important source of a Big-man's status, and he misunderstood *why* material contributions brought men status.

What Sahlins failed to emphasize, and even to a degree obscured, was that a Big-man did not single-handedly furnish the goods for a material display. Certainly, to prove his mettle, he had to contribute more than other men to these displays, but conspicuous material distributions were mounted by groups—usually clans or villages—not individual Big-men, and these groups as well as their individual members gained prestige for their scale. In egalitarian and trans-egalitarian societies, in which everyone enjoys very considerable autonomy, the organization of large-scale collective projects such as these is a formidable challenge. It requires that members of the group transcend the chronic rivalries and conflicts of interest that divide them and cooperate long enough to pull the event off (Roscoe 2009a, 71, 89–101; 2012). The Big-man was the person who rose to the organizational challenge, and it was his diplomatic coup in *initiating and organizing* a great material display, as much as or more so than his material *contributions* to it, that was the greater source of his prestige.

Responding to Sahlins's analysis of the Big-man, several Melanesianists were quick to point this out. The Big-man was more than an economic entrepreneur: he was, as Brown (1971, 218), Burridge (1975) and (Meggitt 1973, 193), put it, the "manager" or "organizer" of his local group's activities.[10] The talents that marked him out from other men—his ambition, his gift for oratory or "public verbal suasion" (Sahlins 1963, 290), his skills in mediation and conflict resolution, his charisma, diplomacy, ability to plan, industriousness, and intelligence, his abilities in political manipulation (Burridge 1975, 100–102; Lawrence 1971, 17)—all brought him renown not only because they allowed him to outdo others in mustering contributions to a material display but also, and more importantly, because they enabled him to play the central role in bringing it (and other group projects) about. His "basic skill," as Westermann (1968, 113) put it of the Raiapu Enga Big Man, was "his ability to pull together the disperate [sic] interests of the group and gain from them concerted action." What was crucial in becoming a North Wahgi Big-man, according to O'Hanlon (1989, 38), was "less the possession of wealth than the public performance of acts, their orientation to group ends, and the ability effectively to exhort others to participate and contribute."

In the ultimate analysis, in sum, the Big-man was a political rather than an economic entrepreneur. His prestige derived not from an exchange of pigs, valuables, or other economic commodities for authority (Lindstrom 1981, 903) but from the *social power* that his political abilities—his capacity to influence people—allowed him to amass. Power in these societies was a major source of status, and the Big-man's ultimate goal, the achievement that would bring him preeminent status, was to outdo all other Big-men in his social universe in the amount of social power he could amass.

Now, the problem in a system that judges men by their social power is that power is invisible and the amount an individual possesses therefore difficult to adjudicate. This was precisely the point of mounting conspicuous material displays (Roscoe 2012). They functioned as honest, indexical signals of a Big-man's political influence or social power. At the collective level, the scale of a group's distribution objectified for all to see the social power of its Big-man manager, his political ability to get great things done through the agency of others (Burridge 1975, 92). The sheer number of pigs staked out in lines to be handed over, the heavy haze of smoke wafting up from the fires that cooked them, or the ranks of shell wealth laid out or paraded around for all to see were faithful signals—concrete symbols, if you like—of his political capacity to stimulate his group to collective action and his political skills in navigating their efforts to a successful conclusion.

Not everyone, of course, could mastermind a material display, but the genius of the project was that it also operated at an individual level. The quantity of material goods that each man or small subgroup of men contributed to the display was carefully delineated and objectified their particular political ability to persuade kin,

[10]See also Lederman (1986: 144) on the Mendi, Newman (1965: 44) on the Gururumba, Strathern (1971: 189) on the Northern Melpa, and Wormsley (1978: 232) on the Ialibu.

affines, and allies to contribute to their cause. Not every man could be a Big-man, but by their contributions to a display each man and each subgroup of men could at least stake a claim to substance. Together, these two levels of objectification, the collective and the individual, allowed people to calibrate in concrete and comparable form each man's social power vis-à-vis others in a perpetual political competition for pre-eminent status.

Corroboration for this argument that material displays indexed influence or power can be found in the ethnographic record. In 71% of those database communities that afforded prominence to performance in material display, those who excelled were described as having *influence*, *power*, or both. In those communities that can be unambiguously identified as Big-men communities, this figure rises to 91.7% of cases. By way of comparison, great warriors were said to have influence or power in only 31.6% of those database communities that afforded prominence to military performance, and as we have already noted this influence or power appears to have derived *from* a man's prestige as a warrior rather than being the source *of* his prestige.[11]

With this revised understanding of material display and its role in the rise of the Big-man, we can now explain why the emergence of both was dependent on population density. To display his political skills and amass social power, a would-be Big-man needs to have people close to hand to whom he can apply these skills. The more people he has to hand, furthermore, the greater the opportunity to demonstrate his political talents. Now, there is no reason to believe that any New Guinea community lacked at least a few individuals with superior managerial skills and ambitions to rise above their fellows. In low-density communities with small, dispersed settlements, however, these would-be political entrepreneurs faced a problem; they lacked the human capital that would have allowed them to exercise power, at least to a level where it would have been readily visible to ethnographers.

Consider, for instance, the exceptionally egalitarian communities of the Sanio-Hiowe, Gebusi, and Upper Tor, mentioned earlier. At contact, these communities lived in small scattered settlements at very low population densities (Kelly 1993, 33; Oosterwal 1961, 15, 31–37; Roscoe 2005, 560–563; Townsend 1969, 74). My best estimates from census registers are that the Bonerif and Berik of the Upper Tor existed at 0.4 and 0.6 people/km^2, respectively, the Sanio-Hiowe at 1.6/km^2, and the Gebusi at 3.6/km^2. Their settlements were also small. Sanio-Hiowe hamlets contained on the order of 14–25 inhabitants each, Gebusi longhouses around 30 (Kelly 1993, 35; Roscoe 2005, 562–563). The Bonerif and

[11]A close textual analysis of Godelier's comparison of Great-men and Big-men shows that he, too, tactitly associated Big-men with power. In talking of Great-men, his references are almost exclusively to men of "high status," "renown," "prestige," "stature," to "opportunities for distinguishing" oneself, and to names that "spread far and wide" (Godelier 1986: 98, 105–106, 107, 109, 122, 129). The Great man is a "*status* for the taking" (1986: 96; emphasis added). Only once does he mention "authority" and "social power" in relation to Great-men (1986: 109). In stark contrast, his descriptions of classic Big men refer as much or more so to their "power" and "influence" as to their status or prestige (e.g., 1986: 162–167): the Big man is "a man who has acquired *power* through his own merit" (1986: 163; italics added).

Berik spent much of their time in small camps of perhaps 15–20 people, though they congregated from time to time in central villages of about 45 and 90 members, respectively (Oosterwal 1961, 31–36; Roscoe 2005, 562–563).

In communities of this size, separated from one another by long distances, the male political arena is tiny. Even on occasions when the whole group gathered together, Sanio, Gebusi, and Bonerif communities comprised no more than about 6–10 adult males, and even among the largest, the Berik, the political arena amounted to no more than about 23 men at a maximum. With so few contenders for renown and nothing but the smallest of audiences to grant it, only minimal gradations of status can develop. What status rivalry does exist, moreover, is easy to overlook or misrepresent as "sibling" or "family" rather than "political" rivalry. With so few people to be organized, moreover, the scale of material displays is necessarily limited, and the opportunities for an embryonic Big-man to display his managerial skills therefore attenuated. In these societies, in sum, would-be Big-men may have been at work organizing material displays, but the scale of their operations was so small that for the most part ethnographers failed to register them for what they were.

Compare this situation to the opposite, Big-men regimes like those of the Central and Western Highlands where, by my estimates, densities often exceeded 50 people/km^2, and communities typically had 300–400 members. In these societies, the male political arena expands dramatically: each community averaged 60–80 men, with other communities containing a similar number no more than a kilometer or two distant. With so many men competing for renown, marked gradations in status can develop, and status rivalry becomes difficult to miss. With large numbers of people on hand to be organized, moreover, the scale of material displays expands, along with opportunities for Big-men to display their managerial skills. In these communities, it is far harder for an ethnographer to overlook the presence of Big-men, the massive material distributions they organized, the social power they signaled, and the prestige these managerial activities accrued.

Big-Men, Warfare, and Military Strength

Given the difficulties of amassing noticeable levels of power at low densities, it is possible that men simply did not bother to vie with one another through material display to demonstrate their power. Perhaps they viewed the status rewards as not worth the effort and opted instead to compete with their peers through warriorhood. This hypothesis is questionable. As Fig. 8.4 illustrates, at least some low-density communities (<20–30 people/km^2) afforded prominence to those who excelled in material display. Furthermore, no New Guinea community has yet been located that was without some form of collective material distribution, even if it was only feasting. Every New Guinea community we know of, in other words, offered males at least some opportunities to traffic in material commodities. The more likely hypothesis, therefore, is that men did contend for status through material displays of

their social power, however modest it may have been, but where densities were below 20–30 people/km^2 many ethnographers simply did not notice their efforts for what they were and did not tag them as "Big-men" until densities rose above about 30 people/km^2.

However that may be, we are left with one final puzzle, illustrated in Fig. 8.6. Although warfare was a means of gaining status in most if not all New Guinea communities, it disappears completely as the *principal* path to prominence in communities with densities above about 50–55 people/km^2 (black line in Fig. 8.6). In these societies, which were home to the classic Big-man, material display takes over as the primary channel of male status competition (Fig. 8.6, gray lines). Thus, we learn that among the Northern Melpa (density ca.60/km^2), Big-men "were not brave in warfare, but put the bachelors in the front lines, while they themselves stayed at a safe distance" (Strathern 1966, 363; see also Brandewie 1981, 167). Big-men among the Central Chimbu (density ca.77/km^2) adopted the same strategy (Bergmann 1971, vol.1, 194). Among the Mae Enga (density ca. 111/km^2), outstanding warriors were sometimes referred to as "Big men," but they were rarely the "true" Big-men (Meggitt 1973, 205, footnote 5).

Given the importance of defensive security to human survival, we must wonder why people in high-density, Big-men communities would place a greater value on the men who organized material extravaganzas than on those who risked their lives to save them from military annihilation. There are, I think, two solutions to this

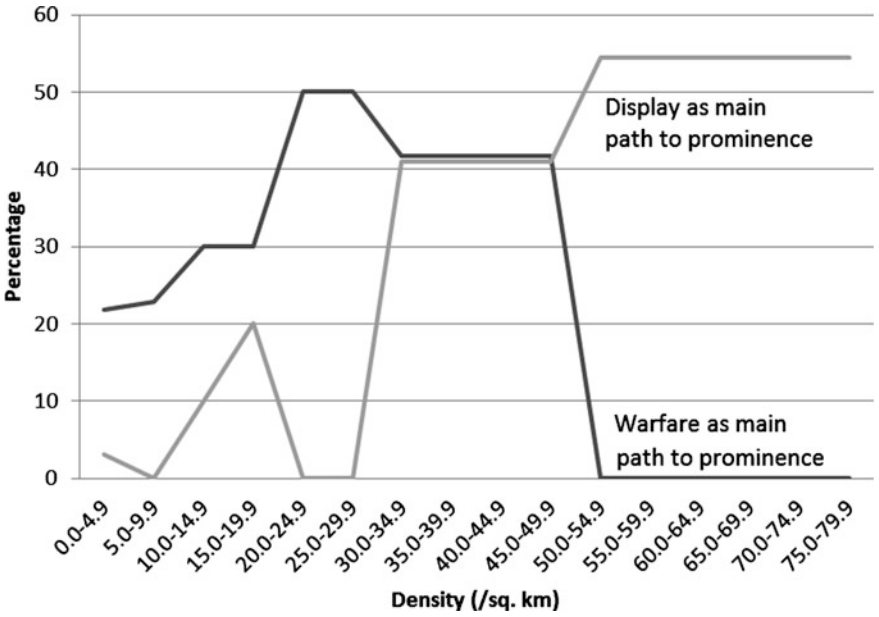

Fig. 8.6 Material display and warfare as principal paths to prominence, by density: **a** material display (*gray line*); **b** warfare (*black line*)

puzzle. The first has to do with the trajectory of a Big-man's career. The second is that the material displays he organized were not the frivolous pursuits they might seem but were critical to military deterrence, the best defense of all.

To begin, let us note, as Fig. 8.4 (dotted black line) shows, that great warriors did achieve status in high-density, Big-men communities. It is just that, as Fig. 8.6 shows, Big-men and their material displays were even *more* esteemed. What neither figure shows, though, is that the biggest Big-men actually excelled in both material display *and* war. War was a young man's game: in New Guinea, successful warriors could expect to achieve renown by their early thirties (e.g., Philsooph 1980, 90; Bergmann 1971, vol. 4, 85). It was a rare man who in middle age could still outperform younger men on the front line; nonetheless, the status that a great warrior had gained in his youth remained with him as he grew older. In contrast to war, political activity was an older man's game. It took many years of industrious politicking to build up the influence, networks, and support that men needed if they were to excel in material display and emerge as renowned Big-men. Big-men rarely emerged to full prominence before middle age—their forties, if they were exceptionally talented and fortunate, their fifties in the more usual run of things.[12]

In Big-men communities, it transpires, those who became the *primus inter pares* of their social universes were those who had exploited this age-related difference to become preeminent as both warriors *and* masters of material display. Among the Central Chimbu, for example, "the old leading men" had "in days gone by…been leading warriors in most cases" (Bergmann 1971,vol. 4, 76). Likewise, among the Central Melpa: "young chiefs and sons of chiefs [who would likely become chiefs (i.e., Big-men) themselves]" were "always seen in the front ranks of the fighters distinguishing themselves by special courage and forging ahead" (Vicedom and Tischner n.d., 280). Bulmer found that "nearly all" Kyaka Enga Big-men "were formerly also respected warriors" (Bulmer 1960, 345). Further to the west, the "initial means" by which a Laipu Big-man achieved his position in precontact days was "courage" in warfare (Westermann 1968, 114), and among the Mae Enga, many Big-men were "said to have been 'man killers' in earlier days" (Meggitt 1977, 68).

Ethnographers of Big-man societies, in sum, were perhaps mistaken in presenting Big-men as though their standing came from success in material display. Before they had gained renown for their material displays, they had already gained status as warriors. As masters of material display, Big-men were certainly the most prominent of men, but their prestige was the cumulative product of excellence in warriorhood as well as in display.

In an environment of chronic military threat, though, why bother with material display at all? On the surface at least, the capacity to distribute vast quantities of material goods seems to be something of a diversion from the serious task of defending a community faced with the ongoing threat of military destruction. As I have pointed out elsewhere (Roscoe 2009a, 90–101), though, material displays

[12]**Abelam**—Kaberry 1971: 61; **Chimbu**—Bergmann 1971, vol. 4, 85; **Enga (Mae)**—Meggitt 1965: 30; **Enga (Raiapu)**–Westermann 1968: 111; **North Wahgi**—O'Hanlon 1989: 38.

were not wasteful extravaganzas but critical weapons of military defense. Recall that the scale of a material display objectified the capacity of a political community and its Big-man organizer to bring about a large-scale collective project. Pulling off a massive material distribution signaled in concrete terms a community's capacity to cooperate on any collective project, including the most important of all to survival: collective military defense. The quantities of food, pigs, and other valuables mustered in a material distribution served as faithful signals of: (a) the size and commitment of its sponsoring group, (b) the number of kin and allies willing to support its projects, (c) the individual commitments and abilities of all these individuals, and (d) their capacity to suppress their individual interests in order to work together *as* a group or coalition in large-scale action. Taken together, material displays were faithful measures of a group's collective military capacity.

As honest proxies of collective military strength, conspicuous material displays allowed communities to judge which among them would win a fight to the death without anyone actually having to risk the mortal, morbid, and material costs of engaging in an actual fight to the death. They were a means by which the weak could recognize that political submission was a healthier strategy than military resistance against a more powerful neighbor. They allowed the strong to pursue their ambitions without loss to life and limb. And they deterred assaults between military equals who might otherwise misjudge their chances in combat with mutually catastrophic results. As many a New Guinea community phrased it, material displays allowed people to "fight" with property, food, pigs, or valuables rather than with weaponry. Display substituted a mutually beneficial, symbolic form of war for real warfare (Roscoe 2009a, 99–101). Fighting and deaths still occurred, of course, but material distributions allowed people and communities to reduce its scale greatly. No surprise, then, that communities were so keen to shower honors on those, their Big-men, who initiated, managed, and contributed to these displays. At first blush, a Big-man's material display might seem a trivial pursuit compared to a warrior's defense of the community. In reality, however, material display was as much a defense against military attack as any line of courageous warriors.

Conclusion

Readers who have made it to this point in the chapter will no doubt be relieved to learn that a summary of our findings can be stated in rather more straightforward terms. First, the ethnographic record of contact-era New Guinea strongly supports the proposition that the emergence of political complexity was motivated by men's pursuit of status. The glamor and rewards of high status stirred men in most, if not all, of New Guinea's communities to try to outdo others in the courage, commitment, and capabilities they displayed in war. And in many societies, the same prize motivated men to excel among their peers in initiating, organizing, and contributing

to feasts, pig-kills, pig-exchanges, compensation payments, and other forms of material displays.

Second, both of these pursuits were critical to community defense. In the environment of chronic military threat to which all New Guineans were episodically or permanently exposed, the value to a community of motivating its male members to defend it by armed force is patent. The defensive value of material displays is less obvious until we realize that they were honest signals of the social power of an individual and of the collective to which he belonged. As such, they were also critically important signifiers of military capability, an objective means by which, to everyone's benefit, people and populations could substitute symbolic violence for lethal violence in deciding conflicts of interest.

Finally, the New Guinea evidence indicates that the emergence of political complexity is driven not by any innate desire or 'lust' for power but by an ambition to achieve status. Power may be the means of accruing status, as in the case of material display. It may derive *from* possessing status, as in the case of warriorhood. But power, in itself, itself does not drive the rise of political complexity, at least in its early stages. This is not to say that power had no effect at all in motivating men to pursue leadership in politically emergent institutions; to the extent that some individuals seem to find power intoxicating in itself, it may well have done so. But status was the more widespread and potent driver of emergent complexity, and looking toward future research, it will be useful to know whether and for how far along the trajectory of evolving political complexity it remained so.

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Chapter 9
Tibenuk and Chuji: Status Attainment and Collective Action in Egalitarian Settings

Richard J. Chacon and Douglas Hayward

Introduction

This chapter traces how individuals operating in egalitarian settings are granted status and how this incipient social inequality facilitates collective action. The first case study outlines the strategy that Tibenuk, a Western Dani man pursued in order to attain big man status. The second case documents how Chuji, a high-status Achuar (Shiwiar) man used his recognized position in society to decisively and effectively coordinate collective action in a time of crisis. Findings support the "Status Theory of Collective Action" (Willer 2009) which contends that status allocation motivates individuals to solve collective action problems.[1]

Collective action refers to the coordinated actions of individuals toward a common goal. A common goal can only be attained if individuals contribute toward the objective. When this contribution is onerous for actors (in terms of resources, time, labor, effort, etc.), collective action may fail and it is in that failure that collective action problems arise (Hardin 1982). Additionally, one of the most persistent problems hindering collective action is the coordination of group activities (Simpson et al. 2012). Such coordination problems arise in any collective action scenario where actors benefit only if sufficient numbers of others also act (Chwe 2001). That is, a minimum number of actors are necessary to reach the

[1]"Status is defined as the prominence, respect, honor, and influence that individuals enjoy in the eyes of others" (Petite et al. 2010: 396). "In total, having status can be materially, socially, and psychologically valuable" (Petite et al. 2010: 397). For a summary of the many material and nonmaterial benefits associated with social status consult Petite et al. (2010: 396–397).

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collective goal, a threshold that may be difficult to reach (especially in the early stages of collective action) (Heckathorn 1996; Oliver et al. 1985; Simpson et al. 2012).

The start-up problem refers to actors' reluctance to be the first to contribute toward the collective goal (Marwell and Oliver 1993). The actors' withholding of contributions to collective efforts is known as free riding. Free riding arises when individuals maximize profit by not contributing to the collective good, and instead choose to free ride on the contributions of others (Olson 1965). The presence of many free riders hinders collective efforts and, as a result, the collectivity is worse off (Simpson et al. 2012). This strain between individual and group interests represents a social dilemma, in that "what is rational at the individual level, in the narrow economic sense, is irrational for the group as a whole" (Simpson et al. 2012: 4).

Recently, sociologists have suggested that status differentials may serve to foster collective action. That is, status differences may help to solve social dilemmas (Simpson et al. 2012; Willer 2009). Willer's (2009) "Status Theory of Collective Action" contends that newly evolving status hierarchies can contribute to solving collective action problems. For Willer, a solution to collective action problems is based on status as a selective incentive for contributions; that is, status is a reward.[2] Higher contributors to the collective action "earned higher status, exercised more interpersonal influence, were cooperated with more and received gifts of greater value" (Willer 2009: 23). Willer's findings show that the allocation of status to contributors shapes "*group productivity and solidarity, offering a solution to the collective action problem*" in newly evolving status hierarchies (2009: 23 [italics original]). In sum, according to Willer (2009), the presence of status differentials promotes collective action by solving the start-up problem and also by fostering coordination as the Tibenuk and Chuji case studies will show.

Tibenuk Case Study (Recorded by Hayward)

Tibenuk lived in the village of Mbinime located in the Yamo Valley of West Papua New Guinea. From an early age, this individual committed himself to achieving the highest level of leadership found in Western Dani culture, that of confederation big

[2]According to Wiessner (2009: 197), "[t]he predisposition to form hierarchy appears to be more deeply rooted in human phylogeny than does a preference for equality. The great apes, our closest relatives, live in hierarchically organized societies, and informal hierarchies appear in children's play groups around the age of three in different cultures…Finally, striving to create status differentials appears in some form in all human societies." Like Wiessner (2009) and Willer (2009), the authors assume that cross-culturally, individuals value higher status. However, the authors acknowledge that in certain settings, individuals may opt for middle or lower status positions (Anderson et al. 2012). Nonetheless, we concur with Anderson et al. (2012) who argue that cross-culturally, individuals desire to be treated with respect.

man.[3] Big-manship refers to a form of leadership based on the manipulation of pigs and valuables, and it is found in the high density societies of Melanesia (Roscoe 2000, 2012; Sahlins 1963). Dani big-manship has been described by Heider (1970), O'Brien (1969), Ploeg (1969), and Hayward (1997). In this pattern, aspiring leaders must expend their energy and link their aspirations to those of other confederation members in order to harness loyalty, gratitude, and productive potential from supporters. In order to achieve big man status, ambitious individuals must demonstrate leadership skills at increasing levels of authority (influence) starting from hamlet big man, to parish big man, alliance leader, and perhaps even to confederation big man (Fig. 9.1).[4]

Hamlet headmen were simply the prominent men in any given men's house. Sometimes, it was a shared position since most men's houses were the residences of related family members, usually consisting of 4–6 families. Tibenuk's father was one such hamlet leader and as a young man, Tibenuk lived with his wife in his father's village. While any ambitious Western Dani male could rise to a position of leadership (since big man status is never an inherited privilege), being the son of an existing big man had its advantages. Thus, Tibenuk was able to build on his father's achievements and this gave him a distinct advantage over others in the quest for status (Fig. 9.2).[5]

Tibenuk's father would go on to attain confederation big-manship. Confederacies consisted of several hamlets and parishes loosely held together by shared patrilineages and marriage ties. The Yamo Valley confederation was one of four confederacies in the Yamo District. Confederations functioned primarily for ceremonial and ritual purposes including initiation ceremonies, wedding celebrations, compensation payments following war, and death rituals to honor the ancestors. When organizing such rituals (particularly Great Pig Feasts), a confederation leader needed to obtain the cooperation of confederacy members by calling in debts generated over the years by his generosity in earlier gifts.[6] Since Tibenuk aspired to rise to confederation level big-manship, he committed himself to mastering all of the major skills necessary for attaining this elevated social position. The ability to monitor and foment community well-being is one such necessary skill.

[3]Hayward lived among the Western Dani from 1967 to 1987. Tibenuk's ascendency to big-manship took place in the 1960s.

[4]A hamlet big man has authority over a single men's house in a hamlet while a parish big man has authority over several hamlets. Alliance leaders only exercise their influence during times of war while confederation big men have authority in times of war and peace (Hayward 1980, 1997).

[5]As mentioned, there are clear advantages to being the son of a man who is (was) a big man. For example, in New Guinea, 75% of big men had fathers that were also big men. Moreover, big men "even made advance death payments that would be returned to their children…" (Hayden 1995: 58). O'Brien (1969) also noted that sons of big men in her area of study also tended to profit from the greater advantages associated with being sons of former or existing big men.

[6]According to Larson (1987), failure to honor such obligations could result in brawls, exile, or even warfare.

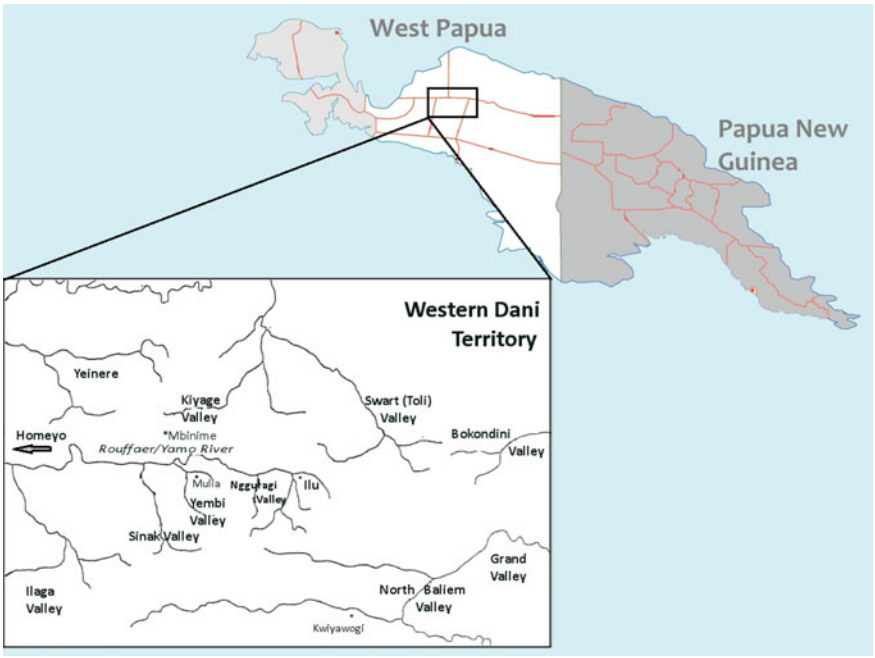

Fig. 9.1 Map of Western Dani Territory

Fig. 9.2 Tibenuk (photo by D. Hayward)

Community Well-Being

Achieving community well-being is, in large part, the result of meeting the requirements of basic human needs. That is, food for consumption, firewood for cooking/warmth, housing for protection from the elements, an organized work force to accomplish tasks too onerous for individuals to bear, and a sense of amity and well-being with one's fellow villagers. These were the topics of conversations every evening around the communal meal, most often shared by all the men and older boys in a hamlet as they ate and slept together in the local men's house. In such venues, community needs were voiced, proposed plans of action were explored, consensus was secured, admonitions were voiced and if needed, visits to nearby hamlets were initiated to secure wider participation in addressing local concerns.

Ambitious individuals wishing to become big men not only had to be sensitive to the aforementioned community needs but they also had to possess the necessary social skills and social capital to organize group activities which promoted group well-being. Thus, the exigencies of day-to-day survival provided a testing ground for those aspiring to big-manship. Prospective leaders had to master social and oratorical skills, learn bargaining protocols along with amassing sufficient social capital. Rising acumen within the circle of one's men-house residents would then lead to the right to speak publically on behalf of others at large gatherings, to sway public support in favor of future work parties, ritual celebrations, to call for war or to negotiate terms for peace.[7]

However, the possession of personal merits was hardly sufficient for becoming a big man. Ambitious men also needed to amass valued trade goods needed by the members of their communities for distribution to key individuals throughout the confederation wherever they sought to exert power and influence. For the Yamo Valley Western Dani, there were three pathways for securing valued trade goods and all three routes involved embarking on extended trips which crossed through potentially dangerous territories. The first pathway was to travel to the Yeineri region (populated by the Wano people) to secure stone axe blanks. A second pathway was to travel to the briny springs at Homeyo (populated by the Moni people) from which salt bundles were obtained. A third pathway was to travel to the Ilaga Valley (populated by the Damal people and some Western Dani) to acquire cowrie shells that had been traded from the southern coast.

[7]For an individual to attain big man status among the Western Dani, he must possess additional qualities that include but are not limited to: entrepreneurial acumen, personal charisma, generosity, wisdom, courage in battle, diligence self-control, ability to broker peace, and ritual knowledge (Hayward 1980, 1997). This chapter focuses on the entrepreneurial tactics that Tibenuk employed in becoming a big man. The additional strategies that Tibenuk used in his quest for elevated status will be put forth in future publications.

Yeineri Stone Axe Blank Pathway

Stone for making adzes or axes is highly prized by the Western Dani. However, the nearest source of stone was at a location called Yeineri (literally "source of axes") that was controlled by the Wano people. Fortunately for Tibenuk, his father had established social and economic ties with this tribe.[8] Thus, he used these established relationships to negotiate the rights to travel throughout the Yeineri region to trade, and even to quarry stone from one or more of the nine local quarrying sites.[9] A stone axe blank expedition would normally consist of 7–10 male supporters sometimes accompanied by young teenage boys who could serve as carriers of blanks on behalf of an older sponsor.[10] Such support enhanced the capacity of someone like Tibenuk to return with an ample supply of highly prized stone axe blanks for redistribution and in the process, these young supporters would begin to build their own social capital for later use in making their own bride-wealth payments when they wished to marry.

The trip from the Yamo Valley to the Yeineri region took 8–10 days through sharp mountain passes and hazardous descents into narrow valleys.[11] At the quarry site, expedition members would either negotiate with Wano quarrymen for roughly shaped stone axe blanks, or as in cases involving Tibenuk, they could engage in their own quarrying by firing the stone face and chipping off their own blanks.[12] The entire expedition could take two to three weeks. Since the trading party traversed mostly uninhabited regions with little access to food sources apart from some occasional game, each man would carry up to 50 lbs. (23 kg) of sweet

[8]In 1957, missionaries arrived in the region and introduced steel axes and by the 1980s, stone axes had no functional use. By the early 1980s however, stone axes once again became valuable because missionaries, government officials, and tourists coming into the highlands wanted to purchase such items as souvenirs.

[9]By tapping into his father's connections to Wano leadership, Tibenuk was able to quarry stone axe blanks without having to barter with Yeineri locals. Contrastingly, when Western Dani men from the Mulia region arrived at Yeineri, they had to exchange pigs, cowrie shells or salt for the right to quarry stone axe blanks. However, by the early 1980s, the Wano began exercising more control over their Yeineri quarries. This reaction came about as the result of the Mulia Dani's activities in the region. At this time, some members of this Dani group began selling stone axes as souvenirs to missionaries, government officials, and tourists. Therefore, from this point forward, the only way for the Western Dani to secure Yeineri stone axe blanks was to trade directly with the Wano. This explains why the Wano would eventually claim that the Western Dani did not quarry their own stone axe blanks at Yeineri (see Hampton 1999: 284).

[10]Orphaned boys, or ambitious young men would often align themselves with big men or rising leaders to serve them as loyal and productive supporters to build the wealth and potential of their big man, in return for later assistance in meeting their own needs. Such individuals were known as *ayeloman* among the Western Dani.

[11]The actual distance between the Yamo Valley and the Yeineri quarries is not more than 30 air miles (48 km) but the steep mountain terrain renders travel in the area very difficult.

[12]Men may spend up to 3 full days quarrying stone before heading back to the Yamo Valley. For a detailed description of the quarrying process consult Hampton (1999).

potatoes. As they traveled to Yeineri, individuals consumed daily rations but were careful to also cache food each day for the return trip when their loads would consist primarily of stone axe blanks. Men returned with as many stone axe blanks each could bear. Typically, individual loads consisted of 10–15 axe blanks weighing up to 50 lbs. (23 kg).[13]

Upon returning to the Yamo Valley, stone axe blanks were judiciously distributed to individuals throughout the confederation who would then initiate the process of shaping the raw stone into adzes or axes.[14] Depending on the size and shape of the stones, these blanks could be put to use in multiple ways. For example, some stones would be converted into functional stone adzes that are used to clear forests for gardens. Blanks could also be transformed into functional stone axes used for splitting wood into boards. Additionally, stone knives and chisels could be fashioned from blanks (Figs. 9.3 and 9.4).

Stone axe blanks could also be made into implements used in ritual.[15] For example, blanks can be converted into ceremonial (nonfunctional) stone axes used in initiation rituals. Typically, 1–2 ceremonial stone axes were needed per male initiate. Additionally, a ritual conducted to honor an ancestor required 1–4 ceremonial stone axes per ancestor. Funerary rites called for the offering of 1–4 ceremonial stone axes to serve as memorial stones per deceased individual.[16] Additionally, bride-wealth payment required 3–8 functional stone adzes with at least 1 ceremonial stone axe given to symbolically represent the bride who is transferring her offspring to another clan. Moreover, the indemnification for a homicide involved the payment of 30 pigs and 1 ceremonial stone axe. Importantly, over the course of his life, Tibenuk organized several expeditions to the Wano quarries at Yeinere to secure such highly desired stone axe blanks for the Yamo Valley confederation. An analysis of Tibenuk's strategic distribution of blanks is provided later in this chapter (Fig. 9.5).

[13]Trading expeditions varied in size from 7–10 men but on rare occasions they could be comprised of up to 100 men as recorded by Larson (1987:329). In food scarce regions, trading parties tended to be smaller. In more heavily populated areas where travelers could negotiate for food, trading parties tended to be larger. A larger party also constituted a formidable fighting force if the threat of violence or attack was great.

[14]The task of shaping stone axe blanks into adzes or axes was often assigned to older men who did not have the strength to work in the gardens, participate in trade expeditions, or fight in wars, but who did have ample time to spend on the shaping process which could take from 8–18 months. In return for their efforts, younger men and their wives would ensure that their elders were fed and cared for and these older men could participate with honor in the exchange ceremonies of the Western Dani ritual cycle (such as the Great Pig Feast).

[15]Ceremonial axes were not strong enough to serve as functional axes but were fashioned solely for the purpose of symbolically representing a member of the community—either a bride or a deceased relative.

[16]Ceremonial stone axe blades form an essential part of initiation and funerary rites.

Fig. 9.3 Western Dani man holding a functional stone axe (photo by D. Hayward)

Fig. 9.4 Functional stone adzes (photo by D. Hayward)

Fig. 9.5 Ceremonial stones axes (photo by D. Hayward)

Homeyo Salt Bundle Pathway

Another highly sought after commodity among the Western Dani is salt. However, before the arrival of missionaries to the region in the mid 1950s, the nearest source of salt was at a location known as Homeyo.[17] The trip from the Yamo Valley to the Homeyo salt wells took 5–10 days depending upon the route chosen and whether traders were leading pigs for use in exchange.[18] Salt bundle expeditions consisted of 7–10 men and in rare cases from 40 to 50 individuals.

Salt from the Homeyo wells was extracted by soaking banana stalks and banana leaves in the briny springs until the stalks/leaves were thoroughly saturated. Then, the stalks/leaves would be dried and burnt. The salt laden ashes were subsequently formed into salt cakes, wrapped in dried leaves and carried back home to be sprinkled on food at festivals or other communal meals. Salt bundle expeditions could take two to three weeks or even longer if members of the trading expedition had relatives living in the area upon whom they could depend upon for longer periods of hospitality.

On a pragmatic level, Homeyo salt bundles were an essential addition to the diet of Western Dani who, as previously mentioned, had limited access to salt in

[17]The briny springs at Homeyo were one of the very few locations in all of West Papua's highland region where traditional tribal peoples could obtain salt.

[18]Homeyo is located approximately 50 air miles (80 km) from the Yamo Valley.

precontact times.[19] Therefore, in order to secure highly valued salt, Tibenuk organized expeditions to Homeyo where he exchanged pigs for this valued commodity. Since he had established trade relations with people living at this location, Tibenuk could trade directly with them by personally visiting the salt springs. In this manner, Tibenuk was able to secure highly valued salt for members of the Yamo Valley confederation.

Ilaga Valley Cowrie Shell Pathway

Cowrie shell is also highly prized by the Western Dani. However, this particular type of shell could only be obtained from traders in the Ilaga Valley which is occupied by the Damal people along with some Western Dani. Cowrie shell expeditions, depending upon the occasion, could consist of as few as 7–10 male supporters or as many as several dozen individuals who would take advantage of these opportunities to renew kinship ties. The trip from the Yamo Valley to Ilaga took 3–4 days or longer if traveling with pigs for trading or if the party was large and needed to stop earlier in the day to build shelters.[20] The Ilaga Valley was the western trading terminus for the Western Dani where individuals would obtain cowrie shells that had traveled from the southern coast into the hands of Damal traders. Then, Western Dani expeditions would come to Ilaga with pigs and stone axes to trade for cowrie shells. Cowrie shells were often sewn into fiber belts that were brought to ceremonial exchange rituals (such as Great Pig Feasts), to add to the wealth needed for bride-wealth, indemnity payments, or funerary memorials.[21] Over the course of his life, Tibenuk organized trips consisting of himself and his supporters who would amass the appropriate number of pigs needed for executing profitable trading expeditions to the Ilaga Valley. By doing so, Tibenuk secured greatly valued cowrie shell for members of the Yamo Valley confederation (Fig. 9.6).

[19]Insufficient salt intake can result in hyponatremia (Lewis 2013), and at contact, salt was such a highly prized commodity that men, women, and boys would work on airstrip construction for missionaries in order to get paid a scoopful of salt. After the arrival of a missionary aircraft, if over the course of being unloaded, a burlap bag containing salt was accidently torn with a bit of salt spilling onto the dirt airstrip, young boys would quickly lick the dirt seeking remnants of the spilt commodity.

[20]The air distance between the Yamo Valley and the Ilaga Valley is approximately 30 miles (48 km).

[21]Traditionally, cowrie shells were also exchanged for garden products such as sweet potatoes.

Fig. 9.6 Ilaga Valley cowrie shell money belt with ceremonial stone axes (photo by D. Hayward)

Tibenuk's Initiative, Courage, and Strategic Distribution of Goods

Tibenuk demonstrated tremendous initiative by organizing of the expeditions to Yeineri, Homeyo, and the Ilaga Valley which involved the recruitment of a network of supporters. He also was able to amass sufficient quantities of trade items needed for securing valued commodities at the aforementioned trading locations. Additionally, the courage that Tibenuk demonstrated by repeatedly leading expeditions through hazardous mountain terrain in the territories of potentially hostile peoples was not missed by members of the Yamo Valley confederation.[22] Moreover, Tibenuk demonstrated superb skill in distributing acquired stone axe blanks, salt bundles, and/or cowrie shell in such a way as to garner future support from confederation members.

[22]As reported by Roscoe (1988, 2000), big man status could also be attained by the demonstration of military prowess.

Analyzing Tibenuk's Stone Axe Blank Distribution

Tibenuk organized at least four trips to the Yeinere quarries which provided the Yamo Valley confederation with heavy loads of axe blanks.[23] He used some of the blanks to purchase pigs for his three wives to raise but he also strategically distributed many blanks to others for them to meet social obligations such as making bride-wealth and indemnity payments or for purchasing ceremonial stones needed at initiations or funerals. Recipients of such "gifts" were not only socially obligated to reciprocate at a later date but in the interim, could be counted on as steadfast supporters and social allies. Importantly, axe blanks given as "gifts" by Tibenuk or by his supporters could not be monopolized by recipients. Those who had received stone axe blanks which had been converted into functional adzes/axes could only act as stewards of such valued items. That is to say, fellow villagers making reasonable requests to borrow such functional items were rarely denied access to these tools.[24] The job of stewards was to see to it that functional adzes/axes were properly cared for, not broken and if borrowed, promptly returned for safekeeping.

Likewise, stone axe blanks transformed into nonfunctional items (such as stone axe blades for use in initiation and/or in funerary rites) can also be considered as being beneficial to the community at large. The ritual display of these nonfunctional stones was thought to please the ancestors who would, in turn, bestow prosperity upon confederation members (not just the individuals who displayed ceremonial stone axes during rituals). No Western Dani individual would display ceremonial stone axes in a ritual setting with the goal of promoting his personal well-being to the exclusion of others. To the contrary, the presence and proper display of

[23]Recall that up to 10 men would participate as supporters in one of Tibenuk's expeditions with individuals carrying up to 50 lbs. (23 kg) worth of stone axe blanks. This means that every expedition to Yeineri had the potential of providing confederation members with up to 500 lbs. (227 kg) of valuable stone axe blanks. Since we know that he organized at least 4 such trading expeditions over the course of his life, Tibenuk was responsible for the influx of ~2000 lbs. (908 kg) of highly prized stone axe blanks into the confederation. As previously mentioned, he organized expeditions to secure greatly valued salt bundles (from Homeyo) and cowrie shell money belts (from the Ilaga Valley) and these items were also strategically distributed so as to generate debt. Due to spatial constraints, only Tibenuk's strategic distribution of stone axe blanks is analyzed here.

[24]Individuals refusing to contribute to village-wide projects (such as failing to participate in communal garden clearing activities) could be denied access to functional stone adzes/axes. Habitual non-contributors were subjected to harsh public chastisement and ostracization. Particularly egregious noncontributors could have their homes "mysteriously" catch on fire (with locals refusing to help in rebuilding) or may even be threatened with serious physical harm. These community-based actions undoubtedly discouraged many villagers from attempting to free ride.

nonfunctional ceremonial stone axe blades during rituals was believed to generate good fortune for *all* members of the confederation.[25]

Western Dani Great Pig Feast

Big men are responsible for the organization of rituals needed for initiations, to honor ancestors, to create war alliances, and to conduct peace negotiations. Big men are also responsible for the Great Pig Feasts conducted to honor the deceased, to arrange marriages, and to make compensation payments for past injuries/killings. Such activities require big men to invest heavily from their own resources usually in the form of calling in unpaid debt obligations stemming from previous 'gifts' given to confederation members.

The Great Pig Feast is the largest of all ceremonial exchanges conducted by the Western Dani. This ritual, held every 5–6 years, involves the celebration of marriage ceremonies, initiation rituals, and funeral memorials on a large scale. At such events, dozens upon dozens of functional and ceremonial axes are distributed. Additionally, during Hayward's stay among the Western Dani, anywhere from 200 to 300 pigs may be slaughtered to feed a gathering of $\sim$2000 people during a single feast (Fig. 9.7).

Tibenuk Is Awarded 'Big Man' Status

Tibenuk's courage, entrepreneurial acumen, and diligence served him well in his quest for status. He was successful at securing highly valued goods (such as stone axe blanks, salt bundles, and cowrie shell) via risky expeditions and this was duly noted by fellow confederation members. Also, by the judicious calling in of debts, he was able to finance numerous initiations, marriages, funerary rituals, injury/killing compensation payments, and large-scale ceremonial exchanges such as Great Pig Feasts. Therefore, increasingly, men within the Yamo Valley confederation began to look to Tibenuk for guidance, support, and leadership in their day-to-day existence. Eventually, confederation members granted Tibenuk status by publically acknowledging him as a hamlet big man. Not being one to rest on his laurels, Tibenuk continued organizing trading expeditions to secure valued items that in turn, were strategically distributed as "gifts" thus, generating more debt and

[25]More specifically, properly conducted rituals were believed to please the ancestors who would reward confederation members with bountiful harvests, success in battle, and/or general good health. Conversely, improperly conducted rituals were thought to anger the ancestors who would punish the confederation with famine, defeat in battle, and/or general sickness.

Fig. 9.7 Western Dani Great Pig Feast (photo by D. Hayward)

steadfast support. This persistence resulted in Tibenuk being acknowledged as a parish big man.[26] Eventually, Tibenuk's sustained efforts resulted in him attaining the highest possible level of leadership/status among the Western Dani, that of confederation big man.[27] Now that we have covered how elevated status can be pursued and attained in an egalitarian society, we turn to showing how status facilitates coordination in a different egalitarian setting.

Chuji Case Study (Recorded by Chacon)

The Amazonian Achuar (Shiwiar) are classified as an egalitarian society but marked status differentials exist among this group (Chacon 2007).[28] The Achuar village of Alto Corrientes, located along the banks of the Corrientes River in the eastern

[26]How Tibenuk became an alliance leader will be put forth in a future publication.

[27]Halevy et al. (2011: 35) reports that "people spontaneously and informally confer status, give power, and bestow leadership upon those who act on behalf of the group." Willer (2009) also reports that contributors to collective action enjoy higher status, are the targets of more prosocial acts, and have greater interpersonal influence than noncontributors. See also Magee and Galinsky (2008).

[28]Simpson et al. (2012: 149) state that "[h]uman groups, are far from homogeneous. Specifically, research finds that groups tend to spontaneously manifest hierarchies of differentiation and respect to status."

Ecuadorian Province of Pastaza, is home to a high status individual named Chuji.[29] Since the pathway by which Chuji achieved elevated social status has been reported (see Chacon 2007), this case study focuses on how Chuji's high status allowed him to coordinate an effective response in a crisis situation (Fig. 9.8).[30]

Kakaram as a Marker of High Social Status

Among the Achuar, accomplished warriors are known as *kakaram* (Harner 1972; Kelekna 1994). *Kakaram* individuals occupy positions of high social standing and thus, receive deferential treatment from fellow villagers (Chacon 2007). Moreover, *kakaram* individuals possess a strong following in their respective communities (Kelekna 1994). Chuji's celebrated war exploits have earned him *kakaram* status in the village of Alto Corrientes (Chacon 2007). We now turn to a series of events that illustrate Chuji's unambiguous leadership role in an emergency situation (Fig. 9.9).

Accusations of Sorcery

In 1996, Alto Corrientes experienced an outbreak of high fevers and the shaman from the neighboring village of Conambo was believed to have been the cause of the maladies through acts of sorcery. Conversely, the inhabitants of Conambo blamed the presence of illnesses in their community on an Alto Corrientes shaman named Tserimbo. Tensions flared after a young Alto Corrientes girl developed an exceptionally high fever that left her partially paralyzed. The girl's father accused Conambo's shaman of sorcery and publicly issued a death threat against that medicine man. Soon, Conambo villagers retaliated with counter threats against Alto Corrientes' shaman, Tserimbo.

[29]Chacon conducted his doctoral dissertation research on Achuar blowgun and shotgun hunting in the village of Alto Corrientes. The study period lasted from June through August of 1993, June through October of 1994, April through July of 1996, and July through August of 1998. During the investigation, the population of Alto Corrientes fluctuated from 44 to 58 individuals. Data were collected on subsistence patterns (i.e. hunting, fishing, and gardening). While hunting, data have been reported (see Chacon 2001, 2012), publications on Achuar fishing and gardening practices are forthcoming.

[30]See Patton (1996) for documentation of status differentials in a native Amazonian egalitarian community near Alto Corrientes called Conambo.

Fig. 9.8 Map showing location of Alto Corrientes. Map drawn by Christopher Storie

Fig. 9.9 Chuji hunting with a blowgun and a shotgun (photo by R. Chacon)

Raid on Alto Corrientes

On the evening of June 29, 1996, an armed and unidentified man (very likely a raider from Conambo) was spotted crouching near Tserimbo's hut which was located along the periphery of the village of Alto Corrientes.[31] Since it was dark, at

[31]A raider may sneak up to the hut of his intended victim and wait for the opportunity to shoot at the target when he steps outside to relieve himself during the night or at daybreak. An intruder may also fire at his intended victim from underneath a hut's elevated platform.

Fig. 9.10 Tserimbo's hut in the village of Alto Corrientes (photo by R. Chacon)

first, Tserimbo's wife mistook the crouching individual for one of the shaman's children but when she realized that this was an armed stranger, she let out a loud alarm cry (Fig. 9.10).[32]

Immediately, the terrorized women and children of the village ran toward the center of the community where they huddled for safety. This centralized location was the hut belonging to a man named Tlingas. This meeting place provided villagers with a maximum amount of protection as any raider wishing to do them harm would have to travel to the center of the community before reaching any intended victims.

Seizing Control During the Crisis

Realizing that the village was under attack, Chuji assumed absolute control of the military defense of the community. Raising his voice so as to be heard over the shrieking of terrorized women and children, Chuji ordered that all functioning shotguns in the village be brought to Tlingas' hut immediately. Having heard this command, all able bodied adult men immediately ran to their respective huts and returned with their loaded weapons. After a quick inventory, Chuji realized that there were not enough functioning guns for each defender to carry his own weapon

[32]After the death of his first wife, Tserimbo's remarried. At the time of the raid, Tserimbo, his second wife, and the children from the shaman's first marriage all resided at the same hut.

into battle. Therefore, he declared that village defenders would engage the enemy in parties of two and that combatants would go into battle sharing a single firearm.[33]

Then, at the top of his lungs, Chuji announced who would be paired up with whom and issued specific military orders to combatants. Chuji yelled out, "Tlingas and Peaas, take this gun and clear out the river crossing; Zaca and Javirit, take this gun and clear out the trail leading to Montalvo; Charapa and Jimbits, take this gun and clear out the trail leading to the Shiona River," etc.

In effect, each pair of defenders was issued precise orders to secure specific village access routes and/or potential ambush locations where raiders could be hidden. Village defenders carried out Chuji's orders at their assigned locations without question.[34] For his part, Chuji proceeded to courageously lead the counterattack armed only with a machete (as previously mentioned, there was a shortage of firearms in the village and blowguns are not used in battle).[35]

After an extensive search of the entire community, its periphery including all access points and possible ambush locations, the footprints of an intruder were detected along the fringe of the village. The intruder had apparently escaped by fleeing in the direction of the Shiona River (toward Conambo).[36] With the village perimeter and all access points safely cleared and secured, an "all clear" signal was sent out.[37]

Analyzing Chuji's Actions

The foregoing incident clearly documents how Chuji employed his recognized high social status to decisively and effectively coordinate the village's response to an armed attack. Significantly, Chuji commanded men to act (he did not ask them) and

[33]Similarly, when the trans-egalitarian Yangoru Boiken of New Guinea were attacked, defensive measures included all able bodied males rushing to defend those being threatened "while every available woman snatched up children and valuables and sought safety" (Roscoe 2013: 63).

[34]The shaman Tserimbo (who at time was too old to take up arms) did his part to protect himself and his community by supernaturally ordering jaguars to seek out and attack any raiders hiding in the forest (the Achuar believe that shamans possess great power over wildlife).

[35]Chuji's decision to go into battle armed only with a machete against a gun toting adversary should not be interpreted as a reckless or rash act. Chuji staunchly believes that a supernatural force called *arutam* renders him invincible in warfare. His faith in such supernatural protection undoubtedly bolsters his courage and adds to his status. For a detailed account of the belief in *arutam* among the Achuar consult Chacon (2007).

[36]Because panicked local villagers trampled the ground where the raider had initially been detected, the footprints of the intruder at this spot (along with those belonging to any possible confederates), had been obliterated. Given this situation, it was impossible to determine whether or not the raider had acted alone (Chacon 2007).

[37]For a detailed account of the attack on Alto Corrientes along with documentation of counter-attack measures taken by village defenders see Chacon (2007).

Fig. 9.11 Egalitarian blowgun hunters from Alto Corrientes (photo by R. Chacon)

every adult male in this normally autonomous society obeyed unhesitatingly.[38] In sum, Chuji's high status permitted him to take the initiative and coordinate an effective defense of the community (Fig. 9.11).[39]

[38]These recorded events confirm studies indicating that humans cooperate more when faced with intergroup competition (Bornstein 2003; Puuritinen and Mappes 2009; Sherif 1966; Van Vugt et al. 2008).

[39]Conway et al. (1996) and Simpson et al. (2012) also associate a proactive behavioral stance with higher status individuals rather than lower status actors. Additionally, Magee and Galinsky (2008: 356) claim that "hierarchy establishes social order and facilitates coordination."

Value of Status Differentials in Times of Military Crisis

An effective defense of a community requires that a clear chain of command be ready for activation. The 1996 attack presented Alto Corrientes inhabitants with a life threatening situation requiring coordinated action so as to mount an effective defense. During the crisis, Chuji's high status allowed him to assume the unquestioned role of military leader of the village. During an emergency, there is no time for a village to organize a meeting to establish a consensual strategy for defending the community and to determine who should be in charge of the implementation of such a strategy. Instead, during a military crisis like the one reported above, a high status man takes charge of the village's military response by ordering other men about in the same manner as a Western army officer commands lower ranking enlisted men.[40] In short, during a military threat, otherwise autonomous Achuar men willingly subordinated themselves to a military leader in order to mount a well-coordinated defense of their village.[41] These interactions were remarkable in that they were not typical of the regularly occurring social interactions that take place between members of this normally staunchly egalitarian society (Fig. 9.12).

In sum, during periods of violent conflict, individuals benefit by subordinating themselves to a high status military leader who, in turn, proceeds to orchestrate a well-coordinated military response. The benefits far outweigh any benefits gained by individuals who find themselves in a similar situation and yet pursue a defense strategy based on principles of egalitarianism. Thus, a group of men who rally behind a high status military leader would likely gain a competitive edge in defeating a more egalitarian and therefore, a less coordinated adversary (LeBlanc and Register 2003; Redmond 2002).[42]

[40]According to de Kwaadsteniet and van Dijk (2010: 515), "low status individuals are inclined to defer to the preferences of high status individuals, thereby facilitating coordination success."

[41]According to Magee and Galinsky (2008: 357) "[a]s a mechanism of coordination, hierarchy provides clear lines of direction and deference that maximize coordination of action for many kinds of tasks, especially in comparison to more egalitarian structures."

[42]Moreover, Van Vugt et al. (2008: 184) call us to "imagine two groups of early humans living in the same region and competing for the same resources. One group is characterized by poor decision making and internal discord. The second is characterized by efficient group decision making and internal cohesion. Over time, the second group will prevail. In this way psychological mechanisms supporting leadership and followership could eventually spread through a population." Along this line, Halevy et al. (2011: 37) call us to "imagine an organizational team that is perfectly egalitarian—a team in which each member is absolutely equal to all others. Surely such a team would do a poor job managing an operating room in a hospital or fighting in the battlefield." See also Chacon (2014) and Sahlins (1961).

Fig. 9.12 Chuji, an Achuar warrior of great renown (photo by R. Chacon)

Discussion and Conclusions

Tibenuk, Stone Adze/Axe Blanks, Status, and the Start-Up Problem

Obtaining essential stone adze/axe blanks is problematic for the Western Dani because the nearest stone quarry is located in a dangerous and distant location. Therefore, few dared to embark on hazardous expeditions to secure stone adze/axe blanks which were then strategically distributed as gifts. The prospect of attaining high status (i.e. big-manship) provided Tibenuk with the incentive to organize risky expeditions in order to secure valued items for the community. These observed actions confirm Willer's (2009: 39) assertion that "status rewards accrue to those who appear group-motivated in their behaviors, and group motivation in turn, is enhanced by status rewards, generating more contributions in the future."[43] Therefore, the prospect of attaining high status motivated Tibenuk to initiate collective action thus, solving the start-up problem.

[43]Experimental research shows that laboratory participants reward other participants "for displaying group motivation by granting them status, deferring to them on tasks, cooperating with them, and being generous toward them" (Willer 2009: 35).

Chuji, Status Bias, Village Defense, and Coordination of Collective Action

Chuji's assertive actions along with the willingness of fellow villagers to subordinate themselves to him during a crisis can be analyzed in terms of status bias. According to Ridgeway (2014: 5), "[w]hen status beliefs are implicitly salient, they bias people's expectation for their own and the other's competence and suitability for authority in a situation." "Status biases affect the confidence and energy with which people put themselves forward in a situation. They simultaneously affect others' willingness to pay attention to them and positively evaluate their efforts in that situation. The status advantaged speak up eagerly while the status disadvantaged hesitate; …" (Ridgeway 2014: 6). Moreover, Ridgeway (2014: 6) reports that "the [status] advantaged seem to themselves and others to be somehow the 'type' for leadership."[44] Thus, when the Achuar village of Alto Corrientes was threatened, Chuji's elevated status provided him with the confidence to assume the unquestioned command of the community's military response.[45] His high status also influenced status disadvantaged fellow villagers to the point where they temporarily relinquished their autonomy and egalitarian ideals during the crisis.[46] In sum, Chuji's high status enabled him to coordinate the defense of the village in an assertive and decisive manner. Thus, the recognition of achieved status differentials in this egalitarian setting permitted Chuji to effectively coordinate collective action.[47]

The authors readily acknowledge that the presence of status hierarchies is not always beneficial to all group members (Halevy et al. 2011). Leaders may become abusive, oppressive, and exploitative.[48] Additionally, research findings have shown the role that status differences play as a harmful basis of inequality (see Cohen

[44]Berger et al. (1977) report that compared to low-status actors, high-status actors take more action opportunities, make more task contributions, and exercise more influence. Similarly, Halevy et al. (2011: 36) conclude that high status individuals "see the big picture, initiate, and lead, while those who lack power attend to details and follow." Magee and Galinsky (2008: 385) also report that "hierarchy offers social order, facilitates coordination, and provides an incentive function to motivate productive work."

[45]As previously mentioned, Chuji's confidence was also likely bolstered by his belief in *arutam* which provides supernatural protection in battle (Chacon 2007).

[46]These findings confirm claims that status hierarchies also motivate lower ranked members to comply with the demands of leaders. Thus, cooperation "with high-ranked members of the organization *indirectly* benefits low-ranking members by increasing organizational success…" (Halevy et al. 2011: 35 italics original).

[47]Magee and Galinsky (2008: 376) claim that "[b]ecause people expect high status people to do well, they facilitate high performance by creating conditions that enable success."

[48]In the eastern highlands of New Guinea, where warfare was exceptionally intense, warrior-leaders sometimes emerged who exerted a hold over local communities that some ethnographers described as despotic. Skilled military leadership was sufficiently important to survival, it seems, that fellow tribesmen tolerated their rule [see Roscoe (2000: 90–92) for summary and discussion]. See also Feil (1987) and Watson (1971).

1993; Marmot 2004; Milner 2004). Therefore, it is understandable that many scholars consider the effects of status differentials as being unvaryingly negative in outcome. However, the findings put forth in this chapter add to the growing body of research documenting the potentially positive aspects of status hierarchies. For example, according to Tiedens et al. (2007: 403), status hierarchies "…are an effective relational form for coordinating activity, allocating resources, deciding who will be responsible for what, increasing accountability, acknowledging expertise, and carefully executing a plan." These findings also support studies put forth by Halevy et al. (2011: 32) indicating that the presence of status hierarchy "is functionally adaptive and enhances a group's chances of survival and success."[49]

In conclusion, the ethnographic data from the Western Dani and Achuar (Shiwiar) case studies presented in this chapter documents how status allocation incentivizes individuals to initiate collective action thus, solving the start-up problem. Additionally, this investigation shows how the presence of status differentials fosters coordination. Finally, findings support the "Status Theory of Collective Action" (Willer 2009) which contends that status allocation in emerging hierarchies facilitates collective action by solving the start-up problem and by fostering coordination.

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[49]See also (Davis and Moore 1945; Magee and Galinsky 2008; Simpson et al. 2012; Tilly 1999).

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Chapter 10
Early Pueblo Great House Communities and Their Leaders: The Transformation of Community Leadership in the Mesa Verde and Chaco Regions, A.D. 625–1025

Richard H. Wilshusen

Reconceiving the Mesa Verde and Chaco Worlds

Southwestern archaeologists have for several generations divided themselves into scholars who specialize in the Mesa Verde region and those who focus on Chaco. In reality they are studying the cultures that flourished in the northern and southern halves of the same drainage system (Fig. 10.1), and over the last 10 years, it has become increasingly clear that historical developments and the populations of Chaco and Mesa Verde were not as independent of one another as might have been thought 20 years ago. Instead, an increasing number of scholars have accepted the deep historical ties between the two regions, especially in the period between A.D. 600 and 1200. At least twice during this 600-year span, the "center of gravity" of cultural influence shifted between the north, which encompasses the Mesa Verde region, and the south, the area that defines the core of Chacoan sphere of influence at its height.

Given that the northern and southern halves of the San Juan drainage are distinctly different in their ecologies and histories, it is evident why scholars have treated them as separate entities. Their fluorescent cultures are quite distinct from one another in their material culture, community organization, and regional integration. Yet, an examination of the precipitation and regional demographic patterns of the last 2000 years suggests a distinct complementarity in the cultural histories and climatic patterns of the two regions; during the six centuries that are the focus of this study, the demographic, cultural, and political patterning of the two regions almost form counterpoints to one another. In two distinct historical sequences, the rise of one region as a powerful force in the northern Southwest follows almost immediately upon the collapse of the other.

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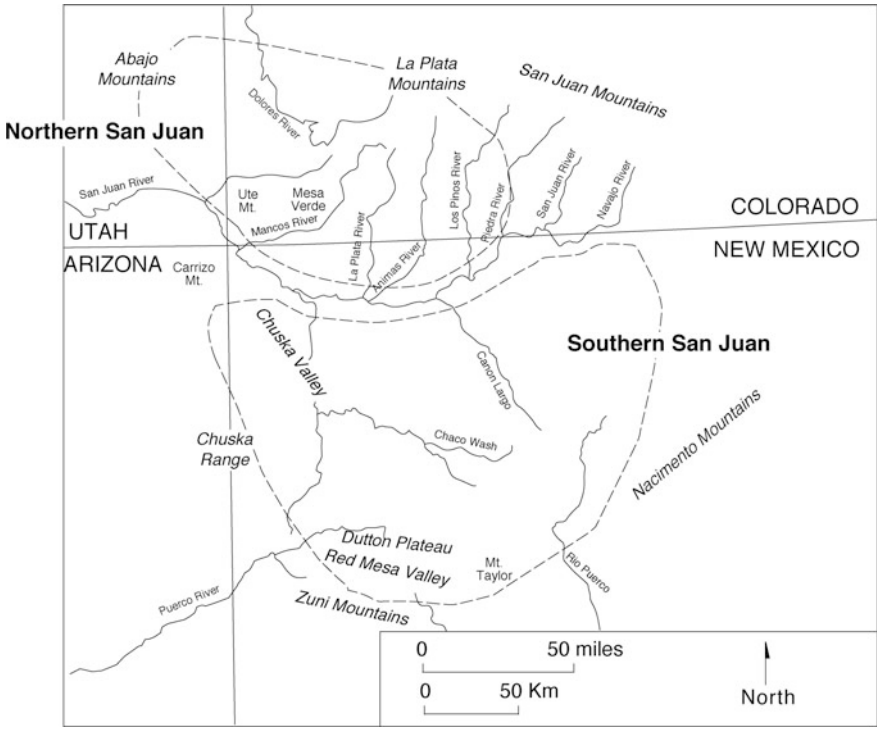

Fig. 10.1 The Northern (Mesa Verde) and Southern (Chaco) San Juan regions, with key cultural areas and geographic features noted

As long as archaeologists debated the cultural particulars of the different regional variants of the "Anasazi" and treated modern Pueblo culture as a monolithic and conservative entity, it was possible to ignore the more elusive, as well as the most obvious, chronological and cultural links between developments at Chaco and Mesa Verde. Yet as archaeologists returned to their anthropological roots and established the deep histories of these past civilizations to understand how the modern pueblos came to be as they are today, it was evident that Pueblo history would be much more complicated, and regions such as Mesa Verde and Chaco much more intertwined than most had assumed in the past. In fact, the challenge of reconciling the many shared cultural features among the more than 130 known pueblos of the sixteenth century with the wide diversity seen in the languages (up to nine historically), social organization, and histories of the northern Southwest is made all the more understandable once we see how the histories of these two regions—with their successively different models of social and political organization and leadership—are so intricately interwoven with one another.

The Complementarity of Chaco and Mesa Verde

Ecologically, the two regions are clearly different, and it is easy to see how they might complement one another. The southern half of the San Juan drainage basin—where the core of the classic Chaco great house system was centered—has historically had the majority of its precipitation delivered in the summer monsoon season (Dean et al. 1994). In this arid to semi-arid environment, agriculturalists have to focus their efforts on intensive use of the relatively scarce rainfall and equally scarce prime agricultural land. The northern half of the drainage basin provides a contrast, with higher annual precipitation and almost equal winter and summer moisture delivery to the main agricultural lands found between the arid lowlands of the Four Corners locale and the mountains to the northwest and northeast of the Four Corners (Adams and Petersen 1999).

Although timber resources, wildlife, and excellent agricultural lands are far more widespread in the north, the nature of the landscape and pattern of moisture delivery rewarded a much more extensive and in some ways riskier agricultural strategy (Petersen 1988, 1994). In marked contrast, the arid environment of Chaco Canyon necessitated longer term agricultural strategies focused on water control and irrigation of very specific pieces of landscape (Vivian et al. 2006). In a sense, agriculture in the south is like investing in bonds, and in the north, it is more like investing in stocks. Both regions have specific agricultural risks and offer distinct opportunities for agricultural success, but the northern San Juan—or Mesa Verde region—with its need for a reliable summer and winter supply of moisture and its threat of killing spring and fall freezes, presents a potentially greater challenge for predicting the agricultural success in any particular year. However, the agricultural rewards of the north are significant in those years when rainfall and growing season are both favorable for corn production (Kohler and Van West 1996).

Untangling the Beginnings

With a few notable exceptions, the majority of the past archaeological research and discussions of the Chaco and Mesa Verde regions have focused primarily on the 250-year period between A.D. 1025 and 1275, with the first half of this time span defining the integration, fluorescence, and breakup of the great "Chacoan world" and the later half of the span dominated by the rise of the Mesa Verde villages after 1150, their height in the mid-thirteenth century, and the great migration from the Mesa Verde region after 1275.[1] Several large, federally mandated archaeological

[1]The last great migration from the Mesa Verde region by A.D. 1300 contributes to the eventual establishment of the Pueblo communities of the Modern Era in present day New Mexico and Arizona.

projects of the last decades have fortunately increased our understanding of the 400 years before (A.D. 625–1025), and these data have reinforced the potential complementarity of the two regions. The emergence of early great houses, first in Mesa Verde in the ninth century and thereafter in Chaco, will be the primary focus for the remainder of this discussion.

The early Pueblo developments in the Mesa Verde region between A.D. 725 and 925 give rise to the very first great houses and great leaders that can be identified in the archaeological record. Thereafter, the failure of the earliest Mesa Verde villages and a subsequent significant depopulation of the northern San Juan between A.D. 875 and 925 appear to play an important role in the rise of a network of southern great houses between A.D. 875 and 975. The late tenth century is still poorly understood in the northern Southwest, but certainly the rapid ascendency of the major great houses in the Chaco core after A.D. 1025 leaves little doubt that a new regional power is on the scene and that new leadership is evident.

Early Agricultural Farmsteads, Villages, and Great Houses of the Mesa Verde Region

In the five to six generational span between A.D. 650 and 775, the cultural landscape of the Mesa Verde region is transformed from an early agricultural setting of small, scattered household farms into an environment dominated by villages of 10–50 households (Fig. 10.2). The increased, almost regular, spacing among the villages suggests that agricultural lands are increasingly apportioned and safeguarded. All these changes coincide with a period of dramatic regional population growth and increasing sedentism (Wilshusen and Perry 2008; Kohler et al. 2008). By A.D. 725–750 there is evidence of the earliest surface pueblos, which have begun to incorporate both living rooms and storage rooms into a single unit. And soon thereafter, at least by A.D. 775, the first large villages have appeared.

The rapid cultural transformation and remarkable population growth seen in the archaeological record of the Mesa Verde landscape of the eighth and ninth centuries is rivaled only by the later, equally extraordinary emergence of the great Mesa Verdean pueblos and immense populations of the twelfth and thirteenth centuries. Given that this earlier sequence inaugurates the first experiments with villages and great houses for both Chaco and Mesa Verde, it is particularly important that we first understand both how the earliest villages develop from the small farmsteads in the Mesa Verde region as well as how deep within certain of these villages early great houses are evident by the ninth century.

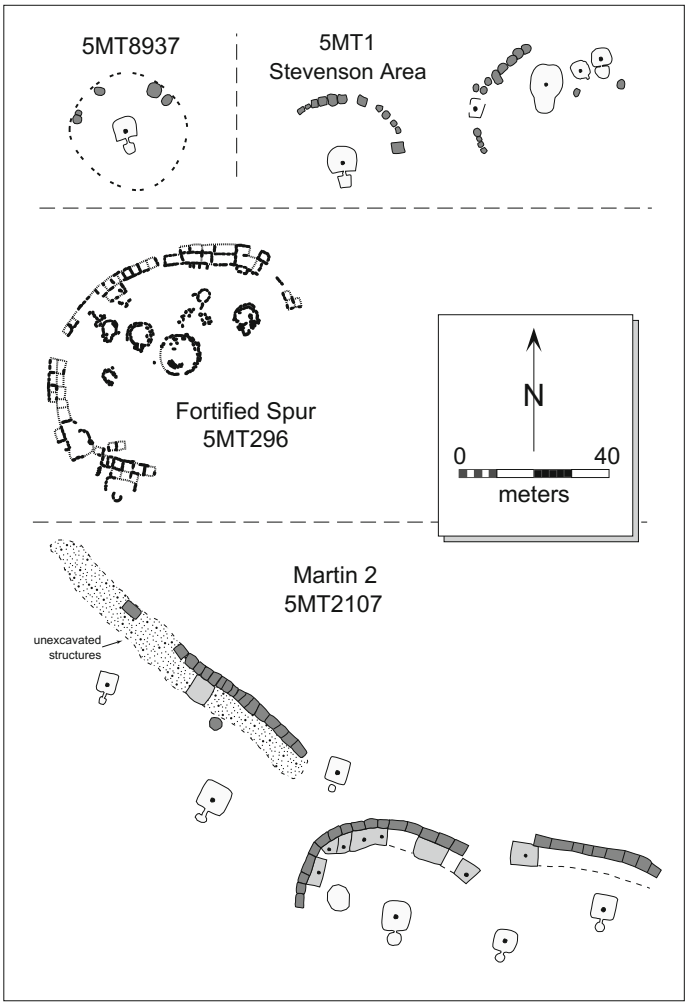

Fig. 10.2 Site plans in the central Mesa Verde region between A.D. 650 and 775. Note that the site area of the two- to three-household site of 5MT1 (Stevenson area) is essentially the same as that of 5MT296 (Fortified Spur), which likely housed 10–15 households. Estimated occupation dates for the sites are 5MT8937 (A.D. ca. 640–680), 5MT1 (A.D. 676-ca. 690), 5MT296 (ca. A.D. 750–800), and 5MT2107 (A.D. 770–800). Adapted from Wilshusen et al. (2012a: Fig. 2.5)

Early Farmsteads

The earliest agricultural settlements, dating to A.D. 600 or certainly by 625, consisted of one to, at most, three households. These sites usually had one residential pithouse and a series of smaller associated surface storerooms or storage pit facilities. Pithouses were the centers of domestic activities for a household, with one household—large or small—typically occupying each pithouse. These first

settlements were situated on prime agricultural lands near water sources, and they clearly served as the center of a wide range of domestic activities for a household. The diet was maize-based, and a progressively more sedentary lifeway and crowded agricultural landscape offered less opportunity for hunting and gathering as a way to reduce risk. Instead, economic risk appears to have been mitigated through redistribution networks, out-migration of some households in hard times, lowered growth rates, and possibly raiding of better-provisioned settlements in severe circumstances (Wilshusen and Potter 2010). These pressures, as well as the new social opportunities and security of larger settlements, favored architectural, economic, and social innovations that further accelerated the transformation of these early farming societies.

One of the most basic changes that occurred between A.D. 725 and 775 was the creation of surface pueblos that joined multiple households into a single architectural unit. In the century before, multiple households would have been evident as multiple pithouses. As households increasingly take more and more of their domestic activities out of pithouses and situate them in surface rooms, it is a bit more challenging to account for the households at a site. The pithouse clearly remains vital as a focus for household activities for many years, and it is the most dependable unit for counting households (Lightfoot et al. 2014); but in a time of rapid regional population growth and social transformation, the surface pueblo rooms adjoining a pithouse clearly offer increased architectural flexibility to add a new residence. In addition, this "unit pueblo" form of surface architecture may actually engender a new way in which to bring large numbers of households together into a single settlement. It may also fundamentally alter the economic principles that underpin farming settlements.

Whereas in the earlier residential sites of the seventh century the majority of the food storage was evident and accessible in the storage pit rooms and covered cists in the plaza associated with a pithouse, the food storage rooms in a unit pueblo were tied to separate households, and access to these rooms was restricted to the interior of a particular household's living room. Over time the unit pueblo became the normal way for bonding households together, such that pit structures—which until now have served as primary residential spaces—probably took on new functions. While they likely still served as residences, at least for part of the year and for a portion of the households residing at a site, they increasingly were shared space utilized by single or multi-family units constituting a large "household" (Lightfoot et al. 2014).

Early Leaders: Dance Houses, Great Kivas, and a Singular Pithouse Village

Although early agricultural settlements were widely dispersed across the farmlands of the Mesa Verde region, it is clear from early great kivas, petroglyph panels, and other archaeological evidence that regular, possibly seasonal gatherings of hundreds

Fig. 10.3 Rock art panel from southeastern Utah showing processions gathering at a great kiva, A.D. 650–800. Adapted from Wilshusen et al. (2012a: Fig. 11)

of people must have taken place. We have at least one detailed petroglyph panel that illustrates what appears to be ritual gathering at a great kiva (Fig. 10.3). Both this panel and some of the great kivas in this region predate the earliest pueblo villages by at least a century. The rock art portrayal of one gathering illustrates what appear to be many family units with males (based on sexual dimorphism and sometimes phalli) with feathers or headdresses at the head of each group and groups of potential leaders at the head of each line.

Numerous symbols of power and leadership are evident in this portrayal of a ritual gathering, and at least two and probably four different groups appear to be converging on a circle—almost certainly a great kiva. Both early great kivas and important rock art panels typically are situated at strategic points on the landscape with dramatic views to key geographic markers in the region. Both the ritual sodalities that provided moral, economic, and political direction for their communities and leadership that represented the interests of the descent groups of these communities would have played important roles in the integration of individuals or households from different areas. A shared set of beliefs, ritual practices, or deep lineal histories must have offered commonalities that were celebrated and reaffirmed in community gatherings. There is no suggestion of a paramount leader in the rock art or the other material remains of these early farming societies: instead it appears more reasonable that gatherings at significant central places such as great kivas must have been coordinated by sodality and household leaders working together. There is also no sense in the rock art or the material record of early great kivas that they were owned or controlled by anyone or any household in particular. As Wilshusen et al. (2012b: 217) note, it seems that "community organization was a mirror image of actual social relations among households in geographically dispersed settlements."

Yet, there are always exceptions in our record of the past that show the possibility of future developments. Recent investigations by Crow Canyon Archaeological Center at the Dillard site—at the very center of the Mesa Verde region—have revealed a pithouse village of up to ten pithouses centered on a great kiva. This settlement dates between A.D. 625 and 700 and offers clear-cut evidence of a settlement much larger than the two to three household maximum for the region prior to A.D. 775. The control of a great kiva by a village suggests that the intersection of local and regional leadership was no longer a seasonal occurrence

that brings dispersed households together, but instead a daily matter related to village governance and matters that potentially extended well beyond the lineage and the household. Social change, like shifts in the weather, begins with small perturbations that—with the right conditions—gradually gain power.

Early Villages Take Root

Although Dillard site truly is exceptional amidst the many hundreds of other documented residential sites of the seventh century, it presaged a move to much larger sites as regional population growth rapidly increased by the late seventh and early eighth centuries. The emergence of unit pueblos as fundamental "building blocks" allowed the rapid agglomeration of large extended households next to one another to create villages—each with 50–300 people—around the Mesa Verde region between A.D. 775 and 875. Although unit pueblos date to the same time period, they are rarely found close to villages. Farmsteads are located in less congested and less contested portions of the landscape, while villages increasingly shape the larger cultural landscape and history of the region.

Ware (2014) has argued that sodality associations, such as dispersed clans or ritual-political organizations such as village-wide moieties, must have existed in these early villages and that organizations such as these would have helped to promote normative behavior in a diverse population. Local leadership likely would have still been drawn from ranked descent groups as in earlier dispersed communities. However, the variety seen in early village settlement plans, architecture, and community features is sufficiently diverse as to suggest that a variety of leadership models, drawing upon every possible source of power—lineal, economic, ritual, political, physical, and moral and immoral—must have competed for authority in these first aggregated communities.

In some of the first villages the unit pueblo segments are loosely aggregated into almost a stacked arrangement of 25 or more individual or paired houses, as is evident at Morris 23 (Fig. 10.4). A great kiva that was contemporary with the main occupation of the village was situated at the southern end of the village. This arrangement suggests a village formation model built upon the institutions associated with great kivas and earlier dispersed communities. Certainly the discrete residential areas, pitstructures, and middens demarking each unit pueblo suggest there have been few social changes, yet the proximity of the different households must have demanded a more active and vigilant leadership than was required for a community where households were dispersed across ten or more square kilometers.

At the time these early villages were forming, an estimated 4700 people lived in the center of the Mesa Verde region (Wilshusen et al. 2012a: Table 2.1), with possibly 2500 more on its periphery (Allison et al. 2012; Potter et al. 2012). This would have made the Mesa Verde region one of the primary population centers of the ancient Pueblo world at that time. Between A.D. 775 and 875, significant migration from the eastern and western areas to the center of the region, along with

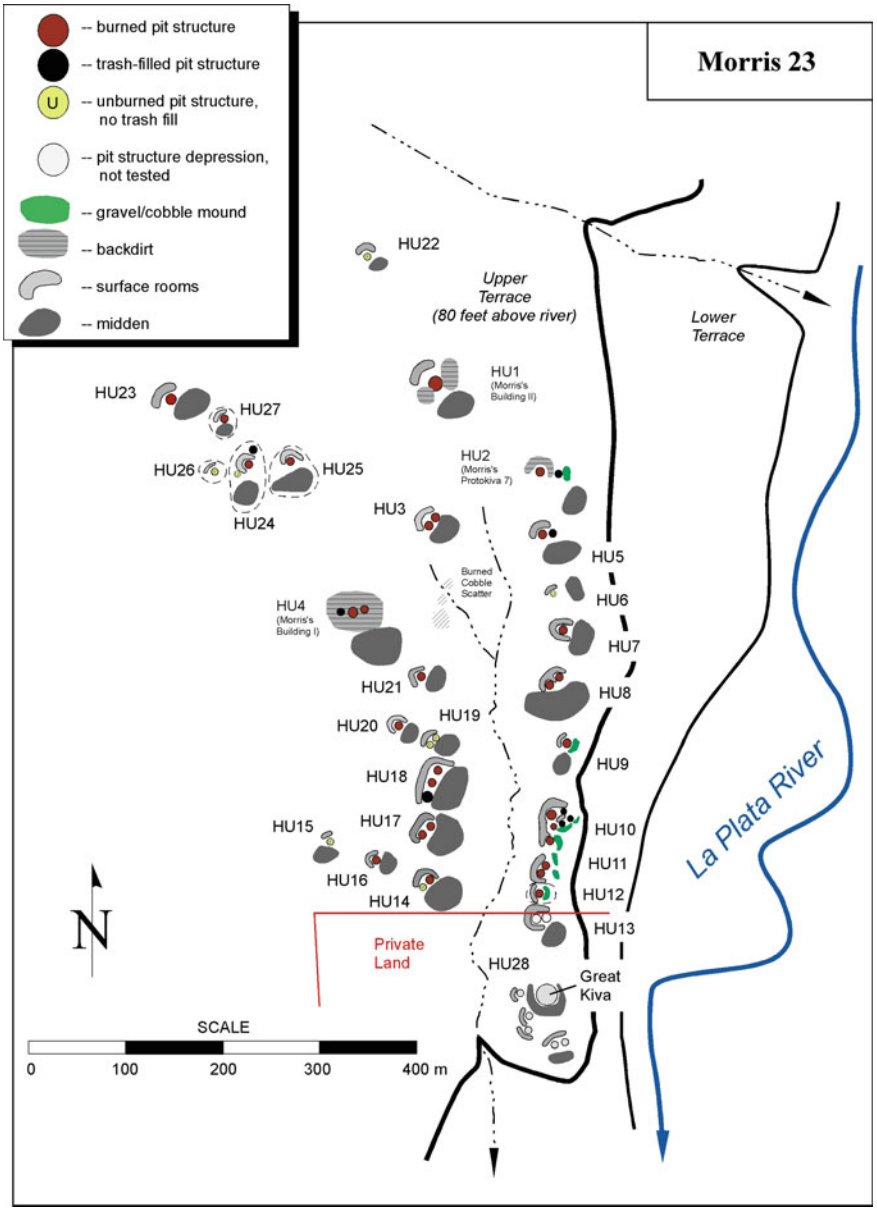

Fig. 10.4 Plan map of Morris 23, an early Pueblo village on a bluff overlooking the La Plata River. Adapted from Potter et al. (2012: Fig. 4.9)

natural reproduction, concentrated as many 8500–11,500 people into a much denser settlement pattern by the end of this period (Varien et al. 2007: Table 4; Schwindt et al. 2016).

There were at least 40 and possibly up to 100 villages that come into in the Mesa Verde region between A.D. 775 and 900. They are relatively short-lived, with use lives of 25–75 years, yet they clearly reshaped the social landscape and the nature of leadership in very short amount of time. In the span of three generations the size of the largest settlements in the region increased from three households to more than 40 households, and by A.D. 840 two clear patterns in village organization had emerged, each with its own distinctive architecture, settlement plan, and type of leadership.

Great Kiva and Great House Communities: Creation and Destruction

For approximately 50 years, two competing models of village authority and organization existed side-by-side in Mesa Verde (Fig. 10.5). They often are unmistakable with one another, even in a surface reconnaissance, as their roomblocks are different in layout and construction, and their main community gathering places offer very distinct ways of gathering a community: one within the plaza of a great house and the other in great kiva, or an immense dance house. Even though these village patterns are now evident, only 15 years ago it came as a surprise to realize that these patterns previously had escaped the notice of archaeologists, including the author, in some of the best investigated early Pueblo villages in the Mesa Verde region (Wilshusen and Ortman 1999).

One village pattern is characterized by a great kiva and one or more long, relatively straight roomblocks with numerous associated residential pitstructures and a poorly defined plaza area. In those few cases where construction sequences are evident, the great kiva appears to have been fundamental to the original formation of the village, but interestingly, it may not have been maintained as a community center for the full life of the village. The rock art portrayal of a ritual gathering discussed earlier in this paper, and that predates these mid-ninth century villages by at least a century, may provide an image of the initial organization of these villages. Although there would have been distinct privileges based on gender, age-grade, and probably lineage, the roles in this community likely would have been roughly equal, or at least it appears this was the case when the material goods and residence of one household are compared to another. There is little variation in the distribution of ritual items, storage space, exotic goods, and domestic tools and trash across the community.

Great kivas were truly monumental architecture with immense floor areas and huge roofs, but they appear to have belonged to the community or community sodalities rather than to a particular leader or lineage. Their floors are relatively

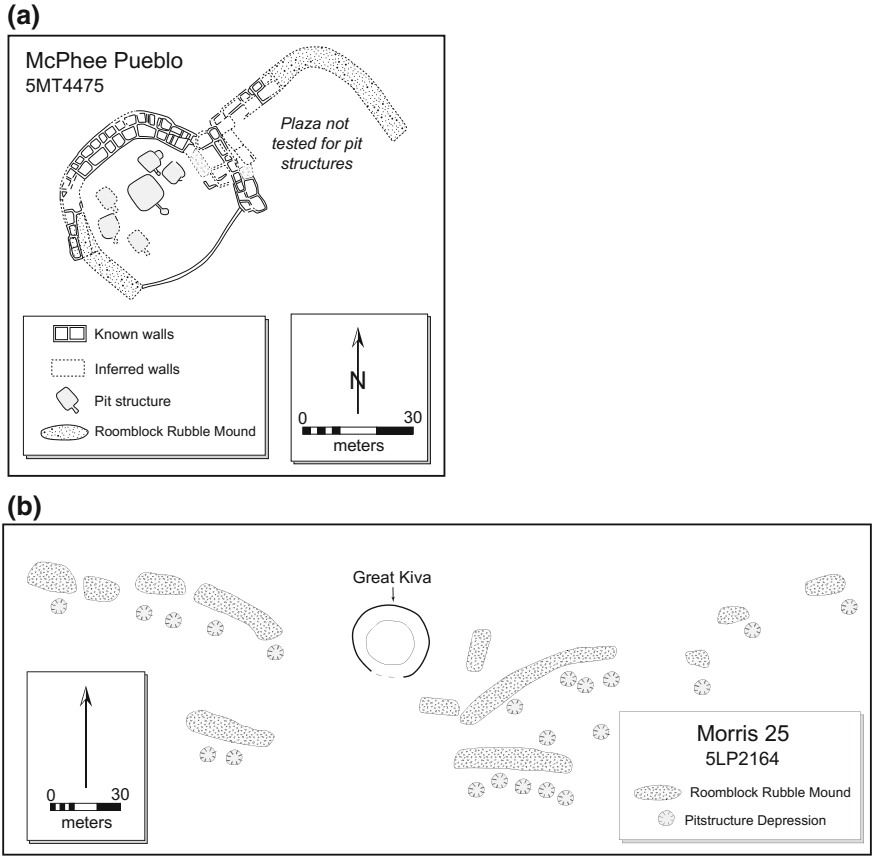

Fig. 10.5 **a** and **b** Examples of great house and great kiva-oriented villages. McPhee Pueblo (5MT4475) dates to A.D. 825–885 is a double-U shaped great house that is bordered by a dozen or more ancillary roomblocks. Morris 25 (5MT2164) is centered on a great kiva and dates to approximately A.D. 850–880

devoid of features, residential structures are located apart from the centers, and it is likely they functioned as places for community ritual and feasts, organized by village-wide associations such as clans or moieties that reinforced social solidarity. While great kivas and their associated societies and festivals may have been one of the lures that drew diverse people into villages and helped them to forge shared identities, it appears that the threat of violence and need to assert tenure over agricultural land and other resources on an increasingly crowded landscape may better explain why villages rapidly became the settlement pattern norm in the ninth century (Wilshusen and Potter 2010).

A second village pattern that emerges is that of great houses. Great houses are centered on U-shaped or double U-shaped roomblocks, with enclosed plazas and over-sized roomblocks. The masonry construction of these pueblos is far more

substantial than is usual for this period, and the pueblo is founded by a large household that builds the core of the great house and an over-sized square pit-structure that often has ritual features and paraphernalia that are analogous to those expected in a headman's kiva of a historic Pueblo group. These features include distinctive ritual features called roofed sipapu,[2] a cosmic earth navel that connects this world with another and will be found in Chaco-era ritual structures 150 years later. A variety of recent archaeological studies have demonstrated that these great houses had greater internal ritual hierarchy and more prominent leadership than found at other sites of this era.

Smaller unit pueblos sometimes are immediately adjacent to these early great houses and appear to be later in age and of ancillary construction to the community center. Discarded pottery vessels, faunal materials, large middens, and other evidence support the interpretation that great house plazas were locales for community feasting and ritual performance (Wilshusen and Potter 2010). Unlike great kivas, the over-sized pitstructures at the center of these great houses appear to have been owned or controlled by a ranked local lineage or possibly a corporate descent group (Schachner 2010) focused on a grand house such as the "house societies" identified both in ethnographic studies (Lévi-Strauss 1982, 1987) and archaeological research (Beck 2007; González-Ruibal 2006). However, unlike house societies, these first great houses are relatively short-lived and are abandoned by the 880s.

So it seems that the first great houses—and their leadership—are evident in the Mesa Verde region several generations before anything that looks like a great house is recognizable on the Chaco landscape (Wilshusen and Van Dyke 2006; Windes 2004). As with many initial experiments, the influence of these great houses was limited in scope and time. Within a generation or two of their construction, the oversized pitstructures at the center of these great houses were ritually burned down with religious paraphernalia arranged within the structure. Adjacent pitstructures were also abandoned, and adult male and female pairs, possibly conjugal pairs, were apparently deliberately killed and entombed by caving in the roofs of these structures (Wilshusen 1986). The pairs appear to have been suffocated and entombed close to the time of the abandonment of the village, and they may represent a portion of the leadership sacrificed as part of the ritual of closing the village. There are five different cases of entombment in a great house village. In contrast, those great house pitstructures with special ritual feature assemblages, including the distinctive roofed sipapu, are significantly associated with purposeful fiery ritual destruction. Most of the remaining structures were unceremoniously abandoned, leaving behind significant qualities of bulkier or heavier goods. Schlanger and Wilshusen (1993) have argued that the abandonment of goods such as whole ceramic vessels, metates, and other heavy or bulky tools in these contexts

[2]Sipapu is a term used by Southwestern archaeologists for a feature found in historic Pueblo plazas or kivas and some prehistoric pitstructures. It can be a small pit feature in the north center of a pitstructure or a hole cut into a wooden plank that roofs a larger ritual feature within a Chaco-era great kiva. It is a type of shrine that represents a link to an earlier world.

suggests that the populations of these great houses anticipated a long journey to their next home and chose to carry only the most essential and portable items.

In contrast to the deliberate destruction of the core elements of great houses, the structures of a nearby contemporary village with a great kiva and a much less hierarchical organization were dismantled to construct numerous small, temporary residences that were scattered across the site. After abandonment these small structures were left open for at least several years before they were burned. It appears that the departure from these villages was measured and much less precipitous than that of the great house communities.

The First Great Houses in the Chaco Region: Reconceiving Leadership and Remapping the Cultural Landscape

A drop in regional population by at least 75–80% between A.D. 880 and 960 accompanied the abandonment of Mesa Verde's village community centers in the late ninth century. The destruction of this region's great house villages coincides almost exactly with the rise of the earliest great house communities in the Chaco region. This appears to be more than just coincidence as there are a number of northern cultural traits[3] that appear in the south at the same time as this shift in population. However, given that these southern San Juan great houses follow on the heels of the breakup of the northern villages and the violent abandonment of certain great house communities, one has to question how or why the "great house" idea was reconceived and taken by these immigrants to the south.

Although we have learned a great deal about the archaeology of northwestern New Mexico in the last 15 years, we still have less excavation and remote sensing data for tenth-century settlements south of the San Juan River than is the case for any of the three prior centuries of occupation in the Mesa Verde region. The tenth century of occupation has not been the focus of much research in either the Mesa Verde or the Chaco regions, and especially for the area south of the San Juan, much of the data that we do have for this era is derived from cultural resource management reconnaissance surveys, along with some targeted survey around the Chaco core (Wilshusen and Van Dyke 2006; Windes 2007, 2015). The records of rock art that date to approximately this period also provide evidence. The proposals offered here draw upon these data as well as recent syntheses of the better-known archaeological record of Chaco Canyon (Lekson 2006, 2007). They are offered here as a first approximation regarding the nature of the lifeways, leadership, and regional organization of what rapidly develops during the tenth century as a second iteration of great house communities.

[3]These traits include neck-banded ceramic styles, certain architectural styles, and possibly even the concept of great houses.

The Cultural Landscape of the Southern Communities

The earliest great house settlements to the south of the San Juan are both reminiscent of and strikingly different from the great houses of the Mesa Verde region. These tenth-century great houses of the greater Chaco region are stand-alone great houses, usually with associated great kivas; in fact they are reminiscent of the stand-alone great kivas that predated the villages of the Mesa Verde region, but now they have a larger-than-average house next door. They unite the two elements into a single community center. These early southern examples of great houses are initially not so architecturally imposing as the great houses found embedded in the abandoned northern villages. Actually some have called them "good houses" (Dennis Gilpin, personal communication 2005) to acknowledge that their original "greatness" came from their being situated adjacent to a great kiva and at a significant place on the cultural landscape and not from the "good, but not great" architecture of the original house.

Given their placement in newly coalescing immigrant communities and their placement next to a community and ritual gathering place, these houses and their leaders must have had important roles in corporate affairs of the community, such as land tenure and food redistribution at feasts. Their prominent placement assured them visibility within the community as well as linking them visually to the sacred places on the larger cultural landscape. In short, as community centers they were places where both economic and religious power could be concentrated. Initially great houses were separated from one another by at least 8–10 km, and often they were the dominant community centers for much more wide-ranging areas. Over the next 150 years the originally modest residential structures would—in many cases, such as the early great house at Pueblo Bonito—grow to be far larger and far greater than the great house villages of the north. The houses themselves would take on an importance and grandeur well beyond any architecture of the Southwest that came before it.

Leadership

The leaders who resided at these great houses likely served multiple roles. According to survey records, these early communities typically consisted of a distinct cluster of ten or more settlements, each with one to two households, so it should come as no surprise that household and lineal ties must have been a key element of any power base. A community leader who would have occupied the house next to a great kiva likely represented lineal power—such as being the head of a high-ranked lineage or controlling the ritual paraphernalia of an important descent group. Finally, given that they resided next to, and likely controlled access to, the great kiva, they also must have been associated with the sodalities that held authority over key community rituals. These performances would have been critical for ensuring community solidarity as well as projecting the influence of the community into a much larger cultural sphere.

These later great houses may for the first time begin to take on the characteristics of "house societies," in which a specific house becomes the corporate steward of a community's material and ritual goods, as well as taking on a symbolic, long-lasting group or community identity that can be passed down and perpetuated. A society focused on a great community house could have made more obvious and accessible the important organizational elements of sodality-based social identities, which previously would have been primarily evident at the seasonal celebrations of dispersed communities at great kivas. The more broadly focused goals of sodalities would have helped to mitigate the tendency to re-create the "tragedy of the commons" that may have hastened the demise of the earlier Mesa Verde villages (Kohler 1992). A house society would have simultaneously diluted any residual elements of the matrilineal structure suggested for earlier times (Ware 2014) by focusing the corporate estate on a great house, an entity which would have offered protection, storage, and a shared estate for the whole community. This would have reinforced the tendency to adopt a bilateral descent system in which someone's identity, history, wealth, and leadership roles were more directly tied to a "society house" and in which descent groups control the ceremonies tied to the immediate household such as marriage and rites of passage for an individual.

Making Houses Great and Making Them Visible

There are many reasons a nascent theocratic (Ware 2014) or house society (Heitman 2007, 2015; Mills 2015) would be well served by making its presence more evident on the surrounding cultural landscape, and less embedded and hidden, as it had been within villages. Tenth-century sites, such as the early elements of Pueblo Bonito, take on totally new shapes by adding a second story to the great house, ostensibly to become even more obvious. In many cases, such as the early constructions at Peñasco Blanco, Una Vida, Willow Canyon, Skunk Springs, and Newcomb, early great houses were placed in increasingly prominent or strategic locations that could see sacred mountains, volcanic plugs, or mesas that became the key directional horizon markers of the ancient Chaco world (Van Dyke 2007). Although the presence of conspicuous middens associated with some great houses has been used to suggest that these were locales for feasting, this interpretation demands far more excavation data of these tenth-century sites than presently available. This second generation of great houses stood out from their setting and over time their leaders must have increasingly become prominent as well.

House Societies, Their Leaders, and Their Emblems

Lévi-Strauss (1982, 1987) originally proposed the concept of "house societies" to account for ranked societies that were becoming ever more hierarchical and in

which houses embodied the tangible and intangible estate of the community. They were at the center of many of the community activities, but particularly at the heart of ritual performance and community identity. These grand houses tied a distinct group to a place, attested to its historic claim to this place, and mirrored in their layout—through their grand construction and striking sacramental offerings—the very structure of the corporate estate that they embodied. For Lévi-Strauss, house societies filled a gap that otherwise existed in his "elementary structures" of kinship (Lévi-Strauss 1969). They bridged the divide between kin-based and class-based systems and offered examples of societies in which alliances and power could be socially negotiated by individuals in an increasingly hierarchical society and yet in which the corporate group centered in the great house still could primarily control property. A key element of understanding house societies is that they are not static; they are an emergent form of social organization in which the ritual, economic, and political elements of a community's identity are not always as discrete from one another as might be liked for our analyses.

If the schema of an ethnographically documented house society such as the Kwakwaka'wakw or Haida of the Northwest Coast offers one possible analogue for how Chaco great house societies might have operated, then we might expect to find evidence of emblems of these houses, their great lineages, or their leaders. Wilshusen et al. (2012b: 216) have identified several lines of evidence—archaeological, rock art, and historical linguistic—to propose that by the ninth or tenth century that:

> "[t]he center of the community have become—both metaphorically and literally—the house of community leaders. The great house thus became a material metonym for the social "house," ritual leaders became the "heads" of this "house," and the house came to be the location where community activities…were performed."

We have proposed that symbols for these new community centers are portrayed in later procession panels as squares divided down the middle with mirroring or complementary images on each side, and are also the symbols used for the heads of large-bodied anthropomorphic males shown on important rock art panels (Fig. 10.6). These images have been found at important geographic spots such as strategic springs associated with a great house or at key points overlooking critical drainages or with a view to important mountains or high features. These bisected

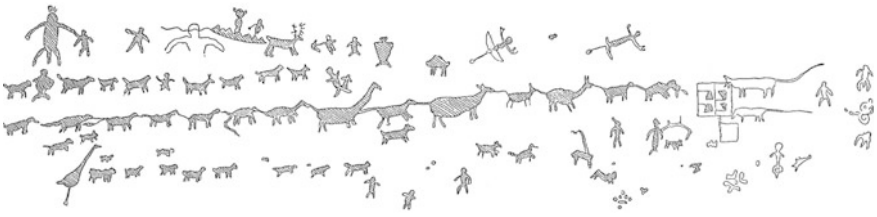

Fig. 10.6 Procession panel at the Waterflow Site, northeastern New Mexico and dates to approximately A.D. 900–1100

squares mirror the dualism found in many later great house architectural layouts, which in some cases have dividing walls down the center of a central plaza and with mirror placement of great kivas in each half. The emblematic heads may represent both great houses and the dual division sodality relationships embodied in those great houses.

I, with other collaborators (Wilshusen et al. 2012b; Wilshusen and Potter 2010) have suggested that the regular use of a divided square with mirror image totems in each half reflects the institutionalization of a dual division, segmentary society by the tenth century in the Chaco region. A sodality-based great house system underpinned by ranked lineages would have created the means to meld corporate and religious power into a unified leadership. These emblems very well may be the emblems of key house societies whose centers are the beginnings of what will ultimately be the "society" of Chaco great houses.

More than 30 individual squares with distinctive mirroring or complementary patterns have been recorded at a petroglyph site overlooking where the Chaco drainage meets the San Juan River. Does this represent a gathering of leaders, or at least an accounting of the early great house communities? Actually it does not matter, as the important point here is that the relationship between leaders and great house communities has now become symbolic. This second version of early great houses, the Chaco version, and their institutional leadership are now ready to compete for how these building blocks are assembled into the linked network of great houses, trade routes in exotic materials, and iconic roadways that a century later will be evident as the nascent Chaco system.

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Chapter 11
The Development of Complex Societies in Eastern North America: The Roles of Feasting, Famine, and Fighting

David G. Anderson and Robert Cook

Introduction

In this paper, we examine reasons for the diverse historical trajectories observed in Eastern North America over the period of human occupation, from the late Pleistocene until European contact some 500 years ago. The chronological framework and period ranges employed in this paper come from recent regional syntheses (Anderson 2001; Anderson and Sassaman 2012; Anderson et al. 2015; Sassaman 2010a), and all dates are reported as calendar years before present, or cal year BP (Table 11.1). A diverse array of societies were present in the region throughout prehistory, varying in size, complexity, subsistence, and material culture. The regional archaeological record was shaped by colonization and settlement history; population movement; long distance exchange and interaction; incidence and intensity of warfare; regional political geography; ideological, social, and material innovations; and changes in climate, physiography, and biota. While there were no single 'prime movers' driving societal change, the frequently interrelated aspects of social life involving feasting, redressing famine, and fighting or warfare, the subjects of this volume, were particularly important.

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Table 11.1 A timescale for Eastern North American Archaeology

Calendrical (dates approximate)	Conventional (cal year BP)	Period	Culture complex	Climatic event
				Pronounced warming
AD 1950	50	Modern		
			Industrial revolution	Little Ice Age ends
AD 1700	300	Colonial		
AD 1500	500		European colonization	Little Ice Age begins
AD 1000	1000	Mississippian	Mississippian	Medieval Warm Period
AD 600	1400	Late Woodland	Coles Creek	
				Subatlantic
200 BC	2200	Middle Woodland	Hopewell	
1000 BC	3000	Early Woodland	Adena	
			Poverty Point	
2000 BC	4000	Late Archaic	Stallings island	Sub-boreal
3000 BC	5000			
			Watson Brake	Hypsithermal ends
4000 BC	6000	Middle Archaic	Benton	Atlantic
5000 BC	7000			
				Hypsithermal begins
6000 BC	8000			
			Bifurcate	8200 Cold Episode
7000 BC	9000			
		Early Archaic		
8000 BC	10,000		Corner notched	Boreal
9450 BC	11,450		Early side notched	HOLOCENE
9600 BC	11,600			PLEISTOCENE
				Younger Dryas ends/Preboreal
10,000 BC	12,000	Late Paleoindian		
			Dalton/Sloan	
10,850 BC	12,850			Younger Dryas begins
11,000 BC	13,000	Middle Paleoindian	Clovis fluted points	Allerød
12,000 BC	14,000	Early Paleoindian	Pre-Clovis	Bølling

Adapted from Anderson and Sassaman (2012: 5)

Late Pleistocene (ca. 13,500–11,700 cal year BP) Developments in Eastern North America

Broad trends in cultural development in Eastern North America include early and intermittent evidence for social complexity as far back as the terminal Pleistocene, with cemeteries and elaborate ceremonialism present in some areas. The earliest unequivocal evidence for widespread human settlement dates to shortly after 13,500 cal year BP, when sites characterized by fluted Clovis or Clovis-like projectile points occur widely, albeit in markedly varying numbers, with concentrations tending to occur in resource rich areas like major river valleys and lower numbers in terrain characterized by few resources (Anderson et al. 2010; Bradley et al. 2008). Initial colonization and settlement by Pre-Clovis peoples was profoundly shaped by the retreat of the ice sheets, the expansion of forest and prairie biomes, and fluctuating but for the most part rising sea levels (Anderson and Bissett 2015; Delcourt and Delcourt 1987). Vast areas of the continental shelves were flooded as the ice sheets waned, with some of the most pronounced changes occurring in the early Holocene. The organizational complexity of Clovis groups is not assumed to have been very pronounced. Pleistocene and immediate post-Pleistocene human populations in the region have recently been assumed to have been organized into band level social groups that were highly mobile, changed residential locations frequently, and occupied ranges that were geographically extensive. Co-resident group population size throughout Late Pleistocene (ca. 13,500–11,700 cal year BP) and Early Holocene (ca. 11,700–8900 cal year BP) periods in Eastern North America are thought to have remained small, perhaps under no more than ca. 50 people, with larger aggregations of up to a few hundred people (multi-band or macroband groupings) inferred to have occurred for brief periods of a few days or weeks at most, perhaps seasonally, annually, or at larger intervals, as resource abundance permitted, and with leadership structures temporary and situationally determined (Anderson 1990, 1995; Daniel and Goodyear 2015; Meltzer 2003, 2009; Anderson and Hanson 1988; Kidder and Sassaman 2009). Sedentism, the extended residential use of a particular location for much of the year to many years, and territorial behavior, the active control over access to subsistence and other resources, sometimes involving warfare, in fact, is not thought by most scholars to have appeared until the Middle Holocene period (ca. 8900–3200 cal year BP), several thousand years after the first evidence for widespread settlement (e.g., Brown 1985; Emerson et al. 2009; Kidder and Sassaman 2009, Sassaman 2010a; Sassaman and Anderson 1996, 2004).

While social complexity has traditionally been inferred to be minimal among late Pleistocene societies in Eastern North America, this picture has come into question in recent years (Fig. 11.1). At sites like Bull Brook in Massachusetts, dating to about 12,500 cal year BP, large-scale aggregation and public ceremony centered on fluting points in central locations appears to have been occurring. Indeed, ceremonialism was likely accompanied by feasting, although we have no direct evidence for this, and including elaborate biface production is now thought to have been critically important to maintaining viable populations over large areas (e.g., Anderson 1995;

Fig. 11.1 Archaeological sites and areas mentioned in the text

Meltzer 2003, 2004; Speth et al. 2013). Archaeological evidence for an unusual degree of public ceremony and ritual linked to interaction between groups, indications of a greater level of sociopolitical complexity than might otherwise be expected, is particularly seen during the Late Paleoindian/Early Archaic Dalton culture times (ca. 12,500–11,450 cal year BP) in Eastern North America (Anderson et al. 2015; Morse 1997; Walthall 1998; Walthall and Koldehoff 1998). While Dalton projectile points and associated materials occur across much of region and out into the Great Plains (Justice 1987), appreciable variability is evident in the size and content of sites and assemblages in different areas. The most elaborate Dalton culture or cultures were apparently located in the central Mississippi Valley, where sites with deep midden deposits suggesting extended settlement have been found, as well as what appear to have been formal marked cemeteries, as documented at the Lace and Sloan sites, respectively, both

located in northeast Arkansas (Morse and Morse 1983: 70–97; Morse 1975, 1997). At Sloan over 20 groups of artifacts and human bone were found that appear, collectively, to represent a cemetery with individual marked graves, given the lack of overlap between the clusters, making this one of the oldest known cemeteries in the Americas.

Oversize Sloan Dalton projectile points have been found singly, or in groups or caches at over 30 locations along a ca. 600 km stretch of the central Mississippi valley, from north of the American Bottom near St. Louis to northeast Arkansas (Anderson 2002; Koldehoff and Walthall 2009; Morse 1975, 1997; Sassaman 2005a, 2010a; Walthall and Koldehoff 1998), including as grave goods at the Sloan site, suggesting shared ceremony among Dalton point using groups, ritually linked by what has been called a 'Cult of the Long Blade' (Walthall and Koldehoff 1998). The degree of interaction and ceremony among these Paleoindian Sloan Dalton point using populations in the central Mississippi Valley was most unusual for the time, and may have marked an early experiment in the development of something more complex than a band level society, perhaps comparable to the tribal entities thought to have emerged several thousand years later across the region during the Middle Holocene (Anderson 2002: 250–251; Bender 1985; Sassaman 2005a: 83–85; 2010a; Koldehoff and Walthall 2009). A major cold reversal known as the Younger Dryas interrupted the general trend of postglacial warming from ca. 12,850 to 11,700 cal year BP, and reasons for its onset and effects on human populations are currently the subject of vigorous debate (e.g., Anderson et al. 2010, 2011, 2015; Holiday and Meltzer 2010; Meltzer and Holiday 2010; Miller and Gingerich 2013a, b; Tune 2016). The later part of the Younger Dryas saw the Dalton fluorescence in the Central Mississippi Valley, suggesting that elaborate ceremony and ritual were a successful means of adapting to changing conditions. Climate change was thus important but again, human response varied over time and space, even during pronounced episodes like the Younger Dryas.

While Sloan points resemble the hypertrophic bifaces found in earlier western North American Clovis caches, they differ in that they do not seem to reflect isolated and widely separated depositional episodes, but instead appear to have been fairly common items, occurring in burials and other site contexts, perhaps where they were used as status indicators or votive offerings. Hypertrophic or massively oversized bifaces, atlatl weights, axes, and other items are found in many subsequent cultures in Eastern North America, and it has been argued that such items were used throughout much of prehistory to create and maintain alliances, reinforce status differentiation between individuals and groups and, through their destruction or burial, in helping maintain their scarcity and importance (Sassaman 1996: 62–64; 2005a, 2010a; McNutt 2008). The production and gifting and ritual use of these artifacts was probably accompanied by feasting behavior, although evidence for that remains elusive in the earliest time periods in Eastern North America (Gingerich 2013; Hollenbach 2009; Walker 2007; Walker and Driskell 2007; Walker et al. 2001); reinforcing the need for greater attention to the collection of paleosubsistence evidence in this and indeed all time periods.

The idea that complex societies, or at least experiments in social complexity, were occurring in the Late Pleistocene of Eastern North America is not as surprising as it might have been viewed a decade or two ago, given the discovery of mound building societies dating to the Middle Holocene made in recent years. These later societies are unlikely to have originated de novo, with no precursors. The interval from ca. 13,500 to 8900 cal year BP represents roughly one third of the time humans are known to have been present in fairly large numbers in Eastern North America. To view this ca. 4600 year span as one where cultures were essentially static or unchanging is unrealistic. Given their prevalence in most human cultures, the possibility that feasting, famines, and fighting were occurring is unknown, but is at least possible during this interval in Eastern North America, at least at some times and in some places.

Early Holocene (ca. 11,700–8900 cal year BP) Developments in Eastern North America

Following the late Pleistocene period there is little evidence for activities related to feasting, famine, or fighting over much of Eastern North America for several thousand years, during the initial Holocene Early Archaic period. Human population changes are documented throughout the Holocene in most parts of Eastern North America, as reflected in fluctuations in the numbers of sites, artifacts, or dated components within given areas or across larger regions (e.g., Anderson 1996a; DINAA 2015; Miller 2014; Sassaman 2010a). Holocene climate, while uniform compared to the Younger Dryas or portions of the preceding glacial period, was still variable (Anderson et al. 2007a; DeMenocal et al. 2000; Schulz 2002). The Early Holocene era climate was both warmer and more consistent and predictable than that during the preceding Late Pleistocene, and particularly during the Younger Dryas, at least in Eastern North America (Anderson 2001; von Grafenstein et al. 1999; Meeks and Anderson 2012; Shuman et al. 2002; Newby et al. 2005). It was likely characterized by fewer and less pronounced fluctuations in subsistence resources, reducing subsistence stress and hence the need for archaeologically readily identifiable ceremonial behavior, including monumentality and feasting, at least in some areas (Anderson 2001; Anderson and Sassaman 2004; Sassaman 2010a). This in turn may have reduced the need for more complex social organization, if the reason ceremony and ritual included the creation and maintenance of social ties over large areas, under the assumption that local groups buffered or overcame uncertainty in times of need by moving in with other peoples (e.g., Bender 1985; Braun and Plog 1982; Hamilton 1999). This period of seemingly uncomplicated peace and plenty was relatively brief, however, as populations grew and landscapes filled, and as climate and biota continued to change.

Dalton culture in the Central Mississippi Valley vanished sometime around or soon after the end of the Younger Dryas ca. 11,700 cal. B.P., the onset of the Holocene period. Why the Dalton ‘collapse’ as it has been called (Morse and Morse 1983; Morse et al. 1996) took place has not been resolved and remains puzzling, since

the central Mississippi River system is one of the richest ecological settings in the world and with its many vast tributary systems like the Ohio, Illinois, Little Illinois, and Missouri, offered perhaps the greatest potential for natural resources and avenues for movement and interaction of any location in Eastern North America (something that undoubtedly helps to explain the rise of many subsequent complex societies in this area in the millennia that followed). It is possible that population density had grown to the point where elaborate ceremony and mortuary ritual was no longer needed to bind together people formerly thinly spread over the landscape, but perhaps not so densely that resource stress and conflict occurred. Alternatively, it may be that populations relocated elsewhere in the region or declined markedly for reasons as of yet unknown, in the first of many well documented subregional abandonments recognized in the archaeological record of Eastern North America (e.g., Anderson 1991, 1994, 1996b; Milner et al. 2001; Sassaman 2010a; Williams 1990, 2001). Or, possibly, Dalton descendant populations remained in place, but adopted lifeways that may have been less visible archaeologically. The fact that archaeological cultures across the region during the Early Holocene are viewed as relatively uncomplicated, with minimal evidence for feasting, famine, or fighting, may also reflect the comparatively little research attention given this period, especially when compared with subsequent societies, whose middens, monuments, and artifacts (i.e., ceramics) have long been the focus of archaeological excavation, analysis, and reporting (Anderson and Sassaman 2012: 153–155).

While the central Mississippi Valley Sloan Dalton culture was clearly precocious for the Late Pleistocene era, the use of cemeteries appears in other parts of Eastern North America during the subsequent Early Holocene era, in the Maritime Archaic culture of the northeast (Bourque 1995) and, most notably, in Florida, where remarkably well-preserved burials have been found submerged in bogs and ponds, sometimes in large numbers. The Windover site is one example of such a subaqueous cemetery and several others are known from Florida, with most dating to the early Holocene, from ca. 10,000 to 7000 cal year BP (Doran 2002). These cemeteries, with their presumably marked graves, point to the possibility that group territories were in place at this time, although unfortunately very little else is known about the sociopolitical organization and ceremonial life of Early Holocene culture, in Florida or indeed anywhere in the region (Anderson and Sassaman 2004; Emerson et al. 2009; Kidder and Sassaman 2009: 670; Sassaman 2010a).

The subaqueous cemeteries used by Early Holocene Florida populations suggest that the association of death and burial with a watery underworld, a theme common in later southeastern prehistoric and historic native American cultures (Hudson 1976: 131–168). Such beliefs, like the use of hypertrophic objects, thus appear to have great antiquity in the region, dating back to the Pleistocene or early Holocene. During the ensuing Middle Holocene period, and particularly after ca. 7000 cal year BP, subagueous burial appears to have been replaced by burials in mortuary complexes associated with, and typically in or under, mounded shell and/or earth, including in Florida, the only area where wet burial practices dating prior to the Middle Holocene have been identified to date (Randall 2015; Randall and Sassaman 2010; Sassaman 2010a, b). The use of cemeteries (wet or dry) and the

creation, exchange, and burial or offering of hypertrophic artifacts observed among some Late Pleistocene and Early Holocene Eastern North American societies were thus likely direct precursors to the complexity observed later in the region, in the Middle Holocene and after. The occurrence of well-preserved materials in spring, lake, or bog settings has a long history in Eastern North America, and is particularly well documented in areas where such settings have been extensively explored like Florida, which has yielded well-preserved perishable materials from such settings from the earliest times (e.g., Cushing 1897; Doran 2002; Dunbar and Webb 1996; Gilliland 1975; Hemmings 2004; Hemmings et al. 2004).

Over much of the region, Early Holocene human populations are identified by sites and assemblages that are characterized by a variety of biface and other tool forms, with many cultures little more than projectile point horizons. Major changes in projectile point styles are observed over the course of the Archaic period at the regional scale, with the replacement of forms thought to reflect new cultures and technologies, or perhaps stylistic drift or changes in climate and settlement systems (Anderson and Sassaman 2004, 2012; Fiedel 2014; Kidder and Sassaman 2009; Sassaman 2010a; Sassaman and Anderson 2004; White 2014). The occurrence of similar tool forms over large areas has been attributed to the presence of stable interaction networks, while changes in these forms are thought to be due to disruptions in these networks, perhaps due to climatic episodes, such as the 8200 cooling event and the ca. 1500 year spaced Bond warming episodes (Bond et al. 1997; Schulz 2002), that brought about changes in temperature, precipitation, and vegetation, and hence resulting in changes in human adaptation (Fiedel 2014). In addition to examining changing artifact styles and distributions, another method being used to help resolve the reasons for apparent population fluctuations or movements are stable isotopic studies, which have proven effective at documenting homelands of origin and patterns of movement for individuals in burial assemblages, in Eastern North America and in many other parts of the world (e.g., Bailey and Spikins 2008; Price et al. 2004; Quinn et al. 2008; Sassaman 2010a, among many others).

Middle Holocene (ca. 8900–3200 cal year BP) Developments in Eastern North America

During the middle part of the Holocene, encompassing the Middle and Late Archaic periods from ca. 8900 to 3200 cal year BP, recognizably complex societies emerged in many parts of Eastern North America, characterized by monumental construction, the exchange of prestige goods over large areas, the use of cemeteries, and the presence of elaborately crafted hypertrophic objects (i.e., bifaces, atlatl weights, axes, and adzes) (Anderson and Sassaman 2004; Kidder and Sassaman 2009; Sassaman 2010a; Sasssaman and Anderson 1996, 2004). Use of ceramic container technology appeared after ca. 5000 cal year BP, and remained limited in occurrence largely to coastal and near-coastal settings in the extreme southeastern

part of the region in Florida, Georgia, South Carolina, and immediately adjoining areas until after ca. 3000 cal year BP, when it spread widely across much of Eastern North America (Sassaman 1993, 2004b, 2005a). Also after 5000 cal year BP, local populations domesticated a number of local plant species, which played an increasingly important role in subsistence over time (Gremillion 1996; Smith 1992, 2006). It is during this period that widespread evidence for activities linked to the subject of this volume, feasting, famines, and fighting, becomes visible and/or commonplace in the regional archaeological record.

Middle Holocene cultures evincing evidence for complexity in Eastern North America included the Shell Mound Archaic of the Midsouth, known from extensive excavations at sites like Carlston Annis and Read (Hensley 1994; Marquardt and Watson 1983, 2005, Webb 1950a, b); earthen mound centers in the Lower Mississippi Valley like Watson Brake (Russo 1994a, b, 1996a; Saunders et al. 1994, 1997, 2005); the numerous shell midden creating cultures of the Gulf and Atlantic coasts (Randall 2008, 2015; Russo 1994a, b, 1996a, b, 2006, 2008; Sassaman 2004a, 2005a, 2010a, b; Saunders 2004a, b), the Old Copper Culture of the upper Midwest (Griffin 1961a, 1967); and the Maritime Archaic culture of the northeastern seaboard from Maine to Labrador (Bourque 1995). Interaction networks appear in many areas, evidenced by the widespread occurrence of particular artifact forms. One of the best known and documented of these was the Benton Interaction Sphere of northern Mississippi, Alabama, and central Tennessee and nearby areas, dating from ca. 6500 to 6000 cal year BP (Anderson 2002; Anderson et al. 2007b: 463; Johnson and Brookes 1989; Kidder and Sassaman 2009: 676–677; McNutt 2008; Meeks 1999; Sassaman 1996, 2005a, 2010a). Interestingly, the core areas for both the Sloan and Benton complexes are roughly similar in extent, extending no more than a few hundred kilometers, and both include cemeteries with burials interred with elaborate biface caches, suggesting that similar forms of social organization may have been present (e.g., Anderson 2002, 2004). During the Middle Holocene interaction between peoples hundreds of kilometers apart becomes commonplace, with evidence for contact including presumably amicable exchanges of various kinds of goods, as well as for warfare, as seen by the presence of weapons trauma and trophy taking in burials, in some areas in high incidence (Dye 2009; Schmidt et al. 2010; Smith 1996).

In eastern North America, earth or earth and shell, and quite probably wood as well (although this has since largely vanished) were the media of choice for monumental architecture for millennia. The construction of monuments of large masses of stone, or megaliths, was never widely adopted in prehistory in the region, although it was used on occasion in a few Woodland and Mississippian period sites, such as Fort Ancient, Ohio, or Old Stone Fort, Tennessee. Pebbles, cobbles, or boulders were sometimes used as fill, and to help stabilize mounds and plaza areas from erosion. While wood was commonly used to build structures, as evidenced by myriads of postholes excavated in the region, evidence for its use in large-scale construction has only rarely survived directly. Some logs and log impressions have been found in Woodland and Mississippian contexts, typically from use in tombs or as marker posts, and wooden objects ranging in size from small utensils to dugout

canoes have sometimes been found in saturated lake or bog deposits. Wooden objects are also sometimes found in dry cave and rockshelter settings, or in an array of settings as carbonized fragments. In the humid climate characteristic of much of the region, however, evidence for perishable remains disappears quickly, particularly in open air contexts, rendering such artifacts rare and hence difficult to find and employ in evaluating evidence for societal complexity.

Some of the oldest mound complexes currently known from Eastern North America appeared after ca. 7000 cal year BP, in the lower Mississippi Valley at sites like Watson Brake, Caney, and Frenchman's Bend, and in Florida along the St. Johns River and in several coastal areas (e.g., Randall 2008, 2015; Sassaman 2005a, 2010a). As an aside, a small burial mound dating to ca. 7500 cal year BP found in Labrador at L'Anse Amour (Tuck 1974), while older, appears to represent a unique event, rather than a part of a long lasting mound building tradition in the northeast. This southeastern mound building tradition was not itself continuous, however, since a hiatus in construction appears to have occurred for 1000–1200 years after 4800 cal year BP, followed by a renewal of construction between ca. 3800 and 3100 cal year BP at places like Jaketown in Mississippi and at Poverty Point complex (Gibson 1996, 2000; Kidder 2012; Kidder et al. 2008; Sassaman 2005b; Saunders 2010). There is no doubt, however, that mounds, albeit of shell and earth rather than exclusively of earth, continued to be built elsewhere within the region during this interval, however, notably U-shaped, circular, and more amorphous shell and earthen midden complexes on the Gulf and Atlantic coasts of Florida and adjoining areas (Randall 2008; Russo 2006, 2008, 2010; Sassaman 2005a, 2010b; Saunders 2004a, b), and along a number of river valleys of the Midsouth (e.g., Claassen 1996; Russo 1996a, b; Sassaman 2010b). Thus, as hinted at during earlier periods, a regional political geography was present, with areas variously occupied and abandoned across the region. Monumental architecture is present in some areas and at some times but not in others, for reasons that remain unclear (Anderson et al. 2007b). This is particularly puzzling given the occurrence of large numbers of archaeological sites and hence probably people over the southeastern landscape during the latter part of the Middle Holocene (Anderson 1996a, 2002; Sassaman 2010a). Whether monuments of perishable materials like wood were being built in these areas is unknown, although settlement is presumed to have either been avoided, or been more mobile, leaving many sites but few major settlements (Anderson 1996a; Sassaman 2010a).

Watson Brake in northeast Louisiana, constructed between ca. 5400 and 5000 cal year BP, is a clear expression of monumental intent, consisting of 11 earthen mounds in a circular arrangement with a large open central area. The entire complex is over 300 m across, with mounds ranging from ca. 20 m to more than 50 m in diameter, and from under a meter to over 7 m in height. Watson Brake and the other roughly contemporaneous centers in northeast Louisiana represent the first true mound and plaza complexes in North America, including in Mesoamerica, where similar site plans do not appear for another 1500 years (Clark 2004; Clark and Cheetham 2002). Mound and plaza site plans, in fact, were widely employed in many parts of the Eastern North America for the next five thousand years, right

through to European contact in the sixteenth century. The mound plaza site plan common throughout much of North America, including in the state level societies that developed in Mesoamerica, thus may well have originated in Eastern North America. Much as the 1970s radiocarbon revolution showed Atlantic Europe's megaliths were an indigenous development apparently uninfluenced by events in the Eastern Mediterranean, the emergence, dating and spread of monumental architecture in the New World is coming to be perceived as similarly early in age and with unexpected origins, in the southeast rather than in Mesoamerica (cf., Renfrew 1973; Gibson and Carr 2004; Clark 2004).

Coastal and near coastal riverine areas were another major setting in which complex societies emerged during the latter part of the Middle Holocene in Eastern North America. After 6000 years ago a great many monuments appeared across the Southeast, both in the interior and along the coast, and built of earth, shell, or both earth and shell (Anderson et al. 2007b; Kidder and Sassaman 2009; Randall 2008; Russo 2004, 2006, 2008, 2010; Sassaman 2005a; Saunders and Russo 2002). Shell middens first appear along and near the St. Johns River in northeast Florida ca. 7000 cal year BP, although whether they occurred earlier is unknown, in part because here and elsewhere in the region many early coastal sites are partially to totally inundated or buried in marsh deposits created by postglacial sea level rise (Anderson and Bissett 2015; Randall 2008: 13–14; Russo 2006). The earliest mounded mortuary complex dates to ca. 6800–5000 cal year BP and is found on Tick Island, yielding ca. 175 individuals, a number comparable in size to that at the nearby and somewhat earlier Windover site, the difference being the burials were interred in mounded sediments, and not placed in water (Aten 1999; Randall 2008: 14). Stable carbon and oxygen analyses on a sample of 50 individuals from these mortuaries suggest that most (46/50) subsisted upon local freshwater resources and thus likely came from the immediate St. Johns Valley, findings duplicated in an examination of strontium isotopes in a subset of ten individuals (Quinn et al. 2008). Two of the fifty exhibited signatures of marine resource use, suggesting these individuals came from coastal areas, while another two had depleted O^{18} values, suggesting an origin well to the north, analyses that indicate lifetime mobility may have been fairly extensive, at least for some people, during the Mid-Holocene. Ring- and U-shaped shell midden complexes developed in coastal areas comparable in size and layout to those well into the interior in northeast Louisiana, but at present there is little evidence for contact between the two areas, at least not until much later, during the Poverty Point era.

Russo (2004, 2008) has argued that the size and location of the mounds in these early mound centers was related to the numbers and status of the peoples who built them, and that they were likely erected with accompanying elaborate ceremony and feasting, based on arguments from social space theory (e.g., Grøn 1991). Whether any or all of the shell middens that appeared across the region over the next several thousand years were intentionally planned monuments is somewhat contentious, however, since in many cases their content is subsistence debris, suggesting accidental accumulations to some (cf., Marquardt 2010 with Anderson 2010, Claassen 2010, Russo 2010, Sanger and Thomas 2010, or Sassaman 2010a, b for examples of recent thinking in a long series of exchanges between local scholars dating back

almost two decades). The massive size and unusual architectural details in some of these complexes, however, makes it extremely unlikely they were purely accidental accumulations. Interestingly, while the same debate holds for shell midden complexes in the interior of the region, for example, in the areas along the Tennessee and Green Rivers where the Shell Mound Archaic culture occurs, ring- and U-shaped middens are absent from these areas (Bissett 2014; Claassen 1991a, b, 1996, 2010; Crothers 1999, 2004; Dye 1996; Marquardt and Watson 1983, 2005; Milner 2004a, b; Milner and Jefferies 1998). While the peoples of these interior Shell Mound Archaic societies exhibit many signs of complexity, relatively uncomplicated, and egalitarian social formations are also inferred due to the absence of truly massive unusually shaped monuments of shell and earth like those observed in the Lower Mississippi Valley and in some coastal areas.

The most impressive example of Archaic period monumentality in Eastern North America came at the end of the period, again in northeast Louisiana, where some of the earliest monuments appeared. Poverty Point is an elaborately designed complex of earthworks and mounds extending over ca. 200 ha (Kidder 2001, 2012; Kidder et al. 2008: 9). The main mound at the site measures ca. 210 × 210 × 22 m in extent and contains ca 238,000 m^3 of fill. Built over a filled in swamp around 3400–3200 cal year BP, it is the one of the largest earthen mounds in the Americas, and second only to Monks Mound at Cahokia in Eastern North America, which was erected some 2400 years later (Gibson 1996, 2000; Kidder 2001, 2012; Kidder et al. 2008: 10–12). Like Cahokia, Poverty Point was so unusual in scale—it's monuments were an order of magnitude larger in size than contemporaneous earthen mound sites—that it has been described as "simply unique… one of a kind" (Kidder et al. 2008: 9; see also Sassaman 2005b, 2010a). That large numbers of people were involved in its development is indicated by recent work showing the main mound went up in a very brief period (Kidder 2012; Kidder et al. 2008). Both Poverty Point and Cahokia are thought to have shaped developments over large areas during the periods when they were being built. Both areas were major centers of interregional exchange, likely shaping travel and communication networks throughout the region, as people came and went from these locations. The sheer scale of the activities and architecture present in each location, which likely served as both a draw and a source of inspiration for people over large areas, meant they likely influenced developments through ideological rather than military domination, with feasting more likely when people came to these centers than fighting (e.g., Anderson 1997; Pauketat 2004, 2007, 2009, 2013; Pauketat and Emerson 1997; Sassaman 2005b, 2010a; Sherwood and Kidder 2011).

Arrangements of earthen mounds about deliberately constructed plazas continued to European contact across the region, albeit with appreciable variation in number, size, and shape, and only rarely were these sites occupied for very long at specific locations. Shell as well as earth was also used to build U-shaped, circular, and more amorphous shell and earthen midden complexes in parts of the region from the Mid-Holocene onwards. Like earthen mounds, shell middens are not ubiquitous, and some parts of the region with many sites have yielded no evidence for mounding behavior. Likewise, even in areas where mounding was common,

there are hiatuses in construction, as is evident in the Lower Mississippi Valley from ca. 4800 to 3800 cal year BP, and in parts of the Woodland and Mississippian periods later in time. The monumental construction of mounds of earth and shell that occurred during the Middle Holocene appears one first glance to represent a distinct break from what came before. Nonetheless, a shared cosmology may have been present, or at least portions thereof, linked to earlier burial practices like those seen in Florida with its submerged cemeteries, since most of the later centers were built in or near wet areas, and were in at least some cases—and in coastal areas in most cases—composed of materials from watery environments, such as shellfish, or back swamp clays.

Evidence for preserved subsistence remains indicative of feasting is rare at Archaic earthen mound complexes, although at one site, Poverty Point, large numbers of baked clay objects, presumably used in earth ovens, suggest appreciable cooking activity. Feasting would have been a way to motivate and provision the large numbers of workers needed to build these monuments, perhaps coupled with other legitimization strategies, such as the ability to predict astronomical events. Astronomical alignments have been proposed at a number of Woodland and Mississippian period mound complexes like Newark, Toltec, and Emerald (Pauketat 2013).

Major relocations of human population are evident during the period when complex societies are emerging or expanding. Use of the interior Coastal Plain of southeastern North America appears to have decreased dramatically between 8000 and 5000 cal year BP, for example, something likely due to the replacement of the mixed hardwoods forest that covered the region during the Early Holocene by a predominantly coniferous forest (Delcourt and Delcourt 1981, 1987), with a corresponding lower biomass that would have led to a reduction in the game animals human populations in the area preyed upon (Anderson 1996a, 2001; Anderson et al. 2007b; Sassaman 1995, 2010b). In both the interior and along the coast use of shellfish resources occurs ca. 8000 cal year BP, when sea levels and river gradients more or less stabilized, presumably facilitating the development of estuarine and riverine shellfish resources (Anderson 1996a; Anderson et al. 2007b; Kidder and Sassaman 2009: 677; Milner 2004b; Russo 1996a, b). Dense populations appear to have been present in many parts of the region, given the large numbers of recorded sites (Anderson 1996a; Sassaman 2010b), but presumed architectural correlates of complexity, mound and plaza complexes of earth or shell, are only present in some areas. If collective ceremony and feasting was occurring in these areas, it apparently was not with shellfish, or at least in a way resulting in large middens. Likewise, evidence for conflict is unevenly distributed over the region, as are particular styles of artifacts like bone pins or atlatl weights, suggesting group territories were present and actively demarcated and defended (Bridges 1989; Jefferies 1995, 1996, 2004; Sassaman 1996, 2010a). Skeletal samples are unevenly distributed, however, making resolution of direct evidence for conflict difficult. Archaic skeletal populations, when present, do typically exhibit evidence for dietary stress at some point or points in life, but whether large-scale famines occurred that impacted the changes in settlement or conflict that are noted is unknown.

The end of the Archaic is arguably more of a gradual transition, since much of what characterized cultures during the ensuing Woodland period, such as the use of ceramics, agriculture, and mound building, clearly began in the Archaic (Anderson and Mainfort 2002; Anderson and Sassaman 2012; Goodyear 1988; Sassaman 2010a; Thomas and Sanger 2010). One major change was the collapse of Poverty Point, which has been linked to changes in global and regional climate regimes, impacting the ability of local peoples to provision themselves, conditions leading more to famine than feasting (Anderson 2001: 164–165; Fiedel 2001, 2014; Kidder 2006, 2010, 2012; Kidder and Sassaman 2009). The patterns of feasting and fighting indicated in the later Archaic societies of the east intensify in the Late Holocene, when clear evidence for famine also appears in many areas as societies become more dependent upon agriculture, and more vulnerable to changes in climate.

Late Holocene (ca. 3200–500 cal year BP) Developments in Eastern North America

In the Late Holocene, known as the Woodland and Mississippian periods, complex societies occur widely, identified primarily by monumental architecture in the form of embankments, causeways, mounds, and plazas made from earth, and less commonly of shell or earth and shell (e.g., Anderson and Sassaman 2012; Bense 1994; Peacock 2002; Russo 2010; Schwadron 2010; Stephenson et al. 2002). Toward the end of the era, after ca. 1200–1000 cal year BP, complex tribal and chiefdom level societies and confederations, many characterized by hereditary social inequality, were present in a number of areas (Anderson and Mainfort 2002; Anderson and Sassaman 2012; Griffin 1967; Hudson 1976; Pauketat 2004, 2007).

The initial part of the Woodland period saw the abandonment of many Late Archaic centers, including Poverty Point, while at the same time witnessed new forms of ceremonialism and monumentality, including burial of the dead in accretional mounds and, inceasingly over time, the emplacement of rock art in both highly visible and underground settings (Anderson 2001; Anderson and Sassaman 2012; Gibson 1996, 2000; Kidder and Sassaman 2009: 681–682; Russo 2006; Sassaman 2005a; Simek et al. 2013; Wright 2016). Pottery spread widely over the region as did the cultivation of many indigenous domesticates and the construction of accretional earthen burial mounds, suggesting both mound building, mortuary practices, and feasting were all used to bind people together (Anderson and Mainfort 2002; Clay 1998; Gremillion 2002; Smith 1992). The size and shapes of ceramic containers, rather than piles of shellfish, have been used to infer feasting behavior and participating group sizes in a number of areas. Maize is present, but stable isotope analyses indicate it was not used extensively as a food source until after ca. 1200 cal year BP (Lynott et al. 1986). Unlike the preceding Archaic period, and the subsequent Late Woodland and Mississippian periods, evidence for conflict is fairly minimal in many

areas during what are called the Early (ca. 3200–2400 cal year BP) and Middle Woodland periods (ca. 2400–1600 cal year BP), which may be due to lowered resource stress brought about by the new food crops.

Woodland society in some areas thus appears to have continued to follow a pattern established thousands of years previously during the Archaic if not earlier, involving the periodic and typically brief aggregation of people who spent most of the time dispersed over the landscape in small household or village groupings. When they came together, these peoples engaged in a range of activities that varied from society to society, but likely included such things as communal ceremony, ritual, and monumental construction, elaborate mortuary behavior, promotion or differentiation of group identities, buffering of subsistence or other resource uncertainties, and aggrandizing behavior on the part of certain individuals or groups. Individual status appears to have been linked, as during the Archaic, to successful participation in warfare, long distance exchange, or collective ceremony, including feasting and the building of monuments (Anderson 2002: 268; Bense 1994; Pauketat 2007; Sassaman 2010a; Smith 1986; Wright 2016). Leadership positions remained achieved, although at some sites and in some areas evidence for hereditary inequality is suggested, and it is clearly present by the ensuing Mississippian era, after ca. AD 1000. Social integration and organization during the Woodland in many areas is thus perceived as much like it was in the preceding Archaic period: fluid, flexible, and diffuse and uncomplicated much of the time, and typically only becoming more formal and structured when people came together in larger numbers, or in times of need, as during warfare or resource stress.

This was not the case universally, however. Elaborate ceremonial centers characterized by mounds and earthworks appeared in some areas, becoming most pronounced by the Middle Woodland period, when long distance exchange networks reappeared, particularly in the lower Midwest among sites of the Hopewell culture (Anderson and Mainfort 2002; Brose and Greber 1979; Carr and Case 2005; Charles and Buikstra 2006; Smith 1986; Wright 2016), although monumentality and ceremonialism was actually expressed and interpreted in many different ways in Eastern North America.

Similarities in iconography and mortuary behavior, ritual and feasting, rather than fighting and famine, are inferred, perhaps supported by the new domesticates and cooking technology. In actuality, many distinctive societies were present within the region, participating to a greater or lesser extent, or not at all, in these 'Hopewellian' developments. Social integration and organization during the Woodland in many areas, at least until late in the period, was much like it was in the preceding Archaic period: fluid, flexible, diffuse, and uncomplicated much of the time, and typically only becoming more formal and structured when people came together in larger numbers in times of plenty for ceremony or feasting, or in times of need, when warfare or resource stress—fighting and famine—occurred.

During the Late Woodland period, from ca. 1600 to 1000 cal year BP, dramatic changes again occurred. Hopewellian interaction disappears, and with it a marked decline in long distance exchange, the bow and arrow is apparently introduced and spreads rapidly over the region and, concurrently, evidence for warfare increases

dramatically. Maize agriculture becomes increasingly important in a number of areas, and increasing numbers and sizes of sites indicates substantial population growth was occurring, with people living in isolated dispersed households in some areas and in large nucleated villages in others. Use of maize never spread, or only spread very late, however, into those parts of the region rich in wild plant and animal resources like south Florida or the lower Mississippi Valley. Toward the end of the Late Woodland period, after ca. 1100 cal year BP, societies characterized by hereditary inequality between people and groups, and temple/mortuary mounds arranged around plazas become increasingly widespread over the southern and lower Midwestern portions of the region. These societies are thought to have first emerged more or less simultaneously in several parts of the central and lower Mississippi Valley, from the American Bottom to near the mouth of the Mississippi River, most notably in the Coles Creek culture of the Lower Mississippi Valley and Arkansas River Valley, whose people may have helped give rise to the ensuing Mississippian culture further upriver soon after (Alt 2006, 2010; Anderson and Mainfort 2002; Kidder 2002; Pauketat 2007; Pauketat and Alt 2015a, b; Pauketat and Emerson 1997; Rolingson 2002). These 'chiefdom' level societies spread rapidly over the region, albeit with appreciable local variation, and within a span of three to four centuries were found from the eastern margin of the Great Plains to the South Atlantic Seaboard (Anderson 1999; Brown et al. 1990; Pauketat 2007; Smith 1990). The appearance of chiefdoms appears to be roughly contemporaneous with, or perhaps slightly later than the adoption of intensive maize agriculture in many parts of the region toward the end of the Woodland; use of the crop never spread, or only spread very late, however, into those parts of the region where its cultivation was difficult or impossible, or else were rich in wild plant and animal resources and hence obviating its necessity in subsistence (e.g., Fritz and Kidder 1993). There is no evidence at present for a spread of maize from a point of origin or locus of domestication in Eastern North America, just as there is no evidence for an earlier spread of indigenous domesticates. Stable isotope analyses appears to hold the best promise for monitoring the spread of maize in Eastern North America, although at present such studies are in their infancy (e.g., Lynott et al. 1986; Quinn et al. 2008).

The Mississippian period spans roughly the last five hundred years before European contact, from ca. 1000 to 500 cal year BP, and is named after the complex societies of the central and lower Mississippi Valley and indeed over much of the southern part of Eastern North America that were present at this time. Aspects of religion and ideology, items of material culture like shell tempered pottery or wall trench architecture, exploitation of oxbow/backswamp resources, mound building, the presence of hereditary inequality or a chiefdom form of social organization, or intensive maize agriculture have all been used individually or collectively to identify Mississippian culture (e.g., Cobb 2003; Griffin 1967; Knight 1986; Smith 1986; Pauketat 2004, 2007, 2013). Mississippian culture is increasingly thought to be closely tied to the emergence of Cahokia, where many aspects of Mississippian religion, ideology, iconography, and other aspects of material culture appear to have coalesced (Anderson 1997, 1999; Brown 2004; Pauketat and Emerson 1997; Pauketat 1991, 2004, 2007, 2009, 2013).

A number of explanations have been advanced for the spread of both chiefdoms and Mississippian culture itself. To some scholars these societies are thought to have spread through the emulation of religious and organizational practices (Anderson 1997; Clark and Blake 1994; Pauketat 2007, 2009, 2013; Pauketat and Alt 2015a, b; Pauketat and Emerson 1997). Alternate explanations include their independent development in a number of areas, an inevitable consequence of rising regional population levels following the adoption of maize agriculture (Milner 2004a; Muller 1997; Smith 1990) or, in contrast, the direct movement of peoples from initial chiefly centers and the imposition of new forms of social organization into these areas (Smith 1984, 1990; Pauketat 2007: 200). Appreciable debate and research has been devoted to evaluating whether Mississippian culture at a given site or area formed through 'independent invention' or 'migration' (cf., Smith 1984; Hally 1994; Pauketat 2007; Williams 1994). Chiefdoms are assumed to have had a demographic and organizational advantage over societies less complexly organized, especially if their expansion was linked with warfare (Carneiro 1981). Once formed anywhere, they tended to spread everywhere conditions allowed. Cahokia undoubtedly influenced through example if not outright force the behavior of contemporaneous societies over large areas, as well as the historical trajectories of those that came after. While the emergence of Mississippian society at Cahokia has been called the 'Big Bang' by Pauketat and others for its seemingly sudden and dramatic emergence, in recent years it has been recognized that early Cahokia represents as much a coalescence of peoples and cultures from over the surrounding region (a 'Big Crunch' or coalescence), a sum greater than and different from its constituent parts (Alt 2002, 2006, 2010; Emerson and Hedman 2016; Emerson et al. 2016; Pauketat 2004, 2007, 2009, 2013; Pauketat and Alt 2015a, b).

During the Mississippian period long distance exchange networks reappeared yet again after something of a hiatus in parts of the region during the Late Woodland, just as they had in earlier Archaic and Middle Woodland times, and warfare became endemic in many areas. Individual polities across the region emerged, expanded spatially, organizationally, and demographically, and then collapsed, rarely existing for more than a century or two (Hally 1993), in processes variously described as cycling or fission-fusion (e.g., Anderson 1994, 1996b, 1996c; Blitz 1999). Major areas were alternately occupied and abandoned occupied and abandoned, with societies coming and going in a pattern widely described as like blinking Christmas tree lights (Anderson 1991, 1996c; Anderson and Sassaman 2012: 166; Anderson and Smith 2003: 14). Buffer zones, hunting territories and prey reservoirs between societies, were commonplace, and appear to have been maintained by low intensity warfare among Amerind populations (e.g., Anderson 1994: 263–271; Cobb and Butler 2002; Chacon and Mendoza 2012: 479; Kay 2007; Milner et al. 2001). Thus fighting may have been a way to helping reduce famine, and perhaps ensure appropriate food reserves so feasting could occur. In some cases, local climactic conditions appear to have played a role, demonstrating the vulnerability of these agricultural societies to temporally or spatially extended periods of drought (Anderson 2001; Anderson et al. 1995; Benson et al. 2009; Meeks and Anderson 2013; Pauketat et al. 2009) and most recently as Munoz et al. (2015) have argued, in the case of Cahokia,

flooding. Mississippian culture emerged and spread during the Medieval Warm Period, from ca. 1200 to 800 cal year BP (Broecker 2001; DeMenocal et al. 2000), which may have allowed for successful maize agriculture in Eastern North America, while the subsequent onset of the Little Ice Age was characterized by an apparent increase in fortifications and warfare, and a decrease in monumental construction (Anderson 2001: 166; Fagan 2000; Griffin 1961b: 711–713; Milner 1999: 125).

A Case Study from the Midcontinent

Turning to a specific case study illustrating the importance of individual historical trajectories, feasting, famine, and fighting all appear to have played significant roles in the development of social complexity in the mid-Ohio Valley during the Late Prehistoric Fort Ancient Period (ca. 950–300 cal year BP). Our current understanding of these processes emphasizes feasting at the beginning of the temporal sequence (ca. 950–650 cal year BP) and famine and fighting toward the end (ca. 650–300 cal year BP), but in all likelihood there were elements of each that occurred throughout Fort Ancient times.

Fort Ancient origins appear to be closely linked to Woodland sites that were the locations of much feasting and reuse of earlier monuments for mortuary purposes. These sites are in key environmental locales, near the mouths of major rivers where there were extensive floodplains and wetlands (Pollack and Henderson 2000; Seeman and Dancey 2000). The Guard, State Line, and Turpin sites provide excellent examples as they are situated relatively close to the mouths of the Little Miami and Great Miami Rivers and are surrounded by such environs (Fig. 11.1). These places were the scenes of the earliest intensive maize farming in the region and appear to coincide with the initial shift to village life (e.g., Cook et al. 2015a). The deduction regarding maize farming is based on carbon isotope analysis as it is a direct measure of consumption (Cook and Price 2015; Cook and Schurr 2009; Greenlee 2002).

The traditional view is that the Late Woodland sites immediately preceding the Fort Ancient ones were villages (e.g., Pollack and Henderson 2000; Seeman and Dancey 2000), but there has yet to be one purported Late Woodland village to be adequately excavated to make this determination. One of us is currently overseeing excavations at the Turpin site for this claim (Cook et al. 2015b). Thus far, the evidence is not clear as there seems to be a very close relationship between Fort Ancient and Late Woodland mortuary spaces but specific delineation and understanding the details of the Late Woodland habitation area(s) remains to be determined. There may well be a fully developed Late Woodland village at Turpin, but alternatively it is possible that this site served as a seasonal gathering place to integrate dispersed populations that lived the remainder of the year in small camps. Based on the study of a limited portion of the site, it has been suggested that Turpin was utilized mainly in the fall months (Theler and Harris 1988). It is certainly a possibility that the ample food remains recovered from the site resulted from feasting amidst seasonal gatherings focused on mortuary activities. There certainly

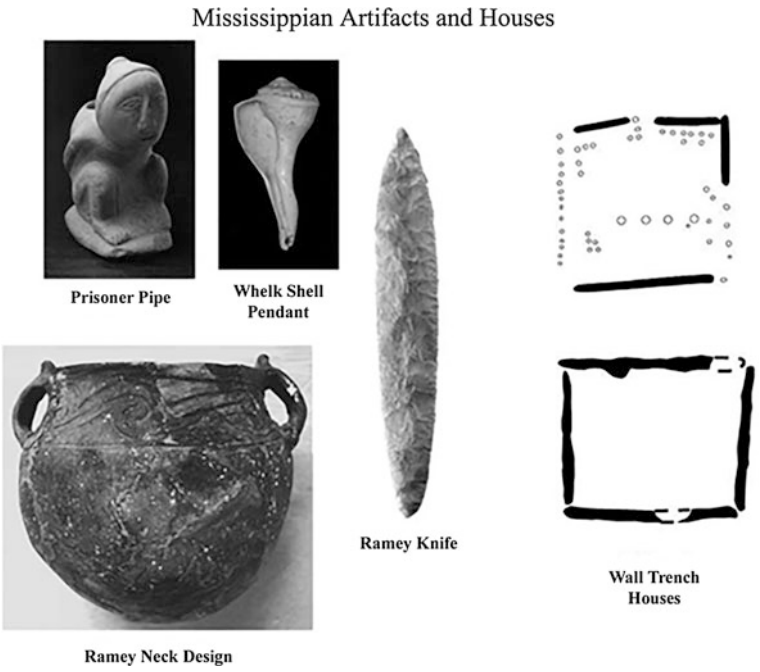

Fig. 11.2 Some of the artifacts and architectural styles in Fort Ancient sites indicating contact with Mississippians

is clear evidence that Fort Ancient occupants of the site reused the earlier Late Woodland mound (Cook and Price 2015), and such ancestral tethering remains important throughout much of the Fort Ancient sequence with villages often indicating varying types of reuse (e.g., Cook 2008).

Fort Ancient origins were tied to Mississippian interactions marked by the appearance of numerous wall trench houses, trade items, and people themselves from the surrounding Mississippian regions (Cook 2008, 2012; Cook and Fargher 2008, Cook and Price 2015; Cook and Schurr 2009; Griffin 1943). Recently, a combination of chemical and biodistance analyses has been used to assess the nature of the human movements. Findings suggest several scenarios, including: (1) male village authorities are biologically nonlocal to the remainder of the village in which they are interred and they also have exotic Mississippian artifacts, such as Ramey knives, and whelk shell pendants (Fig. 11.2); (2) a few other individuals (males, females, children) are also nonlocal to several sites and could be the result of marriage alliances or captives, among other possibilities. One of the more parsimonious arguments is as follows: local aggrandizers established their authority in non-natal villages, their powers being legitimized through employment of nonlocal symbols (Cook and Fargher 2008), feasting associated with the Green Corn Ceremony (Heilman et al. 1988), and the incorporation of outsiders in various ways (e.g., marriage, captives) (Cook and Price 2015). Fort Ancient and Mississippians

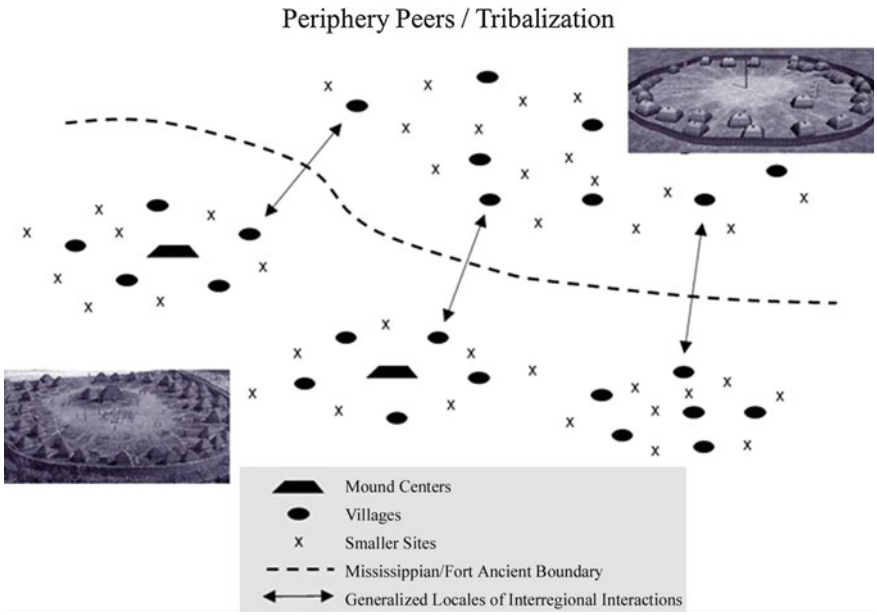

Fig. 11.3 A model of generalized development of the Fort Ancient area in relation to Mississippians (after Cook 2008: Fig. 1.3)

coevolved, in what has been described as a "periphery peer" system (Cook 2008) (Fig. 11.3). It appears that the result of these interactions was the codevelopment of village structures and status markers, both of which encode various ideological components.

By the Middle Fort Ancient (ca. 750–550 cal year BP), villages were not demonstrably larger but may have become more formally organized including what has been hypothesized as a "peace/war" division (Cook 2012), which are common throughout much of the Southeast (e.g., Hudson 1976). This development is best documented at SunWatch, with the war division presumably linked with both local Woodland and nonlocal Mississippian traditions (Fig. 11.4). This village is protected by a stockade and is situated near the northern boundary of the Fort Ancient region. Stockades are generally located along the boundary of the Fort Ancient region in all areas except along the Mississippian frontier to the south and west, supporting the notion of relatively peaceful interactions between the two areas. Mississippians may have become integrated into Fort Ancient society, in part, for a role in warfare oriented elsewhere, perhaps beyond the fortified frontiers (Cook 2012) (Fig. 11.5).

Famine, or some degree of food stress, may play a role during the latter parts of the Fort Ancient period (ca. 550–300 cal year BP). Environmental changes

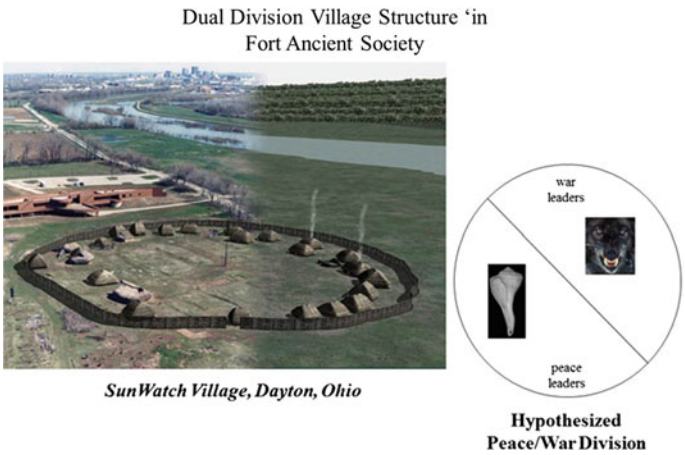

Fig. 11.4 Evidence for dual divisions in Fort Ancient society, as seen at the Sun Watch site in Ohio

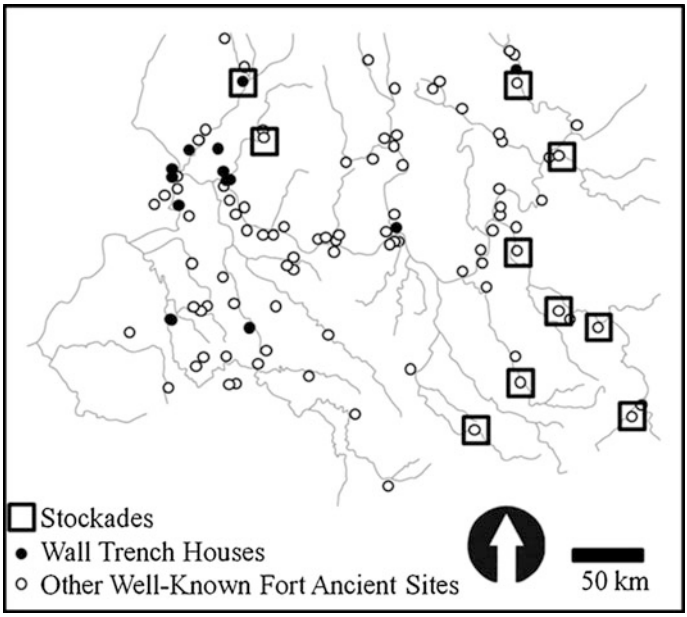

Fig. 11.5 The occurrence of fortifications and wall trench houses in the Fort Ancient area. Most wall trench structures are found to the west, while most fortifications are found to the north and east, perhaps to guard against hostile neighbors from these directions (after Cook 2012: Fig. 10)

associated with the Little Ice Age appear to be related to the abandonment of large regions and aggregation into fewer villages (Kennedy 2000) where status appears to be becoming more marked (Drooker 1997). Until recently, we did not have adequate data to address the change in diet in terms of direct consumption. Now we know that this period was the least dependent on maize (Cook and Price 2015), perhaps with a related shift in hunting practices (Deppen and Cook 2014), part of which may have included a shift to bison hunting (see Drooker 1997). This may also help explain the strong links with Oneota societies and compelling ethnographic comparisons to numerous Plains groups.

Conclusions

As we have shown, the interplay of many variables, not the least of which included feasting, famine, and fighting, were important in shaping societal trajectories in Eastern North America. Demographic and settlement patterns varied over time, characterized by local as well as larger scale fluctuations, with concentrations of people in some areas and times, and lesser numbers as well as outright abandonments at others. These are variously associated with periods of plenty as well as privation, peace as well as conflict, and greater or lesser aggregation, interaction, and presumably ceremonial behavior and feasting. The relationships between these variables need to be better understood, although there seems to be an association between periods of heightened warfare, large scale population movement, and privation with periods of climatic uncertainty and stress on subsistence resources. Patterns changed over time. Climate and environmental factors were always important in terms of shaping subsistence and hence the possibility of feasting and famine. As population levels rose and more complex organizational forms appeared, the nature of interaction itself changed, with long distance exchange, ceremonial behavior, and conflict becoming larger in scale and more widespread geographically. The first such changes, after initial colonization in the Late Pleistocene and Early Holocene, were likely by peoples reacting to rising sea levels, retreating ice sheets, and expanding forest and prairie biomes, and continued in response to similar changes in subsequent millennia. Evidence for feasting, famine, and fighting (and their antitheses) increased during the Middle Holocene Archaic and Late Holocene Woodland periods as status became more ascribed and populations became increasingly tethered to ancestral places marked with monuments of earth and shell, many with accumulated remains of ancestors. In the Late Holocene, in the Mississippian/early contact eras, population movement and interaction over large areas are even more common, tied to environmental changes, warfare, and the spread of ideologies. Warfare in the region always appears to have been to some extent population dependent, and as it became more institutionalized over time and larger in scale, it impacted all aspects of settlement and land use.

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Chapter 12
The Feast Before Famine and Fighting: The Origins and Consequences of Social Complexity in the Mirador Basin, Guatemala

Richard D. Hansen

The theme generated by Richard Chacon and Rubén Mendoza on "Feast, Famine, or Fighting? Multiple Pathways to Social Complexity" has provided an intriguing opportunity to evaluate various theoretical concerns which have been presented over the past 40 years as catalysts for the inception of social, political and economic complexity and some of the consequences of the abuses of those catalysts. The comparisons and contrasts from diverse areas may alert and inspire additional avenues of research within our own particular specialties. Indeed, in certain areas of the world, surplus control (feasting), logistic threats (famine, inhospitable environments, drought, population expansions, land use reductions), and conflict scenarios have been presented as prime movers for the advent of inequality and social complexity, and available data suggests that there is some element of truth in all of them (e.g., Wittfogel 1957; Carneiro 1970, 1981; Rathje 1971, 1977). However, as with the collapse of economic and political complexity, the rise of cultural sophistication is almost always multi-causal, which compounds the problem because one is forced not only to identify the factors responsible for the complexity, but the degree to which each factor played a role. Such a strategy requires much more than a couple of test pits and artifacts in a bag. It requires extended, multi-disciplinary, synchronic and diachronic evaluations over a regional, geographically defined area where the populations were most likely participants in a homogeneous, culturally identifiable society.

This paper will attempt to show, through the lens of archeology, the processes which led to the feast (prosperity, power, progress), and how those processes

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evolved into a negative of famine and fighting, which ultimately resulted in the disintegration of societal and economic structure. There are daunting challenges to identify the factors related to the complex formation of societal sophistication, the stabilizing social, political, economic and environmental dynamics, and the factors responsible for the demographic, economic, or political collapse of complex societies. Such an ambitious study requires intensive and costly investigations on a regional level, preferably within a specified geographical region where all variables would be archeologically detectable. The Mirador–Calakmul Basin of northern Guatemala and southern Campeche, Mexico provides such a laboratory, but to acquire the relevant data, the investigations were conducted under extremely rugged and isolated conditions (Fig. 12.1). Data procurement required a stratified sampling of ritual and public architecture, as well as detailed examinations of residences, ranging from the simplest to the most complex constructions, both within a site and throughout multiple sites. Such research also required a detailed chronological seriation from a multitude of sites within the determined geographical area to allow synchronic and diachronic comparisons and contrasts on a regional scale as well as detailed analyses of art and artifacts that would allow a meaningful comparison of the cultural process within the specified areas. The investigations involved broad, multi-disciplinary approaches to identify the role and impact percentages of the "feasts," "famines," or "fighting" factors responsible for the cultural development or the disintegration of it. Scrutiny of the catalysts that gave rise to Maya cultural complexity provides the database from the initial formations of political, ideological and economic sophistication to the demise of those systems, as well as relevant observations of the environmental setting in which the pathways to inequality and complexity would unfold as factors in the rise and demise of societies.

Because of these requirements, the Mirador–Calakmul Basin of northern Guatemala and southern Campeche, Mexico, provides an uncommon setting for generating relevant premises and propositions and the formation and testing of viable hypotheses based on empirical observations. This is particularly poignant in light of the fact that the areas is "circumscribed", a geographically defined region with natural borders that apparently served as ancient cultural borders during the Preclassic periods. Over the 34 years of research and mapping and excavations in 51 sites in the Basin, the Mirador Basin Project has specifically identified some of the issues responsible for the rise of cultural sophistication, the factors responsible for the maintenance of such precocious societal accomplishment, and the factors that contributed to extensive demographic collapse. We present these as testable hypotheses, capable of verification or discredit within the Basin itself, and which can provide the foundations for comparisons to other regions where social inequality and cultural complexity can be observed.

The Mirador–Calakmul Cultural and Natural System—also known as Mirador–Calakmul Basin, *Cuenca Mirador,* or *Reino Kan* (Kan Kingdom) has unique remnants dating to the origins of Maya civilization with a series of buildings and cities among the most monumental of the pre-Hispanic era (Graham 1967; Matheny et al. 1980; Matheny 1987; Hansen 1984, 1990, 2001, 2005, 2006, 2012a, 2013; Hansen and Balcárcel 2008; Hansen et al. 2008). A tropical forest surrounds the

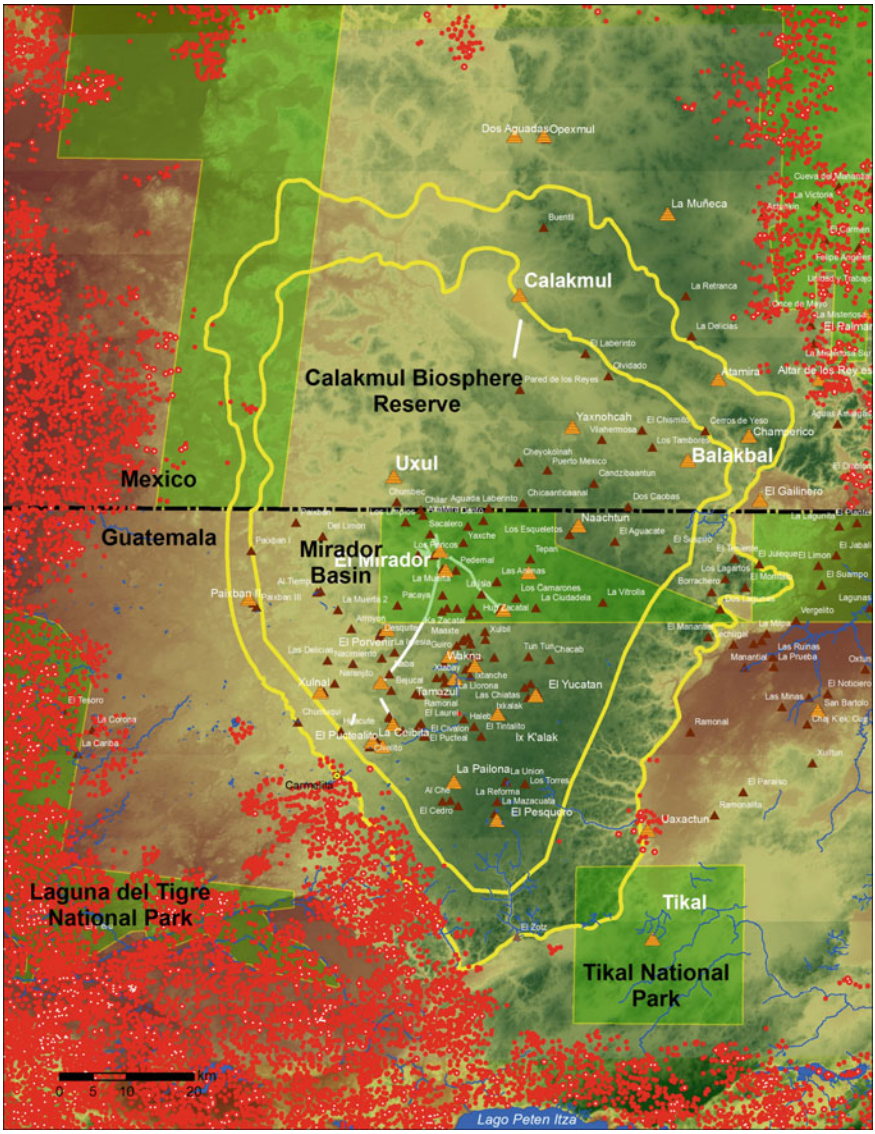

Fig. 12.1 Area of the Mirador–Calakmul Basin in northern Guatemala (map by Josie Thompson, ©FARES 2011; used by permission)

area and, due to the chemical and mineral characteristics of the terrain, is intertwined with at least six distinct forest macro-communities of flora thus, creating exceptional biodiversity in the area (Castañeda y Castañeda 1994; Castañeda and Hansen 2007, 2008, 2016). The fact that these types of forests are located within a defined geographic area is important because it represents greater biodiversity in a

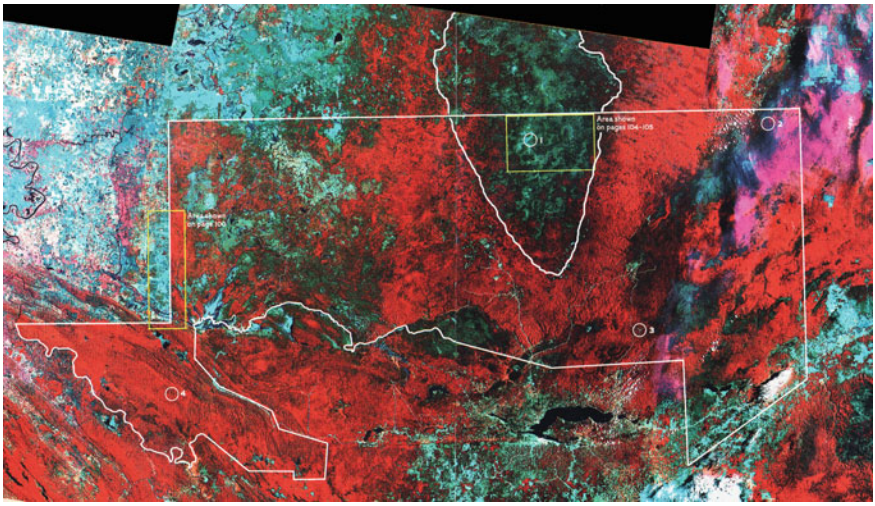

Fig. 12.2 NASA Infrared photograph, published by the National Geographic Society in 1992 depicts northern Guatemala and southern Campeche. The *greenish interior* of the basin is due to the dominance of bajo (seasonal swamp) vegetation (modified after National Geographic 1992, Vol. 182, No. 5: 98–99)

circumscribed area with a symbiotic dependence. Although almost all species are found to some degree in each biological area of the Basin, the predominance of specific, variant types of forests is what fosters the diversity of the biological system.

Geographically, the entire system is easily identified by a variety of satellite photographs, particularly infra-red images (Fig. 12.2). It is surrounded by a range of low, karstic limestone hills which frame the entire basin, encompassing about 800,000 ha (Fig. 12.3). Within this system, there are at least 10 monumental ancient cities and more than 70 smaller sites, although at present, at least 50% of the area is still pending exploration. It is likely that there are at least five other large scale archeological sites with monumental architecture and dozens of smaller sites within the area. The primary archeological site of the area in the Preclassic periods is El Mirador, located over a series of slightly elevated plateaus surrounded by extensive, tree covered seasonal swamps known as *bajos* (Fig. 12.4). The ruins are covered by a tropical/semi-tropical forest with trees that range in height from 25 to 40 m (82–131 ft) Nearly 60–70% of the Mirador–Calakmul Basin is dominated by bajos, which consists of seasonal swamps covered by broad low forests mostly of inkwood trees (*palo tinto*). Anciently, however, bajo forests to not seem to have been as common, based on the pollen and isotope data (see below), but rather, seem to have been wet, grassy marshlands, known as *civales,* which are probably what attracted the first inhabitants (Fig. 12.5).

Based on pollen and stratigraphic data, it can be proposed that the evolution of lacustrine systems found in the Basin may be summarized as follows:

Fig. 12.3 Telephoto image towards the karstic ridge that surrounds the Mirador–Calakmul Basin (*Photo* R.D. Hansen)

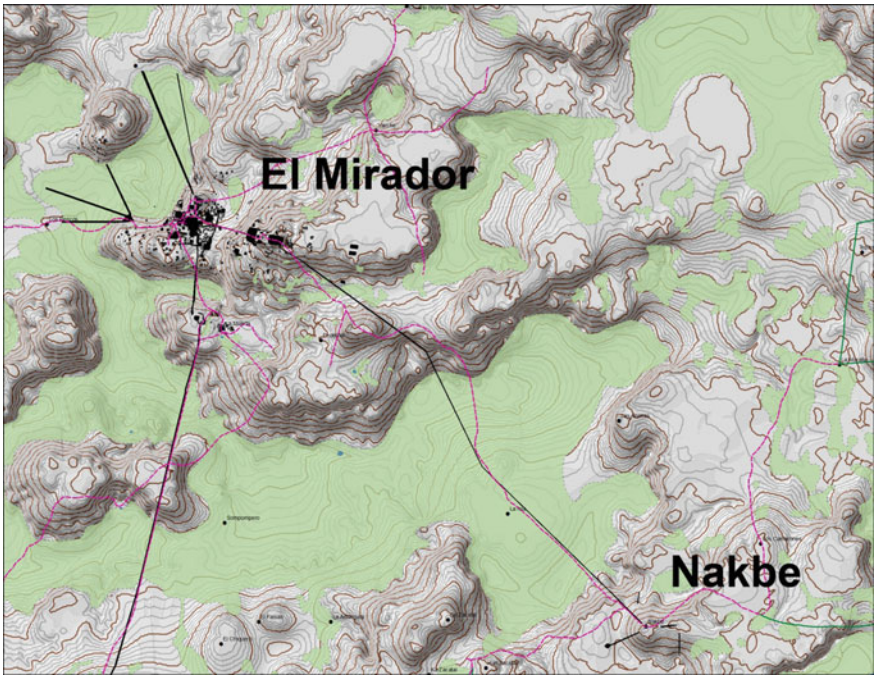

Fig. 12.4 A portion of the civic center of El Mirador showing the central area and some of the peripheral residential suburbs of the city which were joined by large causeways (*Map* DEPIC, Carlos Morales, ©FARES 2009; used by permission)

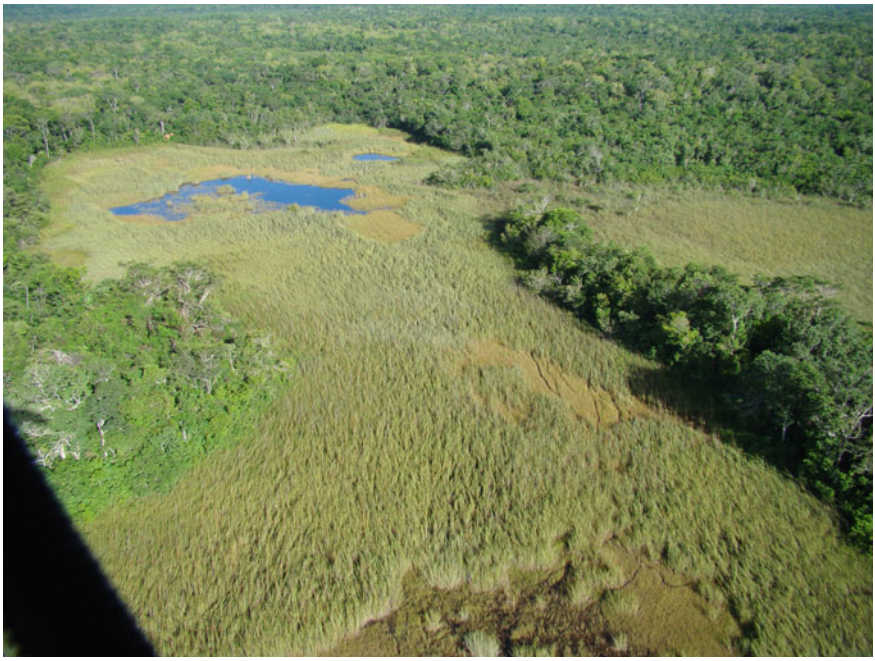

Fig. 12.5 Aerial photograph of a contemporary fossil remnant of the ancient marsh system in the Mirador–Calakmul Basin similar to the bajo areas during the Middle and Late Preclassic periods (*Photo* R.D. Hansen)

- lakes (Pleistocene period): grassland savannas, oak scrub forest
- restricted lakes (7000–2000 B.C.): Tropical forest
- civales (2000 B.C.–200 A.D.): tropical forest, mature lacustrine systems in the form of wet, grassy, marsh swamps
- *bajos* (200 A.D. to present day): tropical and semi-tropical forest, bajo forests, which are low, scrubby, thorny forests dominated by the inkwood tree.

The Beginnings of Occupation and Cultural Complexity ("The Feast")

Recent multi-disciplinary research in the Basin has established the beginning of sedentary human occupation approximately by 2600 B.C. throughout the Basin in the late Archaic era (3000 to 2000 B.C.) with evidence of corn (*Zea*) pollen from a series of lakes along the western edge of the Basin by this time (Wahl et al. 2001, 2006a, b, 2007; Hansen et al. 2002; Wahl and Schreiner 2004; Wahl 2005; Hansen et al. 2006; Hansen 2012a, n.d.; see below). This is consistent with the evidence for early *Zea* cultivation from other areas of the Maya Lowlands (Pohl et al. 1996; Pope

et al. 2001; Dunning et al. 2002; Wyatt 2008). Recent C-14 dates from sealed deposits at Nakbe (burned posts in bedrock postholes) and the AMS dating of the cores extracted from the peripheral lakes have identified presence of this pre-ceramic occupation (Beta 345,809, Beta 345,806, Beta 345,805, CAMS 94,189). However due to the extensive quarrying activity conducted during the Middle and Late Preclassic periods (ca. 1000 B.C.–A.D. 150) throughout the major sites, the evidence for this early occupation is located only beneath the earliest platforms and structures. Nevertheless, by the early Middle Preclassic period (ca. 1000 B.C.), settlements with elevated platforms, thin plaster floors, and wattle-and-daub houses were being constructed (see Hansen 1998, 2012a). The area reached its maximum grandeur during the Middle and Late Preclassic periods (800 B.C.–A.D. 150).

Pollen, isotopes, and phytoliths demonstrate that the bajos, as we know them today, were originally *civales*, or perennial wetland marshes during the periods of early Maya occupation in the Mirador Basin (Fig. 12.5). The grasses, reeds, water lilies, and other marsh flora were indicative of a mature lacustrine system and were likely responsible for filtration of water, serving as natural composters, and retaining humidity, but they also attracted other natural resources such as animals, reptiles, amphibians, birds, fish, mollusks, organic mucks, and water (Castañeda Salguero 1995). The organic muck though was probably the most important single resource of the *civales*, since the Maya transported it by the thousands of cubic meters from the wetlands to the numerous terraces built within the civic centers of the cities (Martinez Hildalgo et al. 1999; Hansen et al. 2002; Hansen 2012b)

Fig. 12.6 Imported mud in an artificial field from the perennial marsh swamps that surrounded El Mirador (*Photo* R.D. Hansen)

(Fig. 12.6). Because of this muck, which was rich in organic nutrients, intensive agriculture was established with corn (*Zea mays*), squash, cotton, gourds, and palms (Martinez Hildalgo et al. 1999; Bozarth and Hansen 2001; Hansen et al. 2002; Bozarth 2007; see below). The extensive terrace and muck systems became the economic engines that allowed the formation of administrative and economic hierarchies and associated complexity in the Basin (Hansen 2012b).

This is corroborated by the carbon isotope signatures in various stratigraphic levels which have shown the presence of grasses and probably corn (C-4 plants) during the periods of Preclassic occupation (Hansen et al. 2000; Jacob 2000; Hansen et al. 2002) However, after the Preclassic collapse around A.D. 150, the isotope signature indicates a dramatic change into C-3 plants which are consistent with contemporary forest species (Jacob 1994, 1995; Hansen et al. 2002; Hansen 2012b).

The ancient cities of this area had a major architectural development—which implies a vast knowledge and management of natural resources—before many of the other Lowland cities existed. The beginning of the sociopolitical development of the area in such early periods is due to several crucial factors, including the use of the natural environment of the marshes (wetlands) because they fostered economic and administrative stability based on a high agricultural productivity. Political, economic, and social powers were expressed in the large-scale architectural development and in the planned urban design throughout the Mirador–Calakmul system area.

In addition, developed centers were interconnected by a complex web of causeways or *sacbeob,* which made the transporting of edible goods, commodities and merchandise, raw materials, military enforcement, and administrative officials easier and quicker, creating a homogeneous society of unprecedented size and authority in the Maya Lowlands (see Fig. 12.4). This sociopolitical complexity formed what seems to be one of the earliest political states of the Western Hemisphere (Matheny 1987; Hansen 1982, 2001, 2005, 2012a, n.d.a, n.d.b.).

Cultural Characteristics and Features of "The Feast"

As previously indicated, the first Maya settlements in the Mirador–Calakmul Basin system occurred by about 2600 B.C. but the most visible sedentary occupation began by about 1000–800 B.C., with an early development in sites such as Nakbe, El Mirador, La Isla, Xulnal, Wakna and El Pesquero. At present, the greatest concentration of data for the area and material for the early Middle Preclassic period comes from the site of Nakbe, but increased exploration and excavations are identifying additional early centers in the Basin.

The economic power of this period is expressed in the importation of exotic goods from the beginning of the Middle Preclassic period (ca. 1000–600 B.C.). Imported items such as shell (*Strombus* shells from the Caribbean, tusk shells from the Pacific), obsidian from San Martin Jilotepeque and El Chayal sources in the

Highlands of Guatemala, jade from the Motagua River valley, basalt, granite, and exotic stones from the Highlands of Guatemala, and coral from the Caribbean have been recovered in primary archeological deposits, indicating the long-distance regional contacts during that era that covered distances as great as 450 km (e.g., Hansen 2005). Pyramids of up to 26 m in height, as well as great platforms, residences, stone monuments, were built in Nakbe, Xulnal, El Mirador, Wakna, possibly at La Ceibita, and, reportedly, at Yaxnocah (Campeche) during the period, which suggests the existence of a sophisticated society, comparable to at least that of a complex chiefdom. Toward the end of the Middle Preclassic period however (600–400 B.C.), the first intra and inter-site causeways were built to connect the different settlements, suggesting a centralized power (Hansen 1994b, 1998, 2000, 2001, 2005, 2012a), marked by a higher level of political, social, and economic organization. It is likely and probable that a state level of organization was developed by this time (Hansen 2001, 2005, 2009, 2012a, n.d.a.). The causeways are known to have connected El Mirador, La Isla, Nakbe, La Muerta, El Chiquero, Tintal, La Ceibita, and possibly, Wakna and Xulnal sites with the other major centers. A major causeway that appears to date earlier than the Classic period, judging from the extensive erosion in the middle of the Laberinto Bajo, is also visible by satellite extending to the southwest from Calakmul, suggesting a possible link to the sites further south such as Yaxnocah, Campeche or the Mirador area, although the evidence for a dense Preclassic occupation at Calakmul is limited or lacking.

By about 350 B.C. (7.0.0.0.0 in the Maya Long Count system), the beginning of the Late Preclassic period, the principal focus of power appears to have been transferred from early sites like Nakbe to El Mirador and the site achieved unprecedented growth, with pyramids that reached monumental dimensions. During this period (ca. 350 B.C.–A.D. 150), there seems to have been an unprecedented emphasis in monumental architecture (Hansen 1994a, 1998, 2001, 2004, 2005; Hansen et al. 2008). In El Mirador, Nakbe, Tintal, Wakna, La Ceibita, Xulnal, and several unidentified sites to the eastern edge of the Basin, great pyramidal structures were built to reach 40–72 m (131–236 ft) in height (Fig. 12.7). This characteristic extends to sites such as Calakmul, Yaxnocah, and Balakbal (in Mexico) located in the far north of the same geographical system. In these ancient cities, platforms consisting of millions of cubic meters of construction fill were built or modified, indicating a significant and unparalleled control of economic resources and labor on the part of the administrative elite.

The Late Preclassic period was also characterized by a remarkable uniformity in ceramics (Chicanel Ceramic Sphere) produced throughout the entirety of the Lowlands, with finishes and forms, often with waxy red, black, or cream slips, or combinations of them, that even extended to domestic use vessels, bowls, cooking vessels, incense burners. Vessels with Preclassic forms were carved from jade or alabaster. This suggests a uniform cultural conformity throughout the Maya area that may reflect an economic and political standardization that seems to have prevailed in the Maya Lowlands of that era. The Chicanel ceramic sphere of the Late Preclassic period (300 B.C.–A.D. 150) represents the greatest diffusion of

Fig. 12.7 Artist perspective of the Tigre Complex, El Mirador (Studio C, Guatemala; Courtesy of Fernando Paiz)

similar types, forms, surface slips in Maya history. No period, previously nor subsequently, had such unprecedented uniformity, suggesting the economic and utilitarian persuasions that were adopted throughout the Maya Lowlands, and likely the result of a state impetus.

Preclassic architecture consisted of specific ritual forms with patterns that came to be universal in the Lowlands. Preclassic Maya settlements and buildings were organized according to specific alignments as well as strategic triangulations, and orientations (see Sprajc et al. 2009; Hansen 2000, n.d.a). Political and ideological powers were also expressed in the architectural art that decorated all major building façades. Stelae, altars and stone and stucco panels were erected as ideological and historic symbols (Hansen 1990, 1992a, b, c, 1998, 2000, 2001, 2012a; Hansen et al. 2008; Argyle and Hansen 2016). Centers had a great populations resulting in dense residential urban areas. This population contributed to the construction of platforms, causeways, temples, palaces, reservoirs, walls, agricultural terraces and hydraulic systems, which represent the investment of millions of man-days of labor (Hansen et al. n.d.b).

Another factor that stimulated and fostered the cultural sophistication of the early Maya was the emphasis of a uniform, consistent religious ideology. Monumental architectural art in the form of deity portraits decorated the facades of building, flanking stairways, and lined the primary staircases of buildings. Both low and high relief art appeared towards the end of the Middle Preclassic period (ca. 600–400 B.C.) in which architectural sculpture emerged into an expression of

authority and power by means of large masks and associated panels which represented deities and supernatural profiles that formed part of the complex cosmology that flourished in the iconographic elements of the Middle and Late Preclassic periods (ca. 600 B.C.–A.D 150). Another strong innovation which began during the Late Preclassic period, ca. 300–200 B.C., was the introduction of triadic-style architecture, which consisted of large pyramidal platforms with three distinct structures on the summit (see Fig. 12.7). These tripartite constructions, formed by a dominant central structure flanked by two smaller buildings facing each other, constitute the most frequent architectural form during that period (Hansen 1998, 2000, 2001; Hansen and Balcárcel 2008; Velasquez-Fergusson 2013). The basis for the construction of such massive constructions with a uniform architectural format is indicative of the ideological homogeneity of the society: a standardized format on the largest and most ritually significant structures at the sites. The function of the particular architecture and associated architectural art was an effective manipulative mechanism of establishing an organic solidarity of society, fostered by a standardized religious and political ideology that apparently was widely accepted and encouraged, judging by the depth and breadth of its expression.

By the Late Preclassic period (ca. 350 B.C.–A.D. 150), sites of the Mirador–Calakmul Basin and others from throughout the Lowlands reached their maximum population densities and corresponding public and residential constructions. The increased use of stone-lined agricultural terraces and transfer of rich organic mucks from the marshes to urban terraced gardens continued to provide the economic impetus for the formation and consolidation of a highly stratified society (Figs. 12.6 and 12.8). Dams were also built to control land erosion and create water containment systems. According to phytolith (microscopic silicate remains of the cellular structures of plants) studies conducted by Steven Bozarth (University of Kansas), corn, squash, cotton, gourds, palms, and a variety of fruit trees were grown in the gardens which were placed throughout the civic centers (Bozarth et al. 2007a). The agricultural wealth of the garden-terrace systems provided crucial economic resources for the increase in labor, importation of exotic products, construction of complex hydraulic systems, establishment of a military force, and the great architectural construction programs with plazas, dams, causeways, platforms, and temple-pyramids. The resultant organic solidarity generated by the political, economic, and ideological foundations further consolidated the prestige and economic power of rulers, as suggested by the royal Late Preclassic tombs in Tikal, Wakna, and San Bartolo (Coe and McGinn 1963; Hansen 1992a, b, c, 1998; Roach 2005; Saturno, personal communication 2009).

By the Late Preclassic period, sculpture in the form of stelae began to appear in much smaller formats compared to both previous and later periods. This interesting paradox seems contrary to the normal pattern where rulers placed large and impressive stelae and altars to commemorate important calendrical or dynastic historical information. Monuments believed to be erected in the late Middle Preclassic and early Late Preclassic periods ranged from 4 to 5 m in height, but towards the latter part of the Late Preclassic period (ca. 100 B.C.–A.D. 150), small monuments (one meter high or less) began to be placed in the sites with fine

Fig. 12.8 Terrace constructions and dams showing the imported dark bajo mud (background) from the natural occurring soils (foreground) (*Photo* R.D. Hansen)

incisions and hieroglyphic texts in small panels (Hansen 1991, 1992a, b, c, 2001; Hansen and Guenter 2005) (Fig. 12.9). It would appear that an important focus became oriented to the portraiture of rulers, and the historical documentation of their activity on stone, ceramics, and stucco through texts.

Cultural Decline and Demographic Degradation: "The Famines"

Research in the Mirador–Calamul Basin has demonstrated that towards the end of the Late Preclassic period, there was an exorbitant demand on labor and ever-increasing cost of constructions due to exaggerated use of stucco, stone, *sascab* (decomposed limestone marl), and construction fill resources. This resulted in what Thorstein Veblen first defined as "conspicuous consumption," a term generated in his classic 1899 volume "*The Theory of the Leisure Class: An Economic Study of Institutions*" (see also Hansen 2012b). The excessive use of limestone and greenwood to produce lime and the unprecedented use of quicklime as well as megalithic block facades of monumental architecture indicate what appears to have been a mentality of careless wealth and power. The sheer amounts of wood required to burn the quantities of limestone for the chemical conversion of

Fig. 12.9 El Chiquero Stela 1. Note the diminutive size of the stone (the metric scale is in 3 cm increments). The small panel on the left side of the stone had been intentionally scraped in antiquity but slight indications of a text are visible (*Photo* R.D. Hansen)

stone to quicklime which was then used as cement resulted in extensive deforestation of the entire area (i.e., Schreiner 2002, 2003; Hansen et al. 2002; Hansen 2012b). Such massive deforestation resulted in the reduction in agricultural capability due to erosion of naturally occurring clays from the uplands into the *cival* wetland marshes (Figs. 12.10, 12.11 and 12.12). Not only is this evident throughout the Mirador Basin, but it occurred in other areas as well, including sites like La Milpa, where Dunning et al. note that "Evidence thus far strongly suggests that deforestation and soil erosion associated with late Preclassic (400 B.C.–A.D. 150) populations and agriculture at La Milpa were the root causes of the changes occurring in local *bajos*" (Dunning et al. 2002, 275). The sedimentation of clay over the organic soils in the marshes in the Mirador Basin created an additional societal stress due to the reduction in agricultural capability and resultant societal and economic instability that often generates conflict. This was brought about by the rampant deforestation of existing forest to funnel a burgeoning lime production system, a concept diametrically opposite of postures such as that of Ford and Nigh (2015) who argue a simplistic and romantic notion that collapses were primarily

Fig. 12.10 Deep excavations by student Kara Nichols in the La Jarrilla bajo in the western section of El Mirador show the dark organic layer buried under 3 m of sterile clay (*Photo* R.D. Hansen)

political and not created by human malfeasance (for other examples of ancient negative environmental impacts of indigenous societies, see Schreiner 2004, Hoopes 2012). Based on extensive ethnographic observations over a period of six years, Schreiner noted that the ratios for Maya lime production were approximately 5:5:1, meaning that 5 tons of greenwood and 5 tons of suitable limestone would produce approximately 1 ton of quicklime (Schreiner 2000a, b, 2001, 2002; Hansen et al. 2002; Hansen 2012b). In addition, the floor thicknesses of plazas and platforms show a consistent thickening from the Middle Preclassic period until the time of Christ, with the average floor by the latter part of the Late Preclassic period measuring an average 12.93 cm thick (Hansen 2012b, 265). Based on the average lime thickness, Schreiner calculated that the final lime plaster coating of Tigre pyramid at El Mirador required approximately 2200 m^3 of lime

Fig. 12.11 Close up of the dark organic layer with Kara Nichols In the La Jarrilla bajo which matches the imported mud in the terrace constructions which had been covered by extensive sedimentation, believed to have been created by massive deforestation for fuel for the lime production of the area (*Photo* R.D. Hansen)

plaster, representing the complete deforestation of 163 ha (402 acres) of every single green tree (Schreiner 2002, 87, 2003). Similar consumption of lime plaster on an even greater scale was involved in the extended thick plaster of the causeway system, involving the production of between 10,000 and 40,000 m^3 of quicklime preparation per kilometer of causeway (Hansen 2012b, 264).

Similar lapses of administrative judgement appear to have occurred in the architectural veneer construction of the massive Preclassic buildings. The evolutionary utilization of limestone is readily apparent in diachronic analyses, with the average stones of vertical wall buildings averaging in size about 25 cm by 28 cm by 8 cm thick. However, by the late Middle Preclassic period, between 600 and 400 B.C., the stone blocks became massive, ranging up to 1.4 m in length by 45 cm high, and 40 cm thick. These stones were placed end to end in the walls of monumental structures so as to exploit the stone size with maximum efficiency (Fig. 12.13). However, by the Late Preclassic period (ca. 300 B.C.–A.D. 150, the same size blocks were placed with the long axis into the fill of buildings, requiring up to three to four stones to cover the vertical horizontal space over what would have been volumetrically sustained by a single stone previously (Hansen 1998, 2012b: 265–267) (Fig. 12.14). This strategy was employed at El Mirador, Nakbe,

Fig. 12.12 Operation 501C in the Carrizal bajo to the south of El Mirador showing the *dark* organic layer buried beneath several meters of clay sediment which had eroded from the surrounding uplands (*Photo* T. Schreiner)

Tintal, Wakna, and numerous other sites in the Basin. There do not appear to have been any architectural advantages to such construction techniques because of the extensive use of "cell wall" constructions to contain and control architectural weight and form. Rather, it appears to have been a mentality of disregard for the consequences of such excessive use of stone, wood, and labor.

In addition to the anthropogenic stresses incubated by the Late Preclassic Maya, there is increasing evidence that environmental stresses such as drought may have generated the "perfect storm" of insurmountable challenges that contributed to the dramatic decline of populations and settlement densities between A.D. 150 and 200 (see Hodell et al. 2001). A similar threat may have constituted a factor in the demise of Classic Maya civilization at the end of the tenth century A.D. (Hodell et al. 1995;

Fig. 12.13 Example of a middle preclassic wall on Structure 200 in the Cascabel Group at El Mirador, with large limestone blocks (1.4 m × 0.45 m × 0.40 m) placed lengthwise, end to end, to form the facades of buildings (*Photo* R.D. Hansen)

Guenter 2014). The Maya could probably have withstood a short term drought if the forest had been essentially intact because of the wide range of resources that would have been available, including *ramon* and an additional variety of tropical fruits, as well as cooler temperatures and likelihood of increased moisture due to evapotranspiration. In addition, deep lakes along the western edge of the Basin, as well as Lake Peten Itza would have served as an attraction for stressed societies who were seeking more permanent water sources. Yet, the transition or population movements to the lacustrine systems did not seem to occur.

The resultant demographic demise is evident at most of the investigated sites in the Mirador area, toward the end of the Late Preclassic period (Hansen 1990, 2002, 2012b). Residential residences of varying sizes and locational distributions as well

Fig. 12.14 Example of a Late Preclassic wall, found at the base of the third level of Danta pyramid at El Mirador, showing the *large blocks* placed with the *long axis* into the fill of the building, requiring much more material and labor to construct the same surface area. The entire structure of Danta is built in this fashion (*Photo* R.D. Hansen)

as ritual and public structures were abandoned, leaving behind ceramics and lithics directly on the stucco or packed-earth floors (Figs. 12.15, 12.16 and 12.17). The collapse of El Mirador, Nakbe, Tintal, Wakna, Xulnal, El Pesquero, Tamazul, and other sites at the end of this period (*ca.* 150 A.D.) coincides with what took place in other important centers, such as Tikal, Uaxactun, Seibal, Cerros, Colha, Becan, and the central area of Yucatan, Dzibilchaltun, Komchen, the north coast of Yucatán, Isla Cancun, Edzna, Santa Rosa Xtampak, and many others (see Hansen 1990: 216–221). This suggests that a more global threat may have faced these societies, such as adverse climate change. But it was the massive deforestation and sedimentation of the rich bajo mucks *combined* with a possible drought condition that rendered the *coup de grace* for the major societies in the central Maya Lowlands. Yet, other sites, such as Naachtun, however, seem to have emerged at this period, and it is possible that migrants or refugees from elsewhere in the Mirador Basin may have migrated toward the northeastern part of the Basin (Morales et al. 2014) and/or the coastal regions of the Caribbean. What is obvious though is that where the Preclassic presence was minimal or absent, such as is the case with Naachtun and Dzibanche, the Early Classic period seems to have survived the stresses more adequately suggesting that there may have been an anthropogenic impact that rendered the Preclassic sites less habitable.

Fig. 12.15 Excavations by student Stephanie Schrodt on a "invisible housemound" (Operation 108i) at El Mirador revealed dense quantities of Late Preclassic ceramics left directly on the floors and plazas of the structure at the moment of abandonment about A.D. 150 (*Photo* R.D. Hansen)

The multi-causal factors of resource over-exploitation and environmental stresses may have led to conflict issues (see below), as well as possible disease and malnutrition factors (investigations pending) and possibly other stresses that may have simultaneously converged to disintegrate or degrade the centralized state system. The collapse of a superpower allowed political and economic rivals such as Tikal–possibly with Teotihuacan's help—to emerge and grow to dominance during the Early Classic period. It is curious that in certain sites which later, during the Classic periods, turned into power centers, such as Palenque, Lamanai, Copan, Quirigua, Yaxha, Piedras Negras, Yaxchilan, Dos Pilas, Tamarindito, Altun Ha and Coba, located in the fertile inland river valleys, or close to lakes, lacustrine systems, or the coast, ***did not*** have important populations in the Preclassic. This suggests that

Fig. 12.16 Preclassic ceramics left directly on the floors in the sunken plaza areas of the Great Central Acropolis at El Mirador (*Photo* J.C. Argyle)

proposed models for the rise of cultural complexity due to demographic pressures, social and military conflict or prowess, trade routes, and competition for scarce resources were not the primal stimulating factors since, during the Preclassic period, there was plenty of space for the expansion towards those areas with abundant resources (see Hansen 1984). Rather, these were the consequences of the stimulating factors.

During the Late Classic period, between A.D. 600 and 800, a modest occupation returned or developed in many of the sites in the Mirador–Calakmul Basin. This

Fig. 12.17 Late Preclassic ceramics left directly on the floor of major buildings within the site center as well as minor residences in the peripheral areas suggest a major demographic demise occurred throughout many areas of the Mirador Basin (*Photo* R.D. Hansen)

occupation, living among the ruins of the great abandoned Preclassic centers, did not seem to construct major architecture, but rather exploited existing structure for stone and stucco. Important cities such as Calakmul, Uxul, Balakbal, and Naachtun emerged to became the dominate sites in the Basin, but most centers never recovered their previous size and status. In spite of this, populations of later cities, such as Dzibanche and Calakmul, retained the social and political memory of the more ancient *Kaan* or *Kan* (*serpent*) centers which were located farther south.

Calakmul subsequently emerged as a super-state with great political and military power and rulers ascribing the *Kan* title to their own names and historical records recorded on monuments. This second precocious development continued until about A.D. 840–900, when the second major collapse or demographic demise occurred, leaving the Mirador–Calakmul Basin uninhabited until the present day.

The Evidence for Conflict Scenarios: The "Fighting"

In spite of the prosperity, intellectual achievements, and important artistic and architectural accomplishments, the first cities in the Mirador Basin seem to have become subject to some type of a threatening military pressure towards the latter part of the Late Preclassic period. Note that this was not a factor in the emergence of the complexity, but a symptom of the problems that led to the DEMISE of the social, economic, and political fabric of Late Preclassic society in the Mirador Basin. Large scale excavations in 2013 and 2014 in the major site of Tintal, located in the southwest section of the Basin by the Mirador Basin Project discovered that a circumferential moat, 30 m wide and up to 8 m deep, was constructed in the terminal Late Preclassic period, which parallels similar defensive constructions in Becan and Edzna, Campeche, Cerros, Belize, and Xulnal and El Mirador in the Mirador Basin. The moat system, which completely surrounds the Mano de Leon Group in the central area of the site, provided a unique defensive posture for a portion of the city (Figs. 12.18 and 12.19). In addition, at El Mirador, an enclosing massive wall was constructed around the Western Group at the site dating to the terminal Late Preclassic period (Fig. 12.20). This wall, which measures 8 m high in its ruined state, must have been originally 12–15 m high originally. The construction even extended into the bajo to protect the reservoir systems of the western side of the site. While it has yet to be determined if the threats requiring such fortification systems were internal or external, it can be noted that in certain areas of the Highlands, such as Chiapa de Corzo, evidence of fires and architectural destructions at the end of the Late Preclassic and Protoclassic periods has been found (e.g., Clark and Bryant 2002). In Chiapas, the settlement shift of Preclassic sites from valley floors to more defensive positions on hills and plateaus demonstrates the real possibilities of military or social threats throughout the Maya area that were existent by this time (ibid).

In summary, it appears that there are archeologically identifiable characteristics in the Mirador–Calakmul Basin that have defined the processes that fostered complex social and economic behavior, factors that seemed to maintain those dynamics, and processes that ultimately may have contributed to colossal failure. These processes can be summarized as follows:

I. **The factors that lead to cultural complexity (the feast)**: (**a**) Recognition and responsible development of natural resources; (**b**) identification of crucial logistic systems, necessities and adaptations to meet the needs of the

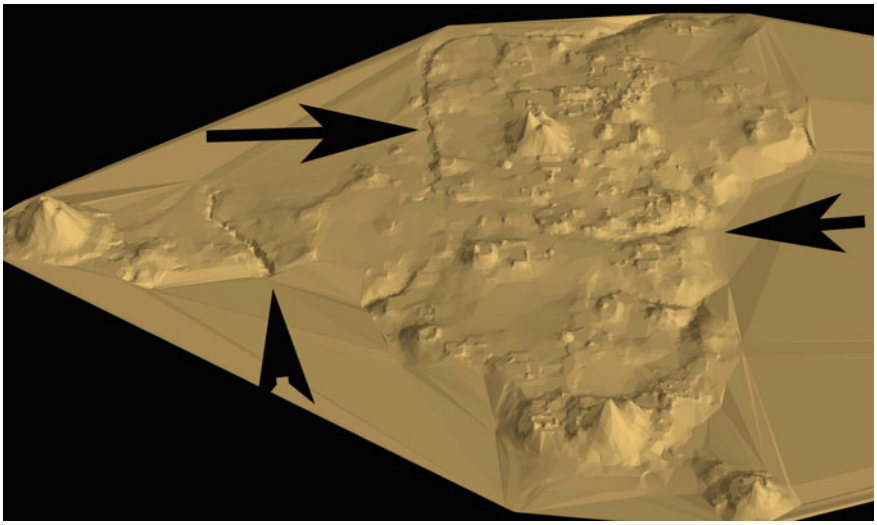

Fig. 12.18 Portion of the great ancient site of Tintal, mapped by total station technology, showing the moat system that surrounded the core of the city (*Map* DEPIC, Carlos Morales A., ©FARES 2015; used by permission)

public good; (**c**) vibrant agricultural production and sustainability which allows economic and intellectual diversification; (**d**) strong communication and transportation systems to distribute goods, commodities, and integrate societies into identifiable and united polities; (**e**) strong political, religious, social, and economic ideologies that provide a unifying societal organic solidarity and encourages conformity and uniformity of large-scale polities; (**f**) societal solidarity, fortified by strong family and community associations; (**g**) centralization of civil and religious authority and the public acceptance of this; (**h**) formation of laws and social order; (**i**) educational systems to teach and maintain and sustain cultural values that gave rise to the cultural complexity, and provide new information and technology for the public good;

II. **The dynamics that maintained the development systems (continuation and sustainability of the "feast")**: (**a**) Environmental compatibility and respect for ecological values; (**b**) improvement on logistics systems and sustainable agriculture; (**c**) maintenance and care of agricultural production systems; (**d**) social solidarity; (**e**) trade interaction and exchange; (**f**) maintenance of ideology and authority figures and institutions; (**g**) the overall economic, medical, and social care of populations; (**h**) systems of legal discipline; (**i**) formation of strong, defensive military systems as a deterrent to outside aggression or predations; (**j**) formation of exterior relations for resource procurement and alliance associations; (**k**) awareness or intelligence systems; (**l**) public works projects; (**m**) incentive programs for productivity; (**n**) viable trade and exchange programs and the maintenance of just and

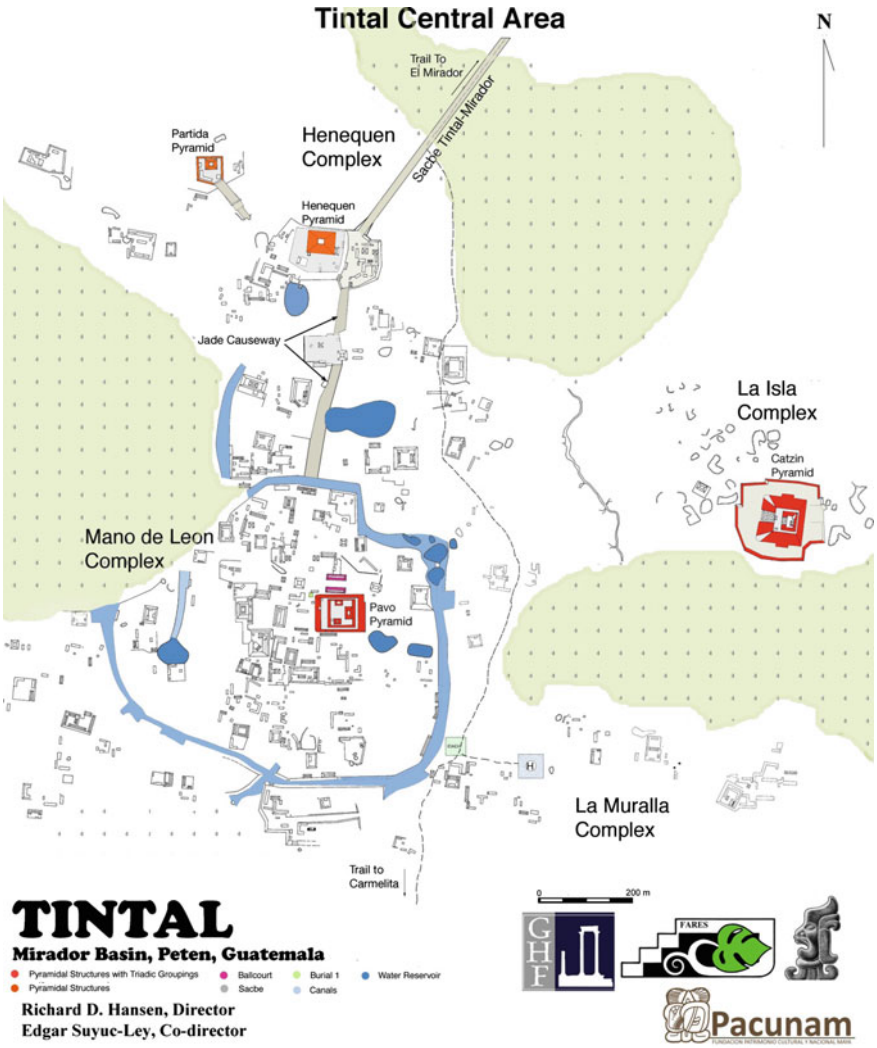

Fig. 12.19 Portion of the ancient site of Tintal, Mirador Basin showing the moat system that surrounds the Mano de Leon Group in the central part of the site. The moat was constructed in the latter part of the Late Preclassic period (ca. A.D. 1–100) (*Map* ©FARES 2013; used by permission)

equitable distribution and transportation systems to allow public access to goods, ideas, and commodities throughout the polity.

III. **The Processes that lead to demographic demise and collapse (famine and fighting)**: (**a**) negligence in recognizing points I and II above; (**b**) abuse and degradation of the environment; (**c**) conspicuous consumption of resources without public benefits; (**d**) failure of agricultural systems; (**e**) degradation of

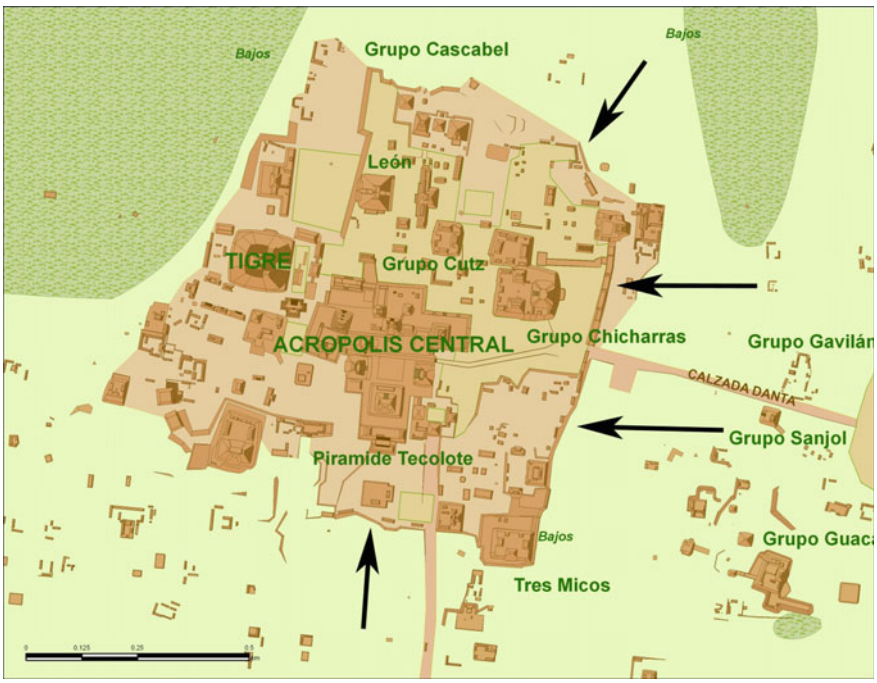

Fig. 12.20 Portion of the Western Group El Mirador indicating the wall system that surrounds the portion of the site. The large scale wall system was constructed in the latter part of the Late Preclassic period (*Map* Josephine Thompson, ©FARES 2010; used by permission)

defensive systems; (**f**) disintegration of law and order mechanisms to insure the protection and continuation of the economic and social catalysts; (**g**) loss of social and educational values; (**h**) disintegration of systems of exchange and commerce; (**i**) and the public and administrative response to political persuasions versus the reality of truth.

The story of the Mirador Basin Maya defines the factors that led to prosperity and cultural sophistication of the society. The data can demonstrate the procedures and mechanisms that sustained and maintained the positive cultural dynamics, as well as demonstrate the consequences of unwarranted and unproductive resource extraction and other abuses of the factors that gave rise to the social, economic, and political complexities. It also suggests that historical facts should be understood by leaders of contemporary governments to allow more vibrant and productive societies to flourish, provide the lessons for the sustainability of cultural and environmental resources, and seek to avoid repetition of errors that had long term negative impacts on the social, economic, environmental, and political factors that once allowed for the sophistication of the society. In many ways, these lessons can apply to the rise of economic and environmental stability, allow for understanding of proper maintenance of positive factors, and avoid the pitfalls and errors of the past.

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Chapter 13
TOLLAN TEOTIHUACAN Multiethnic Mosaics, Corporate Interaction, and Social Complexity in Mesoamerica

Rubén G. Mendoza and Jennifer A. Lucido

> *Critiques of cultural evolutionary formulations and empirically robust case studies combine to shape new concerns with… variable expressions of complexity in time and space; the mosaic quality of social, political economic, and technological landscapes; and the effects of global entanglements over the last millennium.*
>
> Stahl (2004: 145)

Introduction[1]

The recent publication of Robert Carneiro's "The Circumscription Theory: A Clarification, Amplification, and Reformulation" (2012) provides an essential point of departure for assessing the role of resource concentration in prompting social complexity. Given his classic treatment of environmental circumscription (Carneiro 1970),[2] Carneiro's recent reformulation advances an amplification predicated on the monopolization of circumscribed and critically vital resource deposits. These he deems central to the formulation of the compound chiefdom, and by extension, the incipient state (Carneiro 1970, 1974). Resource circumscription thereby provides a particularly cogent conceptual framework for modeling those socioeconomic and political dynamics that underlay the rise of the ancient polity of Teotihuacan, México (Fig. 13.1). Moreover, the proposed new model is especially compelling,

[1]We contend that the term Tollan, or "Place of Reeds," constitutes the original toponym or place name of the metropolis, and this is based on recent findings from Maya epigraphy (Stuart 2000: 502). Accordingly, the term Teotihuacan was that name applied by the Mexica Aztec of the Postclassic to designate the site of the ruined metropolis named as such.

[2]Carneiro's (1970) study assessed the role of demography and conflict as fundamental to that panoply of processes culminating in the rise of the Mexica Aztec state in the otherwise circumscribed contexts of the Basin of Mexico.

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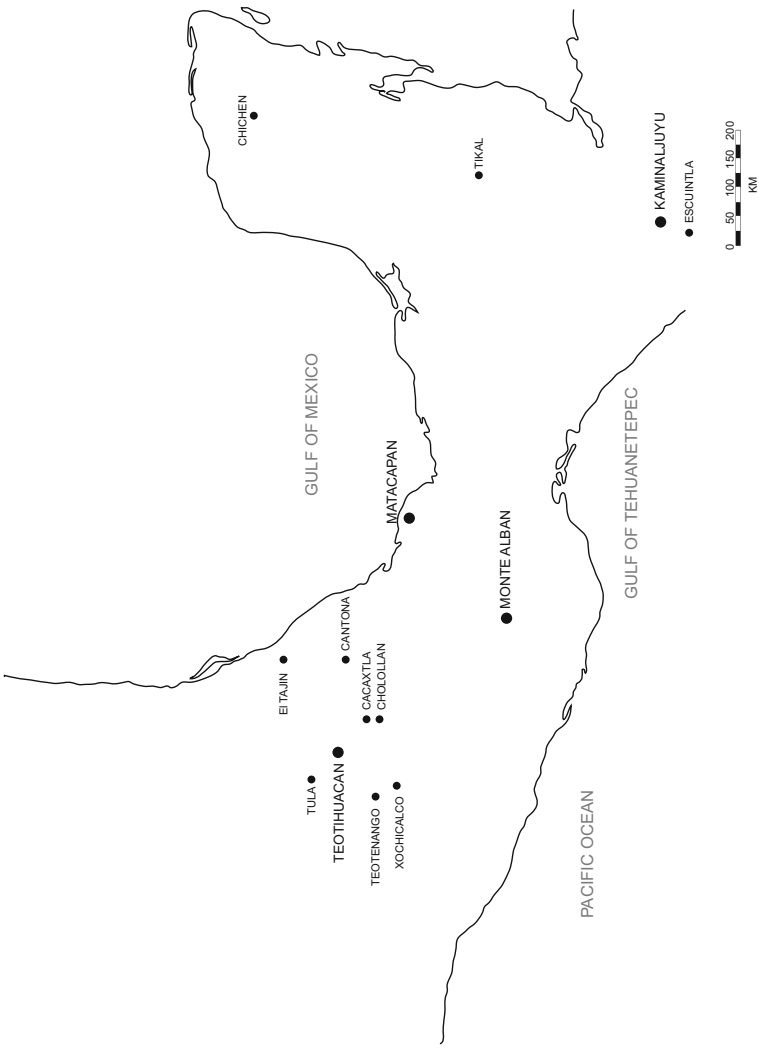


Fig. 13.1 Map of Mesoamerica with selected sites mentioned in text. Adapted from Mendoza (1992) by Jennifer A. Lucido, 2015

particularly as construed against the backdrop of Teotihuacan's wholesale monopolization of the nearby Pachuca and Otumba obsidian quarries. While resource circumscription represents a significant point of departure for assessing the evolving political economy of the ancient state of Teotihuacan, ongoing efforts to identify the overriding variables that prompted large-scale Terminal Formative demographic and political changes in the Basin of Mexico clearly require a reappraisal (Scott 2011: 8).

To that end, we address current findings that align with what Stephen Scott (2011) identifies with the role of environmental fluctuations in mediating the speed at which social complexity advances. According to Scott (2011: 8), "time rather than space [in so far as environmental variability or circumscription] is the more important factor governing the emergence of social complexity." As such, we posit that catastrophic environmental fluctuations borne of volcanism necessarily underlie the emergence of those multiethnic corporate formations that ultimately defined the corporate and cultural landscapes of ancient Teotihuacan (100 BCE-650 CE).[3] We therefore contend that environmental perturbations borne of cataclysmic patterns of volcanism centered in the southern Basin prompted demographic aggregation in the northern Basin, and this in turn spawned the rapid demographic and political expansion of the nascent metropolis of Teotihuacan (Fig. 13.2). The resulting multiethnic corporate interaction or corporate charter is thereby here seen to define the character of incipient state formation centered on the Valley of Teotihuacan.

Drawing on those macroevolutionary and microenvironmental variables—that underpin the emergence and elaboration of social complexity and incipient state formation—this study revisits the question of incipient (or primary) versus secondary (or derivative) state formation within and beyond the Basin of Mexico (Fig. 13.3). We are particularly concerned that longstanding developmental and evolutionary models continue to posit interpretive constructs that frame social complexity in strictly binary terms, or incipient, pristine, or primary versus secondary or derivative state formations for highland Teotihuacan and the Gulf lowlands. As such, extant models for sociopolitical complexity continue to ascribe secondary or derivative standing to the warring kingdoms and contemporaneous state formations of the Mexican Gulf lowlands. Significantly, recent findings from Mesoamerican archaeology increasingly demonstrate the existence of coeval or coevolutionary highland–lowland and circum-Basin state formations (Abungo and Mutoro 1993; Algaze 1993). Our review, therefore, spans the Mesoamerican golden age of the Early (200–400 CE) through Middle Classic (400–600 CE) and

[3]Where Mesoamerica is concerned, catastrophic volcanic and seismic forces have more than demonstrated their respective propensities for abruptly redefining demographic trajectories, and thereby, cultural landscapes and settlement patterns (Sheets 1999, 2009).

Fig. 13.2 Teotihuacan's Pyramid of the Moon is situated at the northernmost end of the Avenue of the Dead, which is in turn situated on an urban axis oriented 15°25′ East of North. *Photo* © 2014 Rubén G. Mendoza

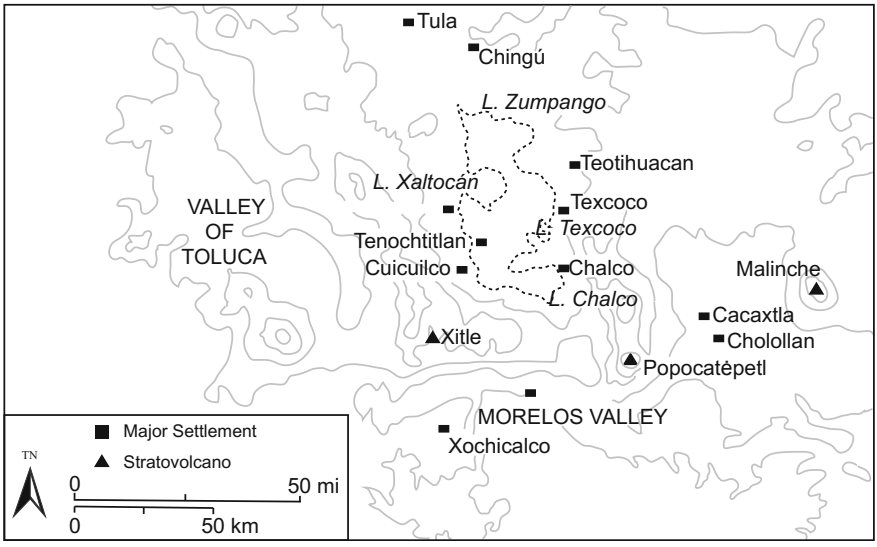
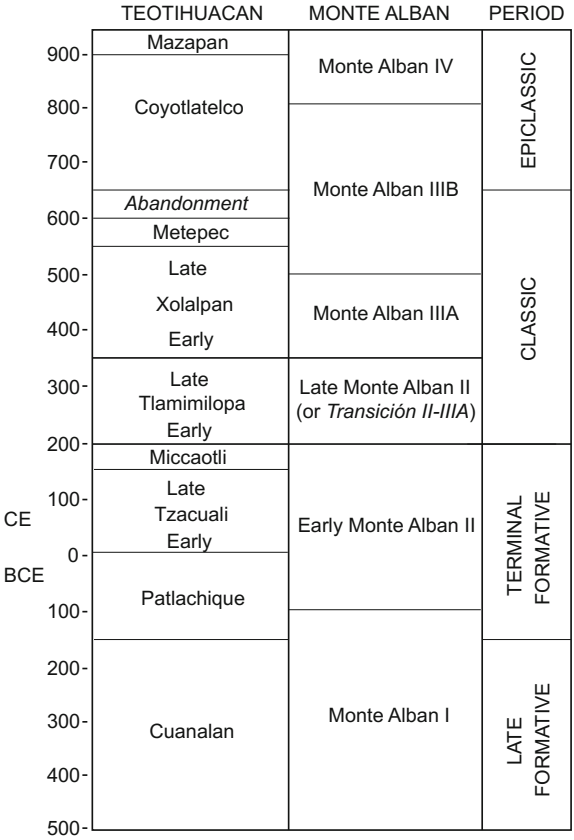


Fig. 13.3 Map of the Basin of Mexico and those Classic era sites cited in text. Adapted from Mendoza (1992) by Jennifer A. Lucido, 2015

Table 13.1 Mesoamerican chronology defined in terms of the sites of Teotihuacan, Mexico, and Monte Alban, Oaxaca



Adapted with revisions from Rattray (1999, 2001) and Beramendi-Orosco et al. (2009) by Jennifer A. Lucido, 2015

ultimately, by extension, that period identified with the warring states of the Epiclassic apogee of the central highlands (600–900 CE) (Table 13.1).

The Place of Cattails

Identified as *Puh* (or "Place of Cattails" or Tollan; Stuart 2000: 502; Jiménez Moreno 1941, 1942) by the Classic era Maya, the origins and development of the ancient metropolis of Teotihuacan have long-fascinated scholars and the lay public

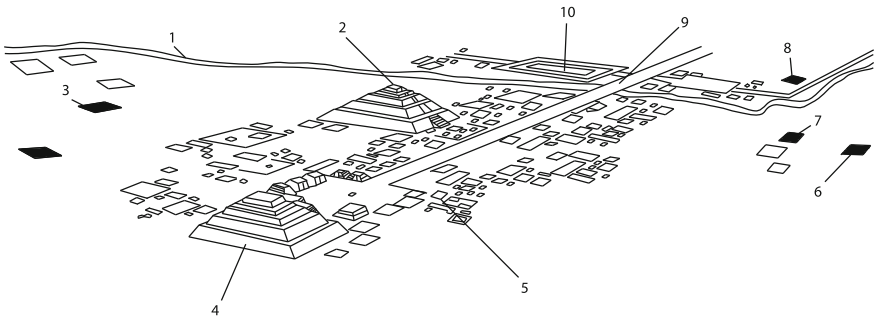


Fig. 13.4 Perspective view of the main Avenue of the Dead and associated monuments: *1* Río San Juan; *2* Pyramid of the Sun; *3* Tepantitla compound; *4* Pyramid of the Moon; *5* Quetzalpapalotl Palace; *6* Atetelco compound; *7* Tetitla compound; *8* La Ventilla compound; *9* Avenue of the Dead; *10* Ciudadela Palace compound. Adapted from Taube (2000: 2) by Jennifer A. Lucido, 2015

alike, the world over, for generations.[4] Given its status as a "preindustrial" city, or "an urban society dependent primarily on human and animal sources of energy" (Storey 2006: 277), Teotihuacan remains largely enigmatic for both what we know of its multiethnic origins, and its fiery demise and abandonment.[5] Its austere monumentality is manifest in the massive pyramids of the Sun, Moon, and Feathered Serpent, the Avenue of the Dead, and some 2300 walled and elaborately frescoed Middle Classic (CE 200–550) apartment compounds. Moreover, its proximate location some 50 km northeast of Mexico City has placed it at the epicenter of Mexican cultural tourism and Mesoamerican studies.

The archaeological and ethnohistorical study of Teotihuacan, as such, was formally launched with the work of Leopoldo Batres' excavations of the Pyramid of the Moon, Temple of Agriculture, and the Pyramid of the Sun in 1906 (Fig. 13.4). Said studies were commissioned by President Porfirio Diaz in preparation for the centennial celebrations of Mexican Independence in 1910 (Bernal 1979: 141; Gándara 2012: 33). Beyond recording the long since obliterated murals of the

[4]Jimenez Moreno's (1941) study first identified the ancient settlement of *Tollan Xicocotitlan*, or Tula, Hidalgo, with the legendary *Tollan* or "Place of Reeds" of the Mexica chronicles. Tollan, therefore, was interpreted to signify a place of "abundance, a congregation of people, a metropolis" (Hinnells 1995: xxv). Given recent findings from Maya epigraphy, which identify Teotihuacan, as opposed to Tula, with "Place of Cattails" or "Reeds", we contend that the ancient toponym and Maya glyphic reference was originally intended for *Tollan Teotihuacan*, and that Tula's later identification with Tollan was essentially by default, and thereby, by virtue of its own claims to ascendancy and affinity with the earlier metropolis of the *Toltecatl*, or *Toltecayotl*, skilled artisans who once occupied the wards and precincts of ancient Teotihuacan.

[5]The scale of urban planning and monumental construction at Teotihuacan may be construed as all that much more amazing when weighed against the fact that Mesoamerica was absolutely devoid of any of the types of beasts of burden that once fueled the construction of the monuments of Africa and Eurasia. As such, virtually all resources were conveyed, and all construction was conducted, by human burden bearers over some of the most challenging terrain imaginable.

iconographically significant Temple of Agriculture, Batres' excavations of the Pyramid of the Sun ultimately compromised the structural integrity of the monument, and efforts to "restore" the structure only hastened its deformation (Mastache and Cobean 1998: 42).[6] The first systematic study and interdisciplinary Mexican archaeological approach undertaken was that of Manuel Gamio's Teotihuacan Valley project (Gándara 2012: 34). Gamio's subsequent treatise titled *La población del valle de Teotihuacan* (1922) furthered the discussion along the lines of Teotihuacan's theocratic roots, and in turn projected a population maximum of 300,000 for the region, a figure that may well reflect the outer limits of the region's optimal carrying capacity at the apogee of the city's development. A host of long-term and problem-oriented regional investigations centered on the Basin of Mexico, and the Valley of Teotihuacan, were subsequently undertaken in the 1960s and 1970s (Millon 1960, 1970, 1973a, b; Millon et al. 1973; Sanders et al. 1979; Sanders and Price 1968). This suite of critically significant studies served to define and demarcate Teotihuacan's (a) overall aerial extent at 22.5 km^2 (Kurtz et al. 1987: 334), (b) a corresponding time-depth spanning the period from 100 to 650 CE, and (c) a projected total population encompassing some 125,000–200,000 inhabitants.

Whereas Rene Millon (1970, 1973a, b) undertook a comprehensive mapping survey that delineated the areal extent of the ancient metropolis of Teotihuacan, Sanders et al. (1979) first reported the results of comprehensive region-wide survey centered on the cultural ecology and demographic history of the Basin. Sanders in turn produced initial indications for significant population aggregations in the Valley of Teotihuacan. Said aggregations and their consonant demographic changes and architectural build-out were interpreted to coincide with the inception of the city's development. Beginning in the 1970s, a number of iconographic and art historical studies once again advanced ideological, political, and cosmological interpretations of the site and its iconographic ensemble (Berlo 1992; Berrin and Pasztory 1993; Berrin 1988; Cowgill 1992; Headrick 2007; Heyden 1975; Langley 1986; Sugiyama 1993, 2010; Taube 2000). Recent investigations centered on the so-called Feathered Serpent Pyramid (Cabrera Castro et al. 1991; Cowgill 1983; Sugiyama 1993, 1998, 2005) have revealed the militaristic, ritual, and sacrificial dimensions of those practices undertaken in the administrative precincts of the ancient city (Fig. 13.5). According to Headrick (2007: 10), Cowgill was the first to propose that the Ciudadela "may have served as the residence of the king and his immediate family and also as a monument to the office of the king, yet, ironically, the Feathered Serpent Pyramid inside of the Ciudadela may have marked the decline of powerful individual rule at the site." Cowgill (1997), Headrick (2007), Rattray (1987, 1990, 1993, 2002), Manzanilla (2015), and Mendoza (2015) have since produced a more nuanced picture of the political cosmology and multiethnic

[6]The excavations in question compromised the structural integrity of the ancient monument's internal system of interlocked posts and task walls. Said systems served to mitigate those lateral forces arising from seismic events and those natural compressive forces resulting in structural liquefaction or destabilization.

Fig. 13.5 The so-called Feathered Serpent Pyramid (FSP) with ball court marker or conquest banner in foreground. FSP reconstruction from the Museo Nacional de Antropología e Historia, México, D.F. *Photo* © 2014 Rubén G. Mendoza

corporate structures that once defined the internal workings of the metropolis and polity of Teotihuacan. These and other such studies, brought to bear by generations of archaeologists, art historians, and forensic anthropologists, have as such transformed our understandings of the ancient city and its geopolitical sphere of influence.

The earliest such studies sought to elaborate on those works of art, and the otherwise austere and or "theocratic" character of the talud-tablero Teotihuacan architectural tradition germane to the Middle Classic. However, the lack of a forthright means by which to interpret the iconographic ensemble led most to fall back on the theocratic origins hypothesis for the origins of the metropolis (Séjourné 1966). Theocratic origins for the rise of social complexity and the state were soon co-opted by those who invoked Karl Wittfogel's (1956, 1957) hydraulic hypothesis. Wittfogel's hypothesis contends that the construction and maintenance of large-scale irrigation systems led to the rise of a centralized and often despotic administrative apparatus capable of wielding access to key resources and mobilizing labor. This ability on the part of managerial elites thereby served as the prime mover or substrate for the origins of social complexity in any given region. Cowgill (1979: 56) in fact contends that Teotihuacan was successful as a centralized state precisely because it was a "hydraulic" state based on intensive irrigation agriculture in a semiarid environment. Nichols (1987: 134–135) in turn observes that where the semiarid conditions of the Basin are concerned, "irrigation is not absolutely

necessary for maize cultivation…however rainfall is highly variable from year to year and place to place, and moisture deficits during the growing season occur sufficiently often to pose a significant problem for maize agriculture in the Basin." To that end, Nichols' (1987: 149) investigation of the Tlajinga canal system identified with the Barranca de San Lorenzo on the Tlajinga plain indicates that the east–west canal was rerouted early in the Middle Horizon to conform to the urban grid, and "the absence of Coyotlatelco ceramics in the stratigraphic sequence suggest that the irrigation system was abandoned by the end of the Middle Horizon."

Significantly, corollary developments aligning with the rise of Teotihuacan in the Basin of Mexico indicate that "most Late Formative sites not in defendable positions were abandoned" (Blanton 1970: 128) and new sites were founded in hilltop locations suitable for defense. Such "shatter zones," or regions of the Basin seen to have been depopulated in tandem with the aggregation of sizable populations at Teotihuacan, have long been thought to indicate a coerced pattern of resettlement prompted by the dictates of the emerging state and metropolis of Teotihuacan (Feinman et al. 1985: 359; Sanders et al. 1979). Recent findings by Plunket and Uruñuela (2012), however, bolster a view that argues for the role of volcanism and or catastrophism in the reaggregation and or abandonment of significant areas within the Basin of Mexico, and the displacement of indigenous settlements in the southern Basin and Puebla.

Catastrophism and Volcanism

Catastrophism, or the theory that sudden, and short-lived, catastrophic geological events have played a significant role in world history is one that has had long currency in the field of geology (King 1877). Uniformitarianism, or gradualism, however, has ultimately prevailed in the field of geology to explain the gradual or incremental formation of the earth and its geological profile. Similarly, where the evolution of social complexity is concerned, interdisciplinary consensus holds that the rise of the incipient state was part and parcel a product of a gradual or uniform process gradually punctuated by episodic events such as drought, which have the potential to alter the evolutionary trajectory of a given society. While catastrophic drought, such as that identified with twelfth- and thirteenth-century Ancestral Pueblo societies of the US Southwest, is largely construed as epiphenomenal; the role of climatological and geological factors have clearly played a role in the rise and demise of a host of early civilizations (Sandweiss and Quilter 2009; Sheets 1999). While no clear link has been established between the demise of the Formative Period site of Cuicuilco, and the emergence of Teotihuacan, scholars have long acknowledged that the catastrophic volcanic destruction of Cuicuilco in the Terminal Formative appears to coincide with the demographic reorganization of the Basin of Mexico and the rise of Teotihuacan. So entrenched is the idea that the cataclysmic destruction of Cuicuilco was the basis for the rise of Teotihuacan that

Fig. 13.6 View of the eastern flank of Mount Popocatépetl as seen from the region of Tlaxcala, Mexico. *Photo* © 2014 Rubén G. Mendoza

Cowgill's (2015) recent book continues to espouse this view, and in so doing presents geological assessments that support an earlier first-century BCE dating for the volcanism in question. Unlike earlier assessments of the role of volcanism in the demise of Cuicuilco, and the rise of Teotihuacan, Cowgill acknowledges the likelihood that the eruption of Popocatépetl played a larger role in the depopulation of the southern Basin. He further notes that "ash fall from Popocatépetl around 200–1 BCE was devastating in the southeastern Basin and probably had effects as far west as Cuicuilco" (Cowgill 2015: 45) (Fig. 13.6).[7]

Recent archaeological and geological investigations centered on the Basin of Mexico now serve to validate the longstanding observation that volcanism identified with Popocatépetl and Xitle played a role in the destruction of Basin settlements and corollary population movements out of the southern Basin in the first-century CE (Table 13.2). According to Sheets (2009: 180), some 70,000 people were affected by the cataclysmic eruption of Popocatépetl. The eruption of

[7]We hereby acknowledge that differing authorities continue to offer conflicting dates for the eruption patterns of Popocatépetl, although a host of these clusters in and about the first-century CE. Given their microanalysis of Tetimpa and other sites of the Tlaxcala-Puebla escarpment, we hereby rely on those dates projected by Plunket and Uruñuela (2008, 2012).

Table 13.2 Volcanic eruptions and associated cultural events identified with Popocatépetl, Xitle, and Orizaba. Adapted from those sources noted in the table by Jennifer A. Lucido, 2015

Year	Volcano	Activity	Source	Associated event(s)	Source
200–1 BCE	Popocatépetl	Ash fall	Cowgill (2015: 45)	SE Basin devastation Teotihuacan corridor	Cowgill (2015: 45)
0–100 CE	Popocatépetl	Eruption: VEI-6	Manzanilla (2015: 1)	Depopulation/displacement of the southern basin; Abandonment of Cuicuilco	Sheets (2009: 180); Plunket and Uruñuela (2012: 33)
	Popocatépetl	Eruption	Parsons (1974, 1976)	Devastation of Cuicuilco	Parsons (1974, 1976): cf. sheets (1999: 53)
245–315 CE	Xitle	Eruption	Siebe (2000: 45)	Depopulation/displacement of the southern basin	Manzanilla (2015: 1)
250 CE	Popocatépetl	Eruption	Global volcanism Program (2015)	Construction of FSP at Teotihuacan	Sugiyama et al. (2013: 429)
600 CE	Orizaba	Eruption	Sheets (1999: 50)	Decline of Matacapan population	Sheets (1999: 50)
701–800 CE	Popocatépetl	Eruption	Plunket and Uruñuela (2008: 111)	Ash layer at Tetimpa and Cholollan region	Plunket and Uruñuela (2008: 113–114)

Those dates identified with the eruptions of Xitle for 245–315 CE and Popocatépetl at 100 CE and 701–800 CE are among the best documented to date. Those dates published by Plunket and Uruñuela (2005: 100) and Siebe (2000: 61) are predicated on the Volcanic Explosivity Index for Basin volcanism

Popocatépetl thereby coincides with an abrupt depopulation of the southern Basin, such that "the sudden arrival of tens of thousands of refugees would have strained the newly emerging political, economic, and adaptive systems" of the emerging metropolis of Teotihuacan (Sheets 2009: 180).

The Terminal Formative

Recent findings by Plunket and Uruñuela (2012: 32) provide indications that the nearby highland site of Tetimpa, Puebla, experienced a spasm of violent conflict, decapitation and the desecration of human remains, and the burning and destruction of the residential sector of the site in the Terminal Formative. This they speculate may have been the result of poverty, intervillage raiding, competition for land and labor, or land degradation specific to the *tlacolol* farming of hillsides in the area of Popocatépetl. Whatever the cause of emerging patterns of violent conflict interaction in the Terminal Formative, it is clear that Tetimpa's circumstances provide archaeological confirmation for a much broader pattern of developments that see the collapse of the Formative site of Cuicuilco, and the rapid acceleration of

demographic growth and sociopolitical centralization on Teotihuacan. Interestingly, the iconic talud-tablero architectural style of the Teotihuacan Early and Middle Classic (200–400 CE, and 400–650 CE) first manifests in the region of Tetimpa as early as 700–400 BCE. Moreover, it is precisely the talud-tablero architectural style and its corollary residential pattern that predominates in the incipient build-out of the metropolis of Teotihuacan (Plunket and Uruñuela 2012: 304). While the aforementioned investigators cannot assert with certitude that the talud-tablero and attendant residential patterning in evidence at Tetimpa "is Teotihuacan-derived, Puebla phenomenon, or a characteristic common to both areas," it in fact anticipates by centuries the large-scale state-level deployment of talud-tablero and its conjoined residential pattern later identified with the Teotihuacan Middle Classic (Plunket and Uruñuela 2012: 305). This lends further credence to the observation that Terminal Formative population aggregations at Teotihuacan drew heavily from groups inhabiting the southern Basin and Tlaxcala-Puebla escarpment near the towering volcanic prominence of Popocatépetl.

In fact, so profound were the changes to the cultural landscapes of the Terminal Formative–Classic Period transition that it is perhaps no surprise that said changes follow the volcanic eruption of Popocatépetl. Furthermore, Plunket and Uruñuela (2012: 33) contend that the cataclysmic eruption of Popocatépetl, and its attendant ash fall and lava flow, blocked Cuicuilco's access to major exchange networks identified with the southern Basin. In addition, the eruption decimated the surrounding landscapes and prompted refugees to flee to neighboring regions. By the time of the Xitle eruption in 245–315 CE (Siebe 2000: 45), the evidence indicates that Cuicuilco was already abandoned.[8] Therefore, Plunket and Uruñuela (2012: 33) argue that the evidence implicates Popocatépetl, as opposed to Xitle, in the initial volcanic eruption that advanced the abandonment of Cuicuilco, and prompted the first-century population diaspora that furthered the influx of peoples into the Valley of Teotihuacan.

Manzanilla (2015: 1) goes on to argue that following the volcanic eruptions of the first- and fourth-century CE, populations were recurrently displaced in the southern Basin of Mexico. As a result, Teotihuacan became a multiethnic settlement comprised of peoples from the southern Basin and Tlaxcala-Puebla escarpment. That evidence brought to bear by Manzanilla (2015: 4) provides the strongest such evidence yet available from the archaeology of Teotihuacan for the influx of Basin, circum-Basin, and other nonindigenous populations. According to Manzanilla (2015: 4), strontium isotope analyses of human remains from the Teopancazco compound at Teotihuacan indicate that its residents originated with other Basin populations. These include migrants from the nearby regions of (a) Puebla, Tlaxcala, and Hidalgo, as well as from (b) the distant Gulf Coast, Oaxaca, Chiapas, West Mexico, and (c) other areas of the Central Highlands,

[8]According to Siebe (2000: 45), the lava flows that ultimately sealed the fate of ancient Cuicuilco encompassed an area of 70 km^2. Interestingly, the dates advanced for the eruption of Xitle coincide closely with the mass sacrifice and interment of some 200–250 warriors and related captives at the Feathered Serpent Pyramid (White et al. 2002: 218).

including refugees and emigres from other extant lower and higher altitude settlements both within and beyond the Basin (Crespo Oviedo and Mastache 1981).

According to Spencer and Redmond (2004: 191–92), Cuicuilco and Teotihuacan "simultaneously sought to expand their spheres of influence," and as a consequence "settlement pattern changes at this time are thought to reflect a highly competitive and unstable situation." The increasingly volatile relations between these early compound chiefdoms may well have been fostered by competition over Cuicuilco's strategic location astride one of two southern routes into and out of the Basin of Mexico. Accordingly, Plunket and Uruñuela (2012: 32) cite the GIS analysis of Carballo and Pluckhahn (2007) that effectively identified transport network geometries specific to those routes to the south and east that align with Cuicuilco and Teotihuacan, respectively. Moreover, Spencer and Redmond (2004: 192) indicate that "There is no evidence that either Cuicuilco or Teotihuacan attempted to extend their control to any areas outside the Basin during the Tezoyuca-Patlachique phase." This stalemate may have well been the result of competition borne of those compound chiefdoms or kingdoms and incipient states of Morelos and the Puebla Basin that similarly vied for power and control of the region. Ancient rivalries between the sites of Cuicuilco, Chalcatzingo, Cholollan, Totimehuacan, Xochitecatl, and Tlapacoya were apparently stanched by the cataclysmic eruption of Popocatépetl in the first-century CE. As such, we contend that the first-century eruption in question may well have signaled the disruptions of those ancient corridors of trade and exchange identified with that interaction obtaining between the southern Basin, Morelos, Tlaxcala, and the Puebla Basin. Significantly, the cataclysmic events identified with this period in turn coincide with the subsequent construction of the massive mountain shrines of the Pyramids of the Sun and the Moon, and the cultural transformation and economic development of the Teotihuacan Corridor to the east of the great metropolis (Mendoza 1992) (Fig. 13.14, below).[9] The strategic locations of the Pachuca and Otumba obsidian quarries astride the route in question clearly played a role in fueling commerce and trade along this strategic route culminating in the Gulf lowlands (Fig. 13.7). Significantly, Spencer and Redmond (2004: 192) acknowledge that with the advent of the Classic Period at circa 200 CE, Teotihuacan rapidly established a presence in such far-flung provinces as Morelos, Veracruz, and Guatemala. Clearly, much of this latter pattern was inextricably linked to local and long-distance trade in both utilitarian and exotic obsidians from the Otumba and Pachuca sources, respectively (Healan 1993: 449; Hirth and Villaseñor 1981: 135; Mendoza 1992; Santley 1989: 131; Spence 1981: 769; Zeitlin 1982: 254).

In returning to the question of Late Formative developments that set the stage for the exponential growth of the metropolis, and Teotihuacan's ascendancy over its

[9]Dates ascribed to the Pyramid of the Sun span 170–310 CE (Sugiyama et al. 2013: 429), whereas the Feathered Serpent Pyramid has been provisionally dated to 200–250 CE (Sugiyama et al. 2013: 429) and the Moon Pyramid Building 4 is dated to 200–300 CE (Sugiyama and Castro 2007: 120). Given the chronological overlap of the three largest pyramidal platforms or mountain shrines in question, we contend that all three structures underwent construction as part of a singular large-scale, public works program.

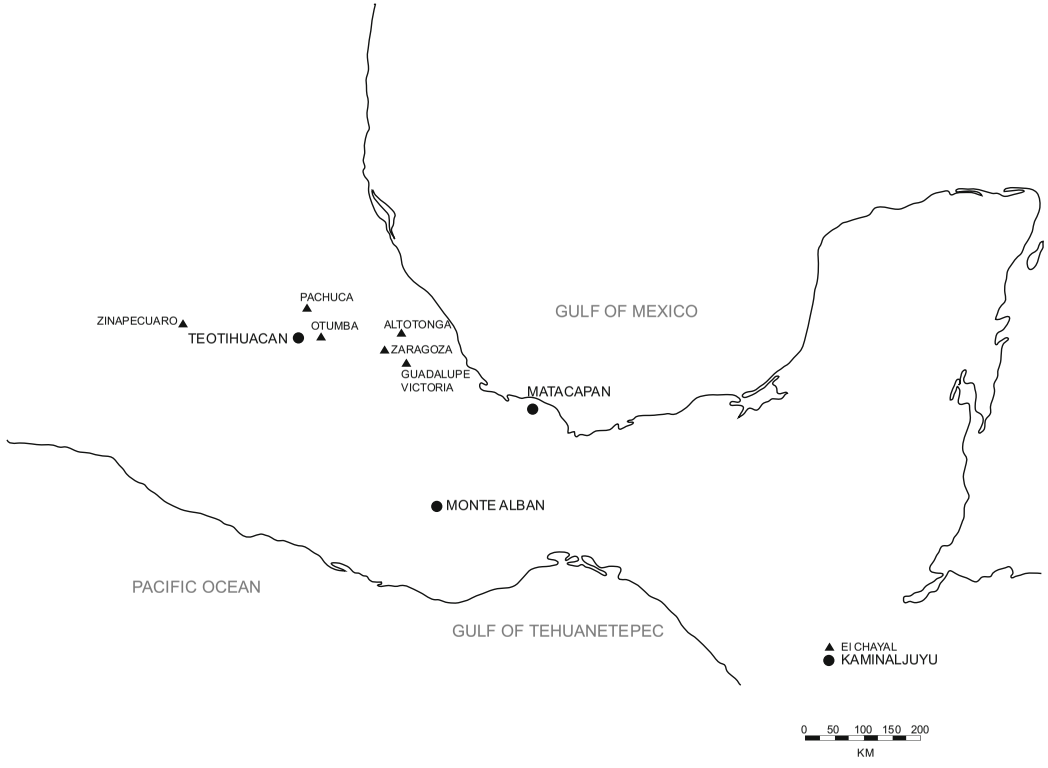


Fig. 13.7 Map of the most prominent obsidian sources identified with Teotihuacan and its far-flung outposts. Adapted from Mendoza (1992) by Jennifer A. Lucido, 2015

rivals in both Basin, and circum-Basin contexts, we are once again beckoned to revisit the question of large-scale population movements. Accordingly, Spencer and Redmond (2004: 190) acknowledge that "at Teotihuacan during the Tezoyuca-Patlachique phase, there were two foci of occupation covering a total of some 600–800 ha, with an estimated population of 20,000–40,000."[10] This period of growing population aggregation saw a massive construction boom centered on the primary civic-ceremonial monuments that would come to define the axial configuration of the ancient center. According to Sanders et al. (1979: 99), "the monumentality of the Phase Three (Tezoyuca-Patlachique) public architecture was without parallel in the entire Basin of Mexico, and only Teotihuacan equaled or exceeded it in size and population."

Whereas the latter investigators sought to delineate the cultural ecology and demographic basis for the evolution of social complexity in the Basin of Mexico, they also documented those large-scale demographic shifts now thought to coincide with patterns of volcanism and the origins of the metropolis (Sanders et al. 1979). Interestingly, a host of scholars have observed that in addition to their orientation to the west, "Puebla-Tlaxcala's monumental architecture reflects a strong ritual focus on volcanoes that frame its landscape, and particular importance has been given to Popocatépetl, the 'smoking mountain' to the west…[and thereby] denotes ceremonial concern directed at Popocatépetl" (Plunket and Uruñuela 2012: 19). Given that it would appear that the Puebla-Tlaxcala region has produced the earliest evidence for the evolution of talud-tablero architecture, and the Pyramids of the Sun and the Moon, are oriented identically to those of the main monuments of Totimehuacan and Cholollan in the Puebla Basin; it is no surprise that recent studies by Manzanilla (2015) and Plunket and Uruñuela (2008, 2012) indicate that the metropolis was inhabited by sizable populations originating in the Puebla-Tlaxcala Basin.

The Multiethnic Charter

While Millon (1988) clearly acknowledges the multiethnic charter and or foreign character of some wards or compounds of the Teotihuacan metropolis, he was necessarily stymied in asserting or advancing explanations for the emergence of the city writ large. He was similarly reticent to acknowledge the advanced complexity of the ancient polity, particularly in so far as this placed it squarely within the realm of empire. In fact, Millon (1994: 28) once asserted that "there was no Teotihuacan empire." Millon (1988) similarly advanced the idea that the fiery demise and systematic destruction of Teotihuacan was the product of ceremonialism or an internal revolt, particularly as little evidence has been recovered to indicate foreign invaders. Ultimately, Manzanilla's (2015) compelling forensic and archaeological

[10]The hectare measure in question constitutes some 6–8 km² for the Tezoyuca-Patlachique phase occupation, or approximately one-third the size of the city at its maximal extent.

analysis of the Teopancazco compound appears to support the idea of an internal revolt based on the evidence for escalating patterns of conflict between competing corporate or state-level and middle-range elites. Moreover, despite Millon's (1988) earlier assessments, Smith and Montiel (2001: 219) ultimately conclude that the metropolis of Teotihuacan was the seat of empire. To that end, Sugiyama has acknowledged that by the Patlachique Phase, Teotihuacan had already developed into an important regional center vying with the sites of Cuicuilco, Tlapacoya, and Cholollan for economic and political dominance of the central highlands (Sugiyama 2012: 216). Ultimately, Teotihuacan qualifies as the seat of an early Mesoamerican empire by virtue of (a) the ancient metropolis' centralized political control in the Early Classic, (b) the orthogonal grid layout and sophisticated urban planning of the metropolis, (c) its broadly distributed state-level iconographic vocabulary, (d) extant political and military control of distant provinces, (e) its autonomous, but culturally isomorphic, commercial outposts such as those of Amatzinac, Morelos, or Matacapan, Veracruz, and (f) its political, economic, and cultural influence and or control on an international scale (Smith and Montiel 2001: 245) (Fig. 13.8).

While Rattray (1987: 244, 1990, 1993, 2002), Mendoza (1992), and Millon (1981) have long questioned the affinities and associations of the ethnic enclaves of Teotihuacan, these earlier studies did not have the advantages inherent in having access to long-term interdisciplinary and forensic studies required to address the question. By contrast, the long-term, thirteen-season, systematic archaeological investigation of the Teotihuacan neighborhood center of Teopancazco by Linda Manzanilla (2015: 1–2) led her to conclude that:

> In the first-century A.D., the Valley of Teotihuacan (already occupied by villages of local people, such as Cuanalan) (1) probably received large groups of people displaced by the eruption of the volcano Popocatepetl, (2). The large demographic concentration at Teotihuacan should be seen, not as a forceful act or the result of conquest, (3) but rather the natural consequence of large population shifts.

What then constitutes those Formative settlement patterns in force on the eve of the emergence of the paramount center of Teotihuacan? And, how might such Gulf lowland/highland interactions have served to define the multiethnic charter of the ancient metropolis from the outset?

Coeval Formations

Beginning in circa 900 BCE, the Gulf lowland or Olmec-affiliated "outpost" of Chalcatzingo, Morelos, Mexico, launched a program of monumental construction and iconographic display corroborating the site's identification with these lords of the Gulf lowlands and regions to the west (Grove 1999). Significantly, Chalcatzingo's strategic location on the southern pass into the Basin of Mexico clearly positioned it for a direct role in long-distance interactions, and this fact is reflected in those collections retrieved to date from the site by way of archaeological investigations. Moreover, Plunket and Uruñuela (2012: 16) note that Chalcatzingo

Fig. 13.8 Teotihuacan brazier consisting of molded applique butterfly motifs affixed to the Mountain of Sustenance. Such braziers have been recovered from throughout those Mesoamerican sites identified with Teotihuacan interaction. *Photo* © 2014 Rubén G. Mendoza

has produced the earliest evidence for an obsidian core-blade production workshop in Mesoamerica. Given the proximity of the Preclassic site of Cuicuilco, located in the southern Basin of Mexico and on the margins of Lake Texcoco, it is no wonder that Chalcatzingo's contemporaneity with the rise of the Formative settlement of Cuicuilco has long led to speculation that the sites constitute coeval or tandem developments centered on "a broader Olmec-related Middle Formative tradition occupying the southern escarpment of the Central Highlands and the route into the hot lowlands of the Balsas Basin and on to the shores of the Pacific for the procurement of shell, greenstone, and cinnabar" (Ávila et al. 2014; Plunket and Uruñuela 2012: 12–13).

Such a "generalized increase in corporate behavior at all levels of society" is reflected in an orientation to local and long-distance production and distribution of exotics and sumptuary goods, and a transition from nuclear to extended family dwellings at Chalcatzingo (Plunket and Uruñuela 2012: 15). Flannery (2002) interprets these trends to signal the escalation of social complexity, and the emergence of elite residential buildings and corporate identity formations (Manzanilla 2012). At all such Middle and Terminal Formative sites under study, the evidence for conflict and social violence exists in tandem with the multiethnic character of those collections identified with both indigenous and foreign interaction (Plunket and Uruñuela 2012: 32–33).

The Zapotec Connection

Coincident with those developments that serve to define the aggregation of populations at the evolving metropolis of Teotihuacan between 150 BCE and 200 CE, the Oaxaca Valley was substantively "integrated into a single polity, the early Zapotec state, under the rule of Monte Albán" (Spencer and Redmond 2004: 176). Ultimately, their argument for primary or incipient state formation is based on three lines of evidence, defined in terms of (1) a four-tiered settlement hierarchy dominated by the primate center, (2) the appearance of administrative/institutional buildings such as palaces and specialized temples, and (3) the conquest and or subjugation of distant provinces (Spencer and Redmond 2004: 176). Each of these criteria is thought to have defined emerging settlement hierarchies and patterns of interaction specific to both Monte Albán and Teotihuacan, and while Monte Albán is somewhat precocious in this regard, both Monte Albán and Teotihuacan parallel one another in terms of growth and increasing complexity. In the final analysis, however, Teotihuacan far outpaces Monte Albán in so far as territorial imperatives and conquest interaction extending well into highland and lowland Mesoamerica, Guatemala, and Honduras. Moreover, the fundamental cultural characteristics or imprint of the metropolis were recurrently recapitulated in most all contexts where we see a fundamental restructuring of demography, settlement patterns, intrasite spatial organization, and the introduction of Teotihuacan talud-tablero architectural forms, iconography, and patterns and loci of resource extraction and trade (Hirth and Villaseñor 1981: 135).

Corporate Interaction

Recent studies serve to clarify the identities of those communities and polities deemed central to the production and exchange of core resources that have come to define the political economy of Teotihuacan. To that end, studies by Manzanilla (2015) and Rattray (2001) provide an invaluable source of data on Gulf lowland and other foreign emigres engaged in craft production and exchange within the

metropolis. By contrast, Carballo (2013), Filini (2015), Beekman (2008), Rattray (1990), and Kurtz et al. (1987) have each examined the interplay between a host of variables and their respective dynamics pertaining to corporate interaction between contemporary polities. These include the economics of urbanization and state formation, the articulation of corporate power strategies, surveys of the archaeological evidence for foreign outposts and production centers, ritual economy and its geopolitical implications, and the social organization of craft production and interregional exchange. Taken together, such studies hold the potential for redefining the social, ritual, and political landscapes that characterize the origins and demise of the metropolis and its distant corporate partners.

Competitive Emulation

When contemporaneous developments in the Mexican Gulf Lowlands and North Mexican frontier are considered, it is clear that what might be construed as competitive emulation is at work at the most ostentatious levels of analysis, mainly monumental architecture and heightened levels of craft production and exchange in exotic goods. Accordingly, Manzanilla's (2015) analysis has produced evidence for what might be construed as a Classic era pattern of competitive emulation between neighborhood (corporate) centers within the ancient city. Manzanilla's (2015: 1) interdisciplinary approach advanced the deployment of paleopathology, and thereby, a suite of forensic chemical and biological analyses ranging from the study of activity markers, nutritional status, trace elements, stable and strontium isotopes, and ancient DNA to assess the role of multiethnic craftsmen and women in the emergence of immigrant and exclusionary corporate neighborhood centers. Said studies have significantly advanced the interpretation of the internal configuration of the metropolis in terms of social, political, economic, and ethnic landscapes inherent to the organizational complexity of the ancient center. Accordingly, Manzanilla (2015) has advanced an imminently useful framework for isolating and identifying those dimensions of the political economy that may be distinguished archaeologically. These she identifies with both the so-called "corporate" versus "exclusionary" modes of production (Manzanilla 2015: 4). The framework in question identifies the corporate mode with that production originating with those walled apartment compounds that dominated the ancient city. The corporate mode was as such dominated by the upper echelons of the Teotihuacan elite, and was thereby based on consensus building and a reliance on basic production. The "exclusionary" mode, by contrast, was dominated by competitive intermediate elite with ties to those societies that straddled the Teotihuacan Corridor and Gulf Lowland kingdoms of the era, and was thereby dominated by exclusionary arrangements "based on personal networks and more ostentatious expressions of inequalities and wealth, as well as an economy tied to long-distance networks" (Manzanilla 2015: 4). Such exclusionary arrangements are exemplified in the

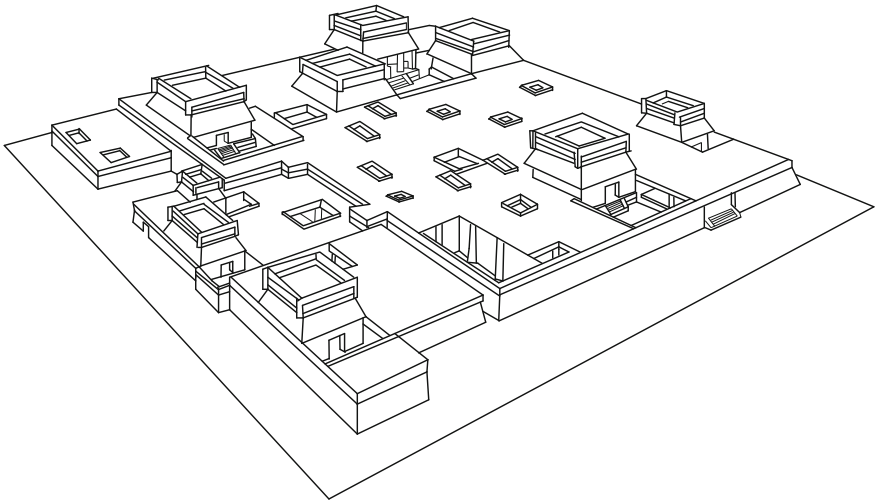


Fig. 13.9 Recreation of the Tetitla, Teotihuacan, apartment compound. Note that such compounds were designed to serve as fully self-contained living units bounded by otherwise formidable perimeter defensive curtains or walls. Adapted from Headrick (2007: 5) by Jennifer A. Lucido, 2015

essential configuration and elaboration of those multiethnic compounds identified with Tetitla and the "Oaxaca Barrio" of Tlailotlacan (Fig. 13.9).

Corporate Versus Exclusionary Production

The proposed corporate versus exclusionary modes of production advanced to explain findings from the Teopancazco barrio of Teotihuacan bear larger significance for interpreting the emergence of conventionalized or corporate iconographic vocabularies in the ancient city. In fact, the "corporate network model" advanced by Blanton et al. (1996: 10) proffers additional implications for just how such modes of production figured into state-level iconographic programs promulgated for the representation of the state and its corporate sector. Blanton et al. (1996: 10) contend that "corporate strategies involve group-oriented practices where the prominence of individual leaders is muted and power comes from control of local resources." Just such a pattern is indicated from throughout the public sectors of the ancient metropolis of Teotihuacan, and has often been characterized as austere and or geometric and impersonal, and thereby couched within the corporate mode of production borne of state-level symbolic programs. Accordingly, Blanton et al. (1996: 10) contend that "network strategies, on the other hand, are pursued by leaders who are self-promoting, competitive aggrandizers and whose power base includes external connections with similar leaders of other polities." This latter

Fig. 13.10 Incised marine conch shell trumpet with butterfly and or crossed trapeze motif from Teotihuacan, Mexico. *Photo* © 2014 Rubén G. Mendoza

strategic framework best exemplifies those exclusionary modes of production identified by Manzanilla (2015) within the Teopancazco barrio at Teotihuacan, and from those sites of the Teotihuacan Corridor and Mexican Gulf lowland centers identified by García Cook (1981) and others (Mendoza 1992). Such exclusionary modes of production were centered on those wards or compounds that procured and worked resources derived from distant sources, such as those identified with the thriving Teotihuacan shell industry (Fig. 13.10).

Intrasite Spatial Organization

When examined from the perspective of intrasite spatial organization, we believe that the corporate mode of production is architectonically embedded in the axial or linear alignment of that portion of the built environment identified with the principal civic-ceremonial sectors of the ancient city and its Avenue of the Dead. Moreover, we contend that the prevailing organic and or internal courtyard and plaza-centered configuration of the principal apartment compounds proper reflect the vagaries of the hybrid ethnic charter of the city's origins, and its Gulf lowland and other highland trading partners (Fig. 13.11). This latter exclusionary framework is recapitulated in virtually all of those circum-Basin sites, such as Cacaxtla (Tlaxcala), Xochicalco

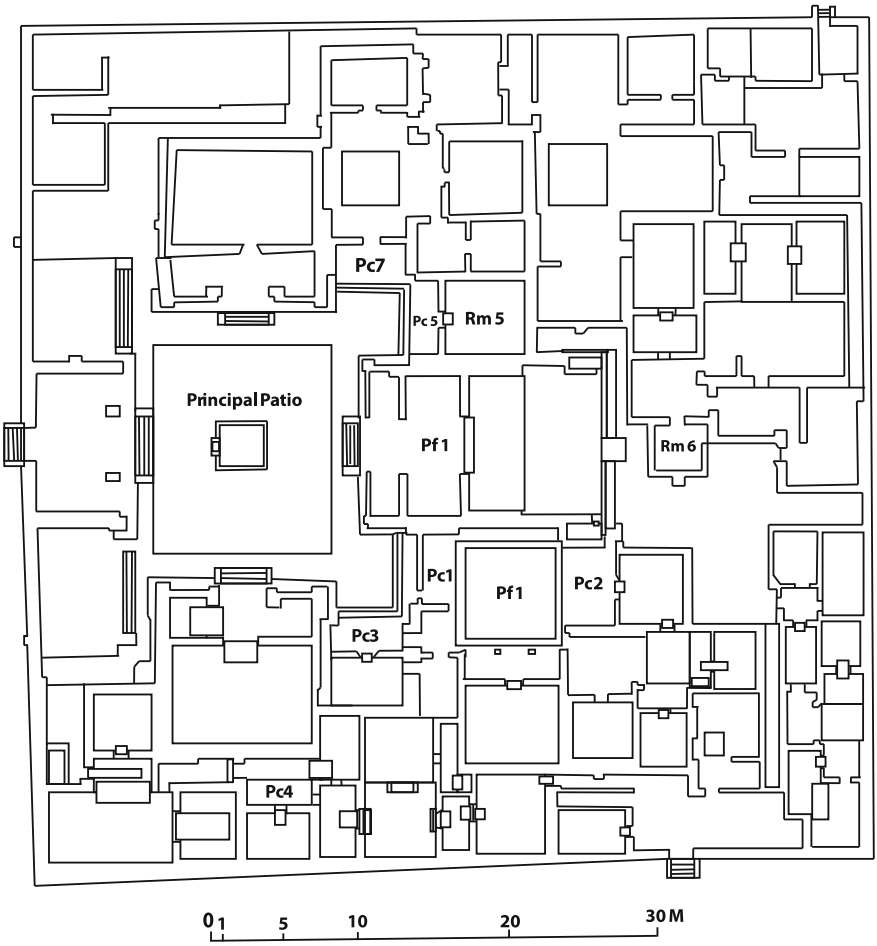


Fig. 13.11 Floor plan of the Yayahuala, Teotihuacan, apartment compound. Note the tightly nucleated and patio-centered configuration. Adapted from Headrick (2007: 5) by Jennifer A. Lucido, 2015

(Morelos), Cantonac (Puebla), and El Tajín (Veracruz), that rose to prominence in the wake of the demise of the primate center of Teotihuacan. As such, future studies should anticipate tracing the inspiration for those Epiclassic groups that coalesced in circum-Basin Mesoamerica to the multiethnic corporate and community centers and networks that fueled the emergence of the ancient metropolis.[11]

[11]In effect, we believe that the so-called War Cult Commanders (Mendoza 1992: 210–211) depicted in the murals and iconography of such sites as Cacaxtla, Tlaxcala, and Xochicalco, Morelos, represent displaced Teotihuacan warriors, warlords, or other ranking members of the corporate elite of the ancient metropolis.

The Ritual Economy

Filini (2015: 97) contends that both ideology, and its attendant ritual economy, fueled the expansion of the Teotihuacan interaction sphere, and by extension, the built environment of the metropolis and its cosmopolitan character. When examined from the standpoint of the types of resources processed for domestic and international exchange, the vast majority were instrumentally linked to the ritual economy of the city and its far-flung interests. Accordingly, Filini (2015: 97) acknowledges that "a highly extended and complex exchange network, with its associated flow of ritual ideas and paraphernalia, encouraged the movement of foreign populations to the urban center, in turn effecting changes to its architectural layout." Filini (2015: 100–101) goes on to distinguish between the two stages of political organization inherent in all such systems; mainly, (a) those domestic political activities that serve to create and maintain internal coherence at the state level, and (b) the international sphere, where multiple systems and diverse actors and polities compete or cooperate in the fulfillment of their respective interests. These are further construed in terms of that dimension of political geography measured by way gravitational, topological, and attributional forms of social and political distance.

Assessing the Preindustrial Economy

Each of the aforementioned studies is predicated on the analysis of the most diagnostic resources available. As such, it has been determined that four commodities constituted the core resource base for the political economy of ancient Teotihuacan. These, according to Carballo (2013: 121), consisted of obsidian, lime, cotton, and export pottery.[12] Carballo's analysis serves to assess and measure these resources in terms of their relative degree of elasticity, particularly as gauged in terms of "relationship between their value and demand" (2013: 121). Accordingly, the indispensable nature of obsidian for addressing daily tasks in the preindustrial economies of the day serves to define its value–demand ratio as inelastic. Similarly, while lime for the construction and maintenance of stuccoed buildings was "an entrenched cultural norm," its real value was anchored to the use of lime for *nixtamalización*, or the processing of maize with lime water (Carballo 2013: 121;

[12]To this list of primary resources we would add Pacific and Gulf coastal shell resources imported into the metropolis in significant quantities, and recovered in the form of ornaments, jewelry, musical instruments, and burial offerings.

Fig. 13.12 Teotihuacan Thin Orange tripod vessel depicting elite personage brandishing an obsidian axe replete with excised human heart. The tripod legs of this vessel take the form of the butterfly motif and or talud-tablero architectural feature. *Photo* © 2014 Rubén G. Mendoza

Mendoza 2001).[13] By contrast, cotton production was undertaken in distant areas and served those sectors identified with clothing and other textile production. Its value is deemed elastic as other locally available fibers, such as maguey (*Agave* spp.), could be readily substituted. Moreover, Carballo (2013: 121) identifies export pottery, such as Thin Orange, as one of the most elastic of those commodities identified, particularly as local, albeit inferior, clays could be substituted (Fig. 13.12). Where the production and exchange of these same four commodities are concerned, Carballo (2013: 121) further acknowledges that "relative labor-added value, degrees of elasticity, and possibilities of substitution" are key to defining the political economy of Teotihuacan and those dimensions of corporate interaction visible from the archaeological evidence recovered both within and beyond the ancient metropolis.

[13]In order to produce maize-based foods or beverages, maize must be rendered into a paste or flour known as *nixtamal* or *masa* (Mendoza and Casas 2003: 425). Therefore, the process of grinding and mixing maize with lime has come to be known as *nixtamalización*. The paste or masa is treated with "lime and heat in order to incorporate calcium and digestible iron into the *masa*, or maize dough" (Mendoza and Casas 2003: 425). According to Fussell (1992: 176), "corn is the oldest chemically processed grain in the world," and "this variety of maize processing can be documented to as early as 100 B.C.E. through the discovery of lime-soaking pots at the ancient site of Teotihuacan" (Mendoza and Casas 2003: 427).

Least-Cost Pathways

Carballo's recent study (2013: 121) generated that data needed to measure least-cost pathways based on GIS terrain models in an effort to measure the elasticity and investment made by the merchants and elites of Teotihuacan to maintain its system of local and long-distance exchange in primary resources (Fig. 13.13). As such, whereas obtaining obsidian from the Otumba quarry encompassed a distance of 18 km, or 4.5 h (as measured at the rate of 4 km per hour; Euclidian Distance), that of Pachuca required a transit of 53 km, or 13.3 h. By contrast, the West Mexican source at Ucareo required an investment spanning 193 km or 48.3 h. Drawing on such statistics, as well as those identified with the acquisition of Chingu lime (55 km/13.8 h), Morelos cotton (113 km/28.3 h), Thin Orange (167 km/41.8 h), and Monte Albán (368 km/92.0 h) and Gulf-cotton/Matacapan (403 km/100.8 h), Carballo's (2013) least-cost analysis bears out the artifactual density of such materials at Teotihuacan and beyond. What then defines these patterns of highland–lowland

Fig. 13.13 The seventh-century east interior wall mural of the Red Temple at Cacaxtla, Tlaxcala. Whereas the figure to the right has been identified with the Merchant God replete with his *cacaxtli* backpack, the maize stock consisting of human heads in lieu of maize cobs has been interpreted as a *tzompantli* skull rack by Mendoza (2007a). *Photo* © 2014 Rubén G. Mendoza

interaction from the outset? Similarly, how does the pattern so noted play into the interpretation of incipient developments and the expansion of the ancient metropolis and state of Teotihuacan?

The Teotihuacan Corridor

Major corridors of communication and exchange extending from Teotihuacan and Tepeapulco northeast through to the north-central Gulf lowlands were transformed into primary thoroughfares of interaction by the Early Classic (García Cook 1981; Lee and Navarrete 1978) (Fig. 13.14). Other major commercial and transport arteries included the Teotihuacan Corridor, which bisected Tlaxcala from northwest to southeast, and skirted the northeastern perimeter of the Puebla Basin and the

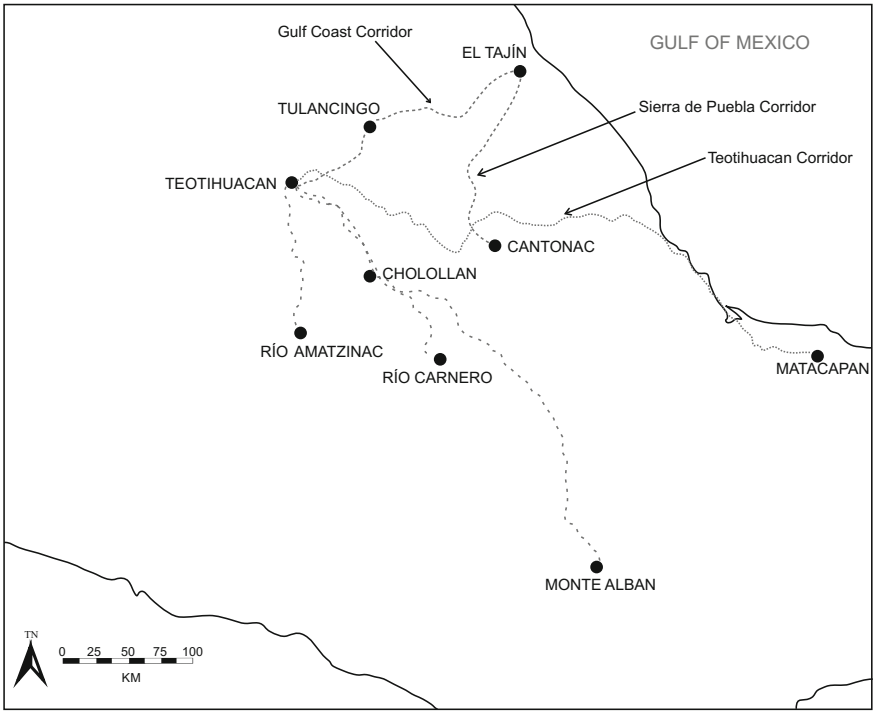


Fig. 13.14 Map depicting those routes connecting Teotihuacan and the Basin of Mexico with the Mexican Gulf lowlands. Routes include the Gulf Coast Corridor trending northeast toward El Tajín, Veracruz; the Teotihuacan Corridor trending east to Matacapan, Veracruz; and the Sierra de Puebla Corridor trending north-south. Adapted from Mendoza (1992: 112, Fig. 4.1) and Carballo (2013) by Jennifer A. Lucido, 2015

ancient polities of Cholollan and Cantonac (Carballo 2013: 119, Fig. 5.9).[14] During the course of the Middle Classic horizon these corridors facilitated the opening of new markets to the varied resources of the Gulf lowlands. The movement of key resources and elite exchange items between the highlands and lowlands—a vertical archipelago-like interaction—both stimulated the growth of regional polities throughout the Gulf lowland region, and or contributed to their sociopolitical contraction, subordination, and or decline (Mendoza 1992). The growth of this network of highland–lowland interactions was fueled by the demand for vanilla, cacao, cotton, macaw and quetzal feathers, jade, and other exotics extracted from the Mexican Gulf and Maya lowlands (Manzanilla 2015). In turn, lowland consumers sought critically important highland obsidians and exotics borne of prestige-based exchange alliances upon which the elites of the hinterland relied for their very survival within and beyond the politically balkanized and conflict-ridden economic mosaics of the day.

Where the Teotihuacan Corridor was traversed by the north–south trending Sierra de Puebla Corridor, the Teotihuacan settlement pattern was characterized by a chain of equidistantly spaced sites that implicate the makings of a fifth-century defensive pattern akin to that documented by the work of Garcia Cook in Tlaxcala and Mountjoy in Puebla (García Cook 1981; Mountjoy 1987). Teotihuacan's Gulf Coast corridor to the northwest, extending from Tepeapulco (by way of Tulancingo) on through to the area of El Tajín, Veracruz, served as a primary exchange corridor for Teotihuacan through much of the Middle Classic horizon (Mendoza 1992: 190–197). The intensity and long-term character of those interactions obtaining between Teotihuacan and Gulf Coast populations is thereby thought to have resulted in the growth of critically important regional centers all along Gulf lowland corridors to the east and northeast.

Significantly, the expansion of the Tajín Complex into adjacent regions of the north coast Huasteca and Bajío Queretarano at the acropolis centers of Ranas and Toluquilla, Querétaro, occurred during a time of exponential population growth on the north-central Gulf Coast (Beekman 2010: 73; Daneels 2008: 197; Filini 2004; Filini and Cárdenas 2007). Where Tajín Complex materials appear, as in the Bajío, they are accompanied by a settlement pattern centered on the development of hill forts and acropolis centers (Filini 2004; Filini and Cárdenas 2007; Pool 2006: 191). As in the case of the Bajío, Tajín expansion coincides with the usurpation of primary resource areas for cinnabar, chert, flint, and obsidian. The expansion of these resource procurement networks in turn coincides with Cholollan's

[14]Talavera et al. (2001: 37) have documented extensive evidence for human bone modification and cannibalism from defleshed human remains at the Middle Classic through Epiclassic acropolis center of Cantonac, Puebla. Given that the Teotihuacan Corridor would have traversed the area of Cantonac, and the occupants of the La Ventilla "Bone Factory" at Teotihuacan have since been identified with the Gulf lowlands and Puebla Basin, we suspect that the occupants of La Ventilla very likely originated as trading partners from the region of Cantonac. For an English language summary of the osteological evidence bearing on dismemberment, cannibalism, and the deposit of human remains in civic-ceremonial contexts and trash middens, see Mendoza (2007b: 48–49).

transformation into a paramount center echoing the Tajín stylistic tradition. Cholollan's participation in Tajín Complex developments is further implicated by its Gulf lowland character, material and iconographic ensembles, and shared Gulf lowland resource base, not to mention its bifurcated system of coregents, embodied in the leadership of dual sovereigns identified as the Lords of Heaven and Earth, or the *Aquiach* and *Tlaquiach*, respectively.

The Sierra de Puebla Corridor

As Teotihuacan expanded its influence over the Gulf lowlands, another major highland polity was competing for the resources of this same region. Cholollan was strategically situated to accommodate interactions between the Puebla–Morelos Escarpment, the Basin of Mexico, Oaxaca, and the Gulf Coast (Plunket and Uruñuela 2012). Cholollan's commercial interactions with the Gulf lowlands thereby resulted in the opening of a major commercial corridor along the Sierra de Puebla—locus of the rival Zaragoza and Altotonga obsidian exploitation networks from the fifth century onward (Mendoza 1992: 141–142). The Sierra de Puebla corridor thereby traversed the southeastern sector of the Teotihuacan Corridor at Cantonac, and in so doing connected the Puebla Basin to the Sierra de Puebla, the north-central Gulf Coast, and the nascent polity of El Tajín to the northeast and the Epiclassic acropolis center of Cantonac to the southeast (Mendoza 1992: 271–274). Moreover, Cholollan's longstanding, albeit ambiguous, relationship to Teotihuacan was apparently linked to its mediation of commerce, and or control of those workshops and clay sources identified with the production of one of Teotihuacan's signal imports—Thin Orange pottery.[15]

Ultimately, Mendoza (1992: 295–300) contends that the emergence of this competing highland–lowland commercial network, and elite interaction sphere, undermined that of the Teotihuacan Corridor in the sixth through eighth-century CE. The resulting upheaval is well documented by way of the abrupt disruption of highland obsidian, and Middle Classic trade and exchange in ceramics and other inter-elite paraphernalia and basic resources formerly identified with commerce along the Teotihuacan Corridor. According to Mendoza (1992: 179), "a massive moat of some nine kilometers length crosses a valley and connects Cerro Tliltepec to the Sierra del Peñon de Rosario," and thereby bisected and disrupted free passage along the Teotihuacan Corridor at circa 600 CE. This perturbation in the system coincides with the burning and destruction of virtually all Teotihuacan-affiliated

[15]The ambiguity inherent in the longstanding codependency obtaining between Teotihuacan and Cholollan appears to have been borne of political and commercial rivalries originating in the Formative era. If we were to proffer a contemporary analog, US dependency on oil, like Teotihuacan's dependence on its international trade and consumption of Thin Orange pottery, necessarily strikes a chord where analogies to extant geopolitical rivalries with the Middle East come into play.

centers and support network installations in the sixth century, a time once thought to signify a Maya "hiatus" for the Teotihuacan presence in the Guatemalan lowlands centered at Tikal (García Cook 1981; Mendoza 1992).

In effect, the scale of Cholollan interactions with the north-central Gulf lowlands and Valley of Oaxaca in the period leading up to the sixth century implies a defined north–south axis in the emergence of this competing commercial network centered on Cholollan. The eighth-century eruption of Popocatėpetl once again disrupted highland exchange networks, and we contend that Gulf lowland and displaced Teotihuacan corporate elites rapidly moved into the vacuum thus created (Mendoza 1992; Plunket and Uruñuela 2008: 111). Moreover, the exploitation and consumption of Zaragoza and Altotonga obsidians by corporate and commercial interests situated along the Sierra de Puebla corridor, including Cholollan, El Tajín, and further afield, Monte Albán and the Isthmus of Tehuantepec, served to bifurcate the existing commercial realms of Middle Horizon Mesoamerica.

The Metropolis

The art, architecture, and material cultures of ancient Teotihuacan have long been characterized as indicative of a heightened state of hegemonic conformity, and thereby, a singularity of purpose where polity, economy, ethnicity, and culture are concerned (Sanders et al. 1979: 357). Despite art historical interpretations to the contrary (Pasztory 1997), archaeologists have long recognized the existence of barrios, wards, or ethnic enclaves within the city (Gomez Chavez 2002; Millon 1981; Rattray 1987, 1990, 1993, 2002). Said multiethnic expressions clearly played a role in the formulation of the international style operationalized by way of Teotihuacan-based trade and exchange (Fig. 13.15). Those enclaves identified to date include the so-called Merchants' Barrio of purported Gulf Coast and Maya affinity, the West Mexican Barrio in turn linked to West México, Michoacán, and Tlailotlacan, or the Oaxaca Barrio proper, with its Zapotec-styled vaulted tomb and braziers (Gomez 2002; Rattray 1987; Spence 1992) (Fig. 13.16).

The so-called Oaxaca Barrio alone presents substantive evidence for the residential presence of Oaxacan or Zapotec craftsman and or merchants in the midst of the ancient city. When coupled with a growing body of other material, architectural, and iconographic indicators at Teotihuacan and highland Oaxaca, the Puebla Basin (García Cook 1981: 244), the Maya highlands (Bove and Medrano Busto 2003: 46), and lowlands at Uaxactun, Tikal, and Becan (Iglesias Ponce de Leon 2003; LaPorte 2003: 205; Sharer 1983: 241), one is hard-pressed to minimize the extent of foreign barrios at Teotihuacan proper (Manzanilla 2015; Rattray 1987, 1990, 1993, 2002). To this array of sites and regions may be added Thin Orange imports from Puebla-based workshops, and those crafts identified with production localities in Guerrero, and cinnabar mining in the Bajío.

Fig. 13.15 Elaborate depiction of Teotihuacan personage offering torrents of water while encircled by water serpents and bearing Quetzal bird headdress and Kan Cross pendants from the Tetitla compound murals. *Photo* © 2014 Rubén G. Mendoza

Architectural Standardization

In her efforts to define the sociopolitical structure of the ancient city of Teotihuacan, Headrick (2007: 168) postulates that the corporate, and thereby, state-level identity of the polity was most conspicuously conveyed by way of that standardized architectural iconography borne of the talud-tablero. The very heart of the iconographic vocabulary of the city was in turn predicated on that symbolism identified with the butterfly, a symbol whose martial associations during the Mexica Aztec era were with *Itzpapalotl*, the "Obsidian" or "Clawed Butterfly" of war and sacrifice (Miller and Taube 1993: 100) (Fig. 13.17). According to Headrick (2007: 168):

> …the symbolism of the butterfly was conceptually overlaid upon the talud-tablero architecture of the city. Buildings, therefore, became more than a place for shelter; instead they almost nagged the populace into conformity. As in all states that marshal propaganda for rather nefarious purposes, the resulting environment must have been somewhat oppressive.

If, in fact, the very formulation of the distinctive talud-tablero owes its origins to the iconography and martial associations of the ubiquitous Mesoamerican butterfly deity, then one might reasonably conclude that the sociopolitical identity of the warring metropolis was emblazoned on and within the construction fill of many, if not all, public buildings and distant outposts of the ancient city and empire of Teotihuacan. Recent strides in the decipherment of ancient toponyms or place and

Fig. 13.16 Reconstruction of the interior paintings and funerary offerings of Tomb 104, Monte Albán, Oaxaca. Tomb 104 is dated to Monte Albán IIIA, or circa 350–500 CE, which corresponds with the apogee of the Oaxaca enclaves at Teotihuacan. Museo Nacional de Antropología e Historia, México, D.F. *Photo* © 2014 Rubén G. Mendoza

building names, and or dedications, recorded at Teotihuacan (Helmke and Nielsen 2014: 73; Nielsen and Helmke 2013: 113) promise a host of revolutionary new interpretations of the civic-ceremonial and political geography of the ancient metropolis. When coupled with that data pertaining to the geographic identities of those sacrificial victims recovered from the so-called Feathered Serpent Pyramid of Teotihuacan, one is left to conclude that Teotihuacan military influence extended well beyond the Basin of Mexico, particularly as exemplified in militarized rituals and iconography in evidence from public and domestic works at all levels of analysis.[16]

[16]We posit that the fifteen masonry platform mounds surmounting the quadrangle elevation circuiting the Feathered Serpent Pyramid complex or Ciudadela of Teotihuacan provide indications for the administrative structure of the ancient center. As such, we believe that said platforms constituted the "council houses" for the multitude of polities, *caciques*, *tlatoani*, or provincial administrators, and or coregents once seated at the heart of the metropolis. Moreover, Mendoza (2015: 3) recently proposed that such monuments signify the presence of that ancient Mesoamerican political unit identified with the *Altepetl*, Water Mountain or Mountain of Sustenance. He further contends that the so-called Feathered Serpent Pyramid in effect signifies the paramount *Altepetl* of Teotihuacan, replete with its associated *Koo savi* or Water Serpent, as opposed to Feathered Serpent, iconographic ensemble (Mendoza 2015: 4). Of particular significance is the fact that the fundamental character of the *Altepetl* organizational unit is predicated on a

Fig. 13.17 Reconstructed portion of the Quetzalpapalotl Palace of Teotihuacan as depicted in the Museo Nacional de Antropología e Historia, México, D.F. Note monolithic iconographic features consisting of the butterfly or crossed trapeze element identified with the Mesoamerican rain or war deity. *Photo* © 2014 Rubén G. Mendoza

Ritual Human Sacrifice

Constructed in the mid-third century, the so-called Feathered Serpent Pyramid contained within the principal administrative compound at Teotihuacan, was clearly conceived as one of the most ornate and majestic structures in the ancient metropolis. Archaeological investigations have produced evidence for the mass sacrifice of between 200 and 250 individuals, many of whom were buried in military garb and accompanied by weapons (White et al. 2002: 218). Some of these included young females buried in what has been characterized as a symmetrical pattern within and beyond the Feathered Serpent Pyramid (Fig. 13.18). According to White et al. (2002: 233), "the oxygen isotopic signatures of the soldiers are dominated by geographic identities that involve either lifetime local sedentism or

(Footnote 16 continued)

multiethnic, organically structured, form of dynastic governance by a *Tlatoani* or Great Speaker, and is thereby defined in terms of territorially and toponymically distinct *calpolli* or wards of the type that typified the latter Mexica peoples of the Basin of Mexico (Fernandez Christlieb and Garcia Zambrano, 2006: 20).

Fig. 13.18 Monolithic death's head monument recovered from the foot of the so-called Pyramid of the Sun at Teotihuacan. Museo Nacional de Antropología e Historia, México, D.F. *Photo* © 2014 Rubén G. Mendoza

movement from a variety of foreign regions to Teotihuacan." They go on to acknowledge that "the latter pattern suggests that a widespread inclusion of foreign recruits and mercenaries into the military membership of the state, though 'recruitment' for the sacrifice likely occurred largely within Teotihuacan" (White et al.

2002: 233).[17] The oxygen isotope analysis similarly concluded that an elite burial within the Feathered Serpent Pyramid (Burial 13E; 200–250 CE) exhibited values indicating origins in the Guatemalan highlands; and this in addition to the fact that the "grave contained a carved wooden baton resembling a 'manikin sceptre [sic] carried by Maya rulers'(Cabrera Castro et al. 1991)." As such, the investigators concluded that "it is possible that 13E was indeed a high-status Maya individual" (White et al. 2002: 229). Given such findings, what then are the implications for interpreting the social landscape, and thereby the relations and sources of power and military organization within and beyond the metropolis and its larger political and commercial presence in Mesoamerica?[18]

[17]Significantly, the geographic origins of the third-century sacrificial interments in question bear isotopic signatures and Maya cultural relationship to highland Guatemala, and the preexisting city-state of Kaminaljuyu, which appears to have been razed at that time in order to make way for a Teotihuacan-style civic-ceremonial complex (White et al. 2002: 232; Cabrera Castro et al. 1991). Accordingly, we are aware of those arguments presented by Braswell (2003b) which imply early to mid-fourth century dates for what has been deemed the Teotihuacan presence at such sites as Kaminaljuyu, Guatemala.

[18]The Maya adoption of Teotihuacan iconography (centered on the Storm Deity and talud-tablero architecture) arguably has roots in those centuries-old investiture ceremonies conducted at Teotihuacan's Pyramid of the Sun (Sahagún 1950–82). Fash et al. (2009: 208) cite the recent recovery of an abundance of *xiumohlpilli* or New Fire Ceremony signs and monuments (from the base of the Pyramid of the Sun and *Adosada* platform at Teotihuacan) as the basis for this previously unparalleled association for the Maya. They in turn interpret the evidence from Copan's Temple 16 and Teotihuacan's Pyramid of the Sun to indicate that the latter was the place where the investiture of Maya and other Mesoamerican kings took place under the auspices of the "Kaloomte' of the West" (Fash et al. 2009: 217). To that end they acknowledge that the legendary Maya lord *K'inich Yax K'uk Mo'* was transformed by virtue of conjuring the *K'awiil* lightning deity or serpent at Teotihuacan. Accordingly, *K'inich Yax K'uk Mo'* underwent investiture by having "donned the goggles of the Storm God and assumed the titles 'New' and 'Sun-Faced,' reflecting his newly won status together with the eclipse and other solar associations of the Sun Pyramid" (Fash et al. 2009: 214). Each of these authorities in turn contend that the "master narrative" so conceived "helps to explain why rituals performed by Maya kings at this locus [i.e., Teotihuacan's Pyramid of the Sun] became central to legitimation strategies at several Maya kingdoms" (Fash et al. 2009: 203), and at Copan presaged the founding of a new dynasty. Significantly, Maya site references and toponyms identified with Teotihuacan and its principal monuments include *Jo' Noh Wits* (Five Great Mountains), *Wite' Naah* (Origins House, Crossed Bundles Building, or New Fire), *Nikte' Wits* (Flower Mountain), and *Waxaklajuun Ub'aah Kan* (Eighteen Heads of the Serpent), all of which were situated some 150 days or more west of the Maya lowlands and Copan, Honduras, in particular (Fash et al. 2009: 211; Milbrath 1999). Significantly, Fash et al. (2009: 211) contend that Copan's Temple 16 in effect constitutes "that dynasty's recreation of the Sun Pyramid and the Adosada of Teotihuacan." Stuart (2000; cf. Fash et al. 2009: 212) in turn interprets the deity "Eighteen Heads of the Serpent" as a direct reference to the Feathered Serpent Pyramid. Moreover, Copan's Altar Q has since been reinterpreted to depict the founder of Copan passing the torch of the New Fire to his respective successors (Taube 2004: 268). Therefore, the depiction of Teotihuacan elites in the Maya lowlands, and the seemingly improbable burial of Maya lords and ladies within the great "Flower Mountains" of Teotihuacan are rendered intelligible within the context of such pan-Mesoamerican long-distance ritual, political, and religious networks and kin-based alliances borne of the New Fire ceremonies of the central highlands. Ultimately, we contend that the seventh-century resurgence of New Fire

Troubled Times, Famine, and Fighting

While we have posited that coincident patterns of Basin volcanism may have played a larger role in displacing those peoples that came to constitute the core populations of Teotihuacan, we are left to consider corollary factors that may have exacerbated the demise of the ancient metropolis. To that end, recent analyses of pollen and lake-level data from both the central highlands and north-central Mexico indicate a period of aridity extending from 550 to 1100 CE, peaking in the ninth century. During the Epiclassic, maguey cultivation proliferated in the Mexican states of Hidalgo, Mexico, and Zacatecas, which reinforces that evidence bearing on increasingly arid conditions. Beekman and Christensen (2003: 148) nevertheless contend that Armillas' model for the central role of increasing aridity as a stimulus that prompted population movements from the north into the Basin of Mexico requires "substantial modification," and would need to more fully integrate sociopolitical factors into the equation bearing on the role of aridity and migration. Moreover, Beekman and Christensen (2003: 148) argue that increasing aridity and food shortages at the onset of the sixth-century prompted competition and conflict interaction between extant centers in the north. As such, other forms of social conflict emerged in tandem with population growth and migrations to the south.

Conquest Interaction

The once prosperous focal point of a pan-Mesoamerican political and commercial empire, Teotihuacan was politically, commercially, and ideologically connected (and thereby vulnerable) to the political and commercial machinations emanating from the Valley of Oaxaca, Puebla, the Gulf Coast, and the Maya highlands and lowlands (Feinman et al. 1985; Hirth 1989: 69–81; Manzanilla 2015; Rattray 1990: 113; Smith and Schreiber 2005; Spence 2005; Winter et al. 2002). The extent of these interactions was visibly manifest in the biological profiles of La Ventilla, Teopancazco, and in the Merchants and Oaxaca barrios of the urban center proper, and further afield, in the many subsidiary centers identified with the primate center of Teotihuacan. Further indications of the autonomous character of those ethnic enclaves contained within the metropolis of Teotihuacan may well have surfaced from recent studies of some 5000 specimens recovered from the La Ventilla human "Bone Factory" which was apparently devoted to the production of "household items" or human trophies derived from the defleshed remains of area populations and persons in the prime of life (Valle 2010).

(Footnote 18 continued)

ceremonialism at such Epiclassic (ca. CE 650–850) sites as Xochicalco, Morelos, Cacaxtla, Tlaxcala, and El Tajin, Veracruz, presents compelling indications that conflict in evidence was borne of competing claims to the "master narrative" in question.

The distinctive character of these interactions were maintained over the course of centuries, and where key resources were to be found, as at Otumba, Pachuca, and further afield, El Chayal, Teotihuacan had a hand in their early development, commercial exploitation, and or coercive monopolization (Spence 1981). By the fifth century, Teotihuacan interactions with the Gulf and Maya lowlands and Guatemalan highlands were of such intensity that Teotihuacan-like enclaves were established on the Gulf Coast at Matacapan, Veracruz, the Guatemalan highlands at Kaminaljuyu, and the Maya lowlands at Tikal (Arnold and Pool 2008; Braswell 2003a; Miller 1983). Similarly, the aforementioned isotopic analyses of the bound remains of sacrificial captives buried within or beneath the Feathered Serpent Pyramid (FSP) or Teotihuacan's Pyramid of the Moon similarly portend the live burial of elite adversaries likely drawn from the Gulf lowlands and Maya highlands (Sugiyama 2005).

Calibrating the Conflagration

The high-resolution radiocarbon chronology for Teotihuacan advanced by Beramendi-Orosco et al. (2009: 107) led them to conclude that "with respect to the end of the Xolalpan phase around AD 550, we have the great fire of the Teotihuacan core, perhaps an internal revolt, with archaeomagnetic dates in Xalla and Teopancazco." They as such propose that "the Metepec phase ended around AD 600 with the total collapse of the metropolis, the abandonment of large sectors, and reoccupation by the Coyotlatelco groups" (Beramendi-Orosco et al. 2009: 107). Moreover, both Manzanilla et al. (1996) and Beramendi-Orosco et al. (2009: 107) implicate groups from the Bajío or the so-called "Coyotlatelco" in the clandestine occupation and looting of "the core of the Classic City." Given the extant evidence and timing for the destruction of the ancient metropolis of Teotihuacan, Beramendi-Orosco et al. (2009: 107) acknowledge that "it is probably sound to propose that the Metepec phase ended around AD 600 with the total collapse of the metropolis, the abandonment of large sectors, and reoccupation by the Coyotlatelco groups" of the Bajío. Regardless of who may have perpetrated such actions, it is clear that the scale and timing of the destruction of the civic-ceremonial core of Teotihuacan proper corresponds with that of a pan-Mesoamerican pattern of cataclysmic attacks and or internal revolts that dominated mid-sixth-century Teotihuacan relations with its hinterland and most distant outposts (Mendoza 1992).

The Acropolis Pattern

Sixth-century political, social, ideological, and climatological changes were all at work in the challenges faced by the metropolis. It is at this time that the central highlands see the exponential development of hillforts and acropolis centers identified with the Epiclassic transformation of central highland civilization

(Mendoza 1992). Accordingly, Beekman and Christensen (2003: 148) observe population shifts to higher, more defensible, hilltop locations during the Epiclassic population peak in the Bajío of Querétaro. The Bajío appears to have maintained a primordial and longstanding economic relationship to Teotihuacan via the trade in cinnabar in the period after 300 CE (Ávila et al. 2014: 48–49; Tutino 2011: 67). Significantly, said relationship with the north Mexican frontier extended to the installation of a Teotihuacan enclave devoted to the extraction of cinnabar at the site of El Rosario, Querétaro (Saint-Charles Zetina, Anzures, and Limon 2010; cf. Filini 2015: 105). Similar patterns of movement have been observed in regions to the west which they contend suggest a connection between human sacrifice and warfare (Beekman and Christensen 2003: 148). Ultimately, so extensive was the cinnabar mining zone and trade out of the Bajío that Ávila et al. (2014: 48) found the presence of Hg ions or cinnabar in human bone hydroxyapatite lattice. This evidence in the skeletal populations under study was apparently the direct result of the long-term breathing or swallowing of cinnabar-borne mercury vapors or solutions, thereby resulting in mercury poisoning.[19]

The Epiclassic Transformation

If in fact one can read into the collapse of a civilization its very origins, then the story of ancient Teotihuacan's interactions with the Maya highlands and lowlands has much to tell us about the evolution of social complexity in circum-Basin Mesoamerica, and the Mexican Gulf lowlands in particular. The sixth-century conflagration that leveled the ancient metropolis of Teotihuacan has since been deemed to constitute a flashpoint of growing internal unrest and commercial rivalries and conflict centered on the metropolis. Therefore, it is no wonder that these patterns coincide with conflict interaction and internecine warfare in circum-Basin and Maya lowland contexts encompassing the modern Mexican states of Tlaxcala, Puebla, Veracruz, Morelos, Mexico, and Hidalgo (García Cook 1981; Manzanilla 2015: 5).

[19]It should be noted that recent investigations within the massive 1800 year old, circa 92.0 m long by 18.0 m deep, rock-cut tunnel beneath the Feathered Serpent Pyramid at Teotihuacan have recovered significant trace evidence for liquid mercury and pyrite-encrusted spheres (Yuhas 2015: 1). The principal investigator, Sergio Gómez, believes that both the liquid mercury deposits, and pyrite-encrusted yellow spheres from the end of the tunnel, indicate that the tombs of the Lords of Teotihuacan may soon be discovered. Moreover, at the mouth of the chambers have been recovered jade statues, jaguar remains, and a box containing carved shells and rubber balls. Such artifacts have typically been recovered in association with elite or royal tombs, and their association with large quantities of mercury suggests entry through the portal into the supernatural realm. Moreover, the so-called Coyotlatelco presence identified with excavated late sixth-century deposits located just east of the Pyramid of the Sun very likely trace their origins to the Bajío Queretarano.

Fig. 13.19 A reconstruction of the Building A mural panel of the *Aquiach* or Lord of Heaven from the site of Cacaxtla, Tlaxcala. Museo Nacional de Antropología e Historia, México, D.F. *Photo* © 2014 Rubén G. Mendoza

The Mexicanized Maya

The wholesale destruction and killings that occurred within the principal civic-ceremonial and administrative precinct of sixth-century Teotihuacan and its Ciudadela were the harbinger of things to come (Cabrera Castro et al. 1991; King 1970; Manzanilla 2015; Millon 1988; Mountjoy 1987). Ominously, the conflagration coincides with the escalation of a Mexicanized Maya or Mayoid presence in the Mexican highlands of circum-Basin Mesoamerica at such warlike sites and acropolis centers as Cacaxtla, Xochicalco, and Cerro de los Tepalcates (Mendoza 1992: 59) (Fig. 13.19). Beyond the clearly foreign bodies of material culture inherent in the aforementioned localities, the forensic analysis of human remains from such sites provide compelling indications for the burial of foreign elites replete with cranial deformation and Maya or Mayoid dental incrustations (Hansen 2005: 66). Said presence is most notably revealed within the circum-Basin settlements of Cacaxtla, Xochicalco, Teotenango, Cerro de los Tepalcates, Tula Chico, and at Middle Horizon Teotihuacan proper (White et al. 2000, 2002, 2004a, b).

In accounting for the Epiclassic transformation of the paramount center of Cholollan in the Puebla Basin, Mountjoy (1987) presents evidence for the emergence of a distinct sociopolitical pattern that provides a conceptual parallel to

Terminal Classic/Early Postclassic developments in highland Guatemala (Fox 1989). As with the evidence from highland Guatemala, the Puebla Basin was subjected to a period of intense conflict, which culminated in the abandonment of primary centers, the establishment of secondary centers, and the evolution of an acropolis-centered pattern of statecraft development focused on such sites as Cerro Zapotecas (García Cook 1981). Employing data derived from excavations conducted atop the acropolis or hill fort of Cerro Zapotecas, Mountjoy (1987) documents a radical shift in Late Middle Classic settlement configurations for the Puebla Basin.

While the site of Cholollan appears to have undergone a period of abandonment, flooding, and apparent ethnic displacements; adjacent hilltop centers such as Cerro Zapotecas subsequently became the focus of Cholollan settlement and cultural continuity (Mountjoy 1987; García Cook 1981). Such developments coincide with the burning and destruction of the corporate and administrative sectors of the ancient metropolis of Teotihuacan, and the coincident seventh/eighth-century eruption of Popocatépetl (Plunket and Uruñuela 2008: 111). In effect, the Cholollan character of the emerging Late Middle Classic and Epiclassic acropolis pattern led Mountjoy (1987) to conclude that Cholollan's population was displaced, and regional settlement shifted to more defensive locations in the period after 550–600 CE. Significantly, the timing for the stated pattern of destruction appears to have been pan-Mesoamerican in scope, and centered on those elite sectors of given sites identified with Teotihuacan and its Storm-God iconography and talud-tablero architectural traditions (Mendoza 1992; Pasztory 1974; Sugiyama 1989). Shortly after the settlement of Cerro Zapotecas, the site was repeatedly sacked and burned, and rebuilt. The appearance of Gulf lowland and Oaxacan ball courts such as that at Manzanilla, Puebla, Gulf lowland ceramic types such as Fine Orange, and terrace-based civic-ceremonial and residential features, correspond to the militarization of society in the Puebla Basin with the advent of the Epiclassic.

The New World Order

Mountjoy (1987: 137) follows the leads of Litvak King (1970) and Jacobs (1970) in positing that rival economies undermined the extant seventh-century Teo-Tajinoid sociopolitical system of the Puebla Basin.[20] Mountjoy (1987) further acknowledges that economic competition was not in itself a necessary and sufficient condition underpinning the destabilization and collapse of the Mesoamerican polities of the Middle Classic. Nevertheless, Mountjoy (1987: 137) contends that "the adoption of a new strategy of economic development" for Mesoamerica, the likes of which

[20]Teo-Tajinoid is here intended to indicate those hybrid polities of the Teotihuacan Corridor whose cultural attributes indicate direct influence from the north-central Gulf Coast and the site of El Tajin, Veracruz.

implicate the Gulf Coast in the collapse of the Middle Classic in central highland Mexico, was a key variable underpinning the Epiclassic transformation. When examined from the standpoint of that evidence identified by Manzanilla (2015) at Teopancazco, Teotihuacan, it would appear that the multiethnic corporate pattern set in motion at Teotihuacan from the outset was retained, and in fact proliferated in all subsequent corporate and social contexts of circum-Basin Mesoamerica.

According to Mountjoy (1987: 137), emerging new strategies encompassed a number of features, including; (a) an emphasis on militarism, (b) a concern with establishing control of major interregional routes affecting communication and exchange, raw resource procurement, marketing, and (c) the elimination of competitive centers by way of wholesale destruction and looting (as opposed to integration within the new economic order). This hearkens to a pattern seen today on the Mexican Gulf Coast with the Zetas or Gulf cartel, or ISIL in Syria and Iraq.[21] The impact of the new adaptive strategy was profound, and Mountjoy (1987: 137) has acknowledged that

> It is assumed that such a competitive militaristic strategy, at least in a short-term perspective, constituted an adaptively more successful pattern which…tended to spread and differentiate at the expense of the previous system. Once set in motion, this strategy resulted in the unavoidable restructuring of the whole Mesoamerican world – a restructuring still in progress when Cortes first set foot on Mesoamerican soil.

In attempting to account for why a new economic strategy would have been necessitated, Mountjoy (1987: 138) contends that the "economic monopolization of markets" by the paramount polity of Teotihuacan served to engender heightened levels of conflict, and ultimately, "secondary" or derivative state formations in the Gulf lowlands. Mountjoy (1987: 138) thereby proposes that "secondary states are stimulated to arise in areas which are ecologically or resourcefully distinctive." Seen from the vantage point of those nascent multiethnic mosaics that characterized the northern Gulf lowlands at the dawn of the Common Era, the perceived "secondary" formations in question are here construed in terms of their pivotal place in a reciprocal pattern of highland–lowland interactions. Their pivotal status was predicated on those material manifestations that most visibly coalesce about key resource concentrations, including those of the highland Pachuca and Otumba obsidian sources, or the Zaragoza and Altotonga quarries of the Gulf lowlands. In other words, that modicum of corollary technical sophistication and social complexity inherent in those "extractive" or "subordinate" regions identified with the Mexican Gulf lowlands argues against their place as mere "secondary" or derivative manifestations of central highland state-level complexity and formation. The equally ancient, tandem, reciprocal, and symbiotic character of those relationships obtaining with the highland polity of Teotihuacan may best be inferred to constitute the heterarchically-configured

[21]As with the Mesoamerican pattern, those modern developments identified with the predatory expansion of the terror-oriented tactics of the Islamic State, and the narco traffickers of the Gulf and Zeta cartels, follows a dendritic configuration largely confined to major routes of communication and exchange.

infrastructural relationships upon which Teotihuacan depended for its growth as the premier polity of ancient Mesoamerica (Ehrenreich et al. 1995).

By its very nature, the development of intensified levels of interregional competition and conflict coincide with the evolution of those heterarchical or segmentary state formations borne of highland–lowland interaction. The nature and extent of such prolonged patterns of interaction ultimately transformed the hinterland from "passive periphery" to one dominated by "active agents" (Stein 2002: 903). Mountjoy (1987: 138) thereby posits that "the less distinctive the secondary area is, ecologically or resourcefully, the more likely a strongly competitive strategy will develop." As a result, the polities of the hinterland were forced to acknowledge that "adaptive survival may depend on changing the rules of the game, in this case from cooperative economic subservience or symbiosis to active militaristic competition" (Mountjoy 1987: 138). The escalation and elaboration of organized violence as such necessarily fueled the organizational complexity of those heterarchical polities that coalesced within the conflict-ridden confines of the hinterland. The heterarchical configurations as such were themselves a product of the reciprocal, and at times, predatory, trade and exchange relationships that long characterized highland–lowland interactions.

Essentially, Mountjoy (1987: 139) posits that: (a) by the late Classic, the economic base of the Gulf Coast had become resource-redundant (i.e., "sufficiently diversified and sufficiently similar to the highland base"), and as a result, (b) the Gulf lowlands were forced to employ a "competitive strategy of economic development and statehood formation involving stress on militarism," the ultimate goal of which was the acquisition of primary resources, and the elimination of competition for key markets. The mosaic and or circumscribed character of resource access, procurement, and that pattern of multiethnic corporate interaction that emerged in the Epiclassic clearly found its origins in the multiethnic charter that was Teotihuacan.

A calculus of environmental redundancy necessarily frames several predictable conditions for that evidence or those patterns thought to accrue by virtue of the operationalization of the hypothesis in question (Mountjoy 1987: 139). Said hypothesis is bolstered by (a) the westward expansion of Gulf lowland commercial and territorial interests along interregional routes leading into highland central Mexico (Mendoza 1992: 296), (b) the corresponding development of fortifications on the "eastern flank of the highlands by those centers," (c) the appearance of intrusive (Gulf lowland) elements of material culture (such as ceramics and worked obsidian from Gulf Coast or Tajín sources and workshops) in locations formerly of strategic highland significance, and (d) the westward expansion of highland commerce in an effort to offset the successful "economic expansion of Gulf Coast culture in the east" (Mountjoy 1987: 139).

In addition, to this list of predictable conditions, we add evidence for a secondary highland or Gulf lowland expansion into the Northern Frontier (e.g., La Quemada, Zacatecas); and the settlement and fortification of sites within and beyond the western flank of the Basin of Mexico by populations affiliated with Teotihuacan and/or its satellites (Mendoza 1992: 296; Sugiura 1998: 199–259; Sugiura et al. 2015: 312–313). Ultimately, Fox (1978), Zeitlin (1982), and

Mountjoy (1987) provide independent confirmation, and telling interpretations, for parallel sociopolitical developments from widely separated regions of highland Mesoamerica. In each case, interregional and intersocietal interactions are seen to underlie the Epiclassic introduction of new adaptive strategies emanating from the Mexican Gulf lowlands. These models, taken together, provide the basis for furthering the analytical construct and significance of the Epiclassic period in Mesoamerican prehistory. These models all point to internecine warfare and militarism, Gulf lowland and Mexicanized Maya elite, and the emergence of a trans-Isthmian exchange network in their efforts to account for the highly eclectic and warlike polities of the Epiclassic transformation; thereby setting the stage for the warring polities of the Mesoamerican Postclassic (Mendoza 2007b: 34–54; Mendoza and Harder 2012: 191–234).

Political Economic Mosaics

There remains a persistent tendency to define the evolution of Mexican highland civilization solely by way of allusion to hierarchically defined sociopolitical complexity, and this to the exclusion of differing forms of political and social organization at differing scales of analysis and material complexity. This tendency again hearkens to recent critiques of the African "Iron Age." Where the African analog is concerned, Stahl contends that the "Iron Age" rubric has been critiqued on several grounds, and in a fashion that we propose is equally pertinent to both those Classic and Epiclassic Mesoamerican coastal contexts addressed herein. According to Stahl (2004: 146),

> By focusing attention on metallurgy and agricultural production as emblematic of Iron Age societies, it diverts attention away from the complex mosaic of technologies, productive strategies, and political forms that characterized the continent over the past 2000 years (Kusimba 2003; Stahl 1999); (b) it focuses attention on complex societies, diverting attention from the interconnections among societies of different scale (Amselle 1998; LaViolette and Fleisher 2005, Sharpe 1986); and (c) it creates a rupture between the "prehistoric" archaeology of "Iron Age" societies and the "historic" archaeology of settlements associated with European colonial activity (LaViolette 2004; Lightfoot 1995, pp. 202; Robertshaw 2004, pp. 380–82).

Given such considerations, what then are the key distinctions that accrue when applying the African analog in a Mesoamerican context?

The key difference between the evolutionary formations in question centers on the nature of extant and substantive material remains identified with the paramount center of Teotihuacan versus the largely insubstantial, but equally early, material remains of the corollary resource zones and industrial centers of the Gulf lowlands. To that end, we contend that a particularly cogent analog for conceptualizing the lowland states is that of the heterarchically configured political economic mosaics now thought to have characterized east African coastal and inland polities articulated in Ann Stahl's critical review of recent findings from African archaeology. In effect, Stahl's (2004) analysis brings into question longstanding evolutionary

frameworks for the emergence and definition of social complexity on the African continent. Stahl's (2004) *Annual Reviews* essay regarding "Political Economic Mosaics" further provisions what is here deemed to constitute a particularly compelling framework for assessing the evolution of incipient forms of social complexity in the Basin of Mexico and Mexican Gulf lowlands. Given millennial patterns of long-distance trade in exotics and paramount resources (coveted by highland elites, or concomitantly, coastal or lowland middlemen or intercessors) identified with inland or highland communities or catchment areas, we contend that a similar political economic mosaic emerged in Mesoamerica. We posit, therefore, that coastal rivals engaged in conflict or multiethnic corporate interaction, or sought alliance formations, best construed as heterarchical political configurations or mosaic patterns of sociopolitical complexity in which "barefoot aristocracies" coexisted with particularly complex sociopolitical networks borne of pristine state formations (Mendoza 1992: 307–313).[22]

As with the African analog, Mesoamerican long-distance coastal trade in exotic materials and manufactured goods intended for elite consumption fueled the variable fortunes of these Mexican Gulf lowland intermediaries. Manzanilla's (2015) long-term investigations of those exclusionary production localities recovered from within the confines of the metropolis clearly validate such Gulf lowland connections and commercial ventures within the city. Much of the development that accrued was centered along the Teotihuacan Corridor extending through the Sierra de Puebla to the Teotihuacan outpost at Matacapan. As such, studies of evolving patterns of social complexity in the Mexican Gulf lowlands necessarily remain focused on the hybrid highland–lowland character of El Tajín and related circum-Basin regional developments; particularly as the hybrid and culturally eclectic or cosmopolitan centers of the region speak to the intensity and duration of intercultural interaction (Mendoza 1992).[23] Whereas Teotihuacan and Gulf lowland interactions continue to be perceived as largely unidirectional, hierarchical, monolithic or hegemonic, it is clear from recent studies that said commercial and sociopolitical relationships were reciprocal and tandem from the outset (Manzanilla 2015; Plunket and Uruñuela 2012).

That Gulf lowland, Oaxacan, and West Mexican elites were established within ethnic enclaves or at the margins of the paramount metropolis of Teotihuacan from the outset is most clearly manifest in that evidence obtained from the Merchants' Barrio and La Ventilla, and by extension, the Oaxaca Barrio of Teotihuacan, and the Lost World Complex at Tikal, Guatemala (Mendoza 1992; Miller 1983; Rattray

[22]The concept of "barefoot aristocracies" is intended to denote displaced individuals and communities formerly identified with the elite and or royalty of vanquished kingdoms and empires. Such individuals may inhabit fledgling or renascent kingdoms born of the effort to reconstitute the glory of an earlier or bygone age. We believe that Tula Chico, or *Tollan Xicocotitlan*, was one such kingdom founded by displaced or fugitive Teotihuacan elites or military personnel who then claimed Teotihuacan or Tollan as their reconstituted capital.

[23]Concomitantly, Stahl (2004: 147) identifies just such a scholarly preoccupation with "techno-economic differences endowed with evolutionary significance…[thereby] diverting attention from the interconnections among societies of different scale."

2002; McClung de Tapia and Rattray 1987). In fact, the extent to which the ethnic enclaves of Teotihuacan reproduced foreign "sociopolitical structures and demographic components" has prompted one scholar to assert that Teotihuacan's Oaxaca Barrio represents "a culturally distinct occupation that is demographically representative of the society of origin and constitutes a minority group located within the boundaries of a foreign state" (Croissier 2006: 2).

Moreover, a host of diasporic lowland to highland population movements underpin the relationship so noted, and include a host of Middle Classic (200–550 CE) outposts in Morelos, Michoacán, Veracruz, Highland Guatemala, the Petén, and northern Maya lowlands. Subsequently, these translated into the emergence of Epiclassic (600–900 CE) Olmeca-Xicalanca or Historic Olmec and or Putún Maya, and Postclassic (900–1250/1450 CE) Tolteca-Chichimeca and or Quichean movements and conquest interactions with other extant highland Mesoamerican kingdoms and city states (Fox 1978, 1989; García Cook 1981; Rattray 1996; Yamamoto 1996). The apparent hybrid vigor of the ethnogenesis in question, and the mosaic quality of this interaction, ultimately defined the emergence of the Late Middle Classic and Epiclassic kingdoms of Mesoamerica. This in turn paved the way for the Mayoid or Historic Olmec resurgence in highland central Mexico, and the balkanization of empire, and its recapitulation through those warring kingdoms borne of the once dominant juggernaut that was Teotihuacan (Fig. 13.20).[24]

Concluding Remarks

> A great civilization is not conquered from without until it has destroyed itself within. The essential causes of Rome's decline lay in her people, her morals, her class struggle, her failing trade, her bureaucratic despotism, her stifling taxes, her consuming wars.
>
> Durant (1944: 665)

In tracing the origins and development of Tollan Teotihuacan, we have endeavored to disentangle competing theoretical constructs and interpretations bearing on those variables most germane to current understandings of the topic in question. The recent proliferation of interdisciplinary studies centered on that archaeological, forensic/biological, geological, climatological, and hydrological evidence recovered from the Basin of Mexico has significantly altered the interpretive landscape. As such, scholarly perceptions of the exponential growth and

[24]Depictions of a Tlaloc War Cult Commander with direct affinities to the elite guard of Teotihuacan have been recovered from a host of sites, not the least compelling of which are those from the murals of Cacaxtla, Tlaxcala, and the fifth-century stela of Tikal, Guatemala. Bundled male warriors with shell goggles identified with Teotihuacan have since been recovered from burials at Huandacareo, Michoacán (Macías Goytia 1990, Fig. 60) and Copán, Honduras (Sharer 2003, Fig. 5.4).

Fig. 13.20 The 167 ton, 7 m tall, Colossus of Coatlinchán, Mexico, was left unfinished by its creators at some point in the sixth century. The monolith was subsequently recovered from its quarry near Texcoco in 1965, and relocated to the Museo Nacional de Antropología e Historia in Mexico City. *Photo* © 2014 Rubén G. Mendoza

development of the ancient metropolis and polity of Teotihuacan have been irrevocably altered.

Despite its longstanding preeminence as one of the earliest, largest, and most complex urban centers of highland Mexico, Teotihuacan's pan-regional impact on Mesoamerica remains the subject of intense debate and conflicting models centering on the rise of social complexity in the American hemisphere. As such, this study sought to address the interplay and operationalization of resource concentration, multiethnic mosaics, corporate interaction, and inter-elite conflict within and beyond the preindustrial metropolis of Teotihuacan. Findings from this review

predictably indicated that the ancient highland polity was borne of but one of a host of Late Formative compound chiefdoms situated in the Basin of Mexico, albeit on a semiarid plain that necessitated the formation of a managerial elite devoted to the management of the region's hydraulic resources.

While water management per se may be construed an initial stimulus to the formation of sociopolitical complexity in the highlands, we contend that this fact alone did not distinguish Teotihuacan, or for that matter, render it a competitive advantage over other early polities of the region. Tollan Teotihuacan's uniqueness, therefore, was borne of:

(a) its strategic location proximate to both major obsidian deposits and a highland transport network to the Gulf lowlands;
(b) a pattern of recurrent demographic restructuring occasioned by the cataclysmic eruptions of Popocatépetl, Malinche, and Xitle;
(c) the formation of multiethnic mosaics and foreign enclaves both within and beyond the metropolis as a result of the two foregoing conditions, and by extension;
(d) the emergence of multiethnic corporate groups dedicated to commerce and industry centered on Teotihuacan.

As such, in an effort to fully interrogate extant evidence for the evolution of social complexity in the Basin of Mexico, we extended the analysis to findings bearing on the troubled times of the Late Middle Classic/Epiclassic decline, collapse, and destruction of the ancient metropolis and its far-flung outposts. In the final analysis, our review sought to address those patterns of escalating internal conflict, militarization, and the balkanization of the metropolis and its satellites in the final years of Teotihuacan dominance. Said pattern was similarly found to underpin the subsequent recapitulation of those multiethnic mosaics of the Epiclassic political landscape borne of the cosmopolitan and multicultural origins of the metropolis from the outset (Mendoza 1992; Sugiura 1998; Sugiura et al. 2015).

In an effort to explain the recapitulation of the multiethnic corporate charter in evidence at Teotihuacan, this study was in turn expanded to encompass that modicum of "environmental redundancy" characterizing Gulf lowland–central highland exchange relations. These, we contend, prompted resource acquisition strategies culminating in the tandem politico-genesis of dispersed Gulf lowland compound chiefdoms and segmentary states or heterarchies. Said formations are here deemed the result of a conjoined or coevolutionary (networked) pattern centered on primary or pristine state formations. Ultimately, the heterarchical configurations of the Gulf lowland "states" was borne of an ancient and reciprocal, albeit conflict-ridden, pattern of highland–lowland interdependence. This was in turn mediated by way of the formation of pan-regional export alliances centered on the burgeoning populations of the hierarchically organized paramount highland polities of Teotihuacan, Cholollan, and Monte Albán (Ehrenreich et al. 1995).

Invariably, each of those regions identified with such coevolutionary developments spawned full-fledged Middle Horizon and or Epiclassic paramount centers

within their respective catchment areas. These included those polities identified with El Tajín, Yohualichan, Cantonac, Matacapan, Manzanilla, Cholollan, Xochicalco, Cacaxtla, Teotenango, Tula Chico, and the Mixteca Baja, or Ñuiñe. This pattern was in turn replicated by way of a growing body of similar such lowland to highland manifestations throughout the region (McVicker 1985: 82). Taken together, these state-level formations clearly constitute the cultural and corporate recapitulation of that precedent set by Teotihuacan. Therefore, these centers effectively mirrored the multiethnic and corporate character, and pattern of conquest interaction, predicated on the very formation of the paramount center.

In closing, we unequivocally assert that current efforts to situate and fix patterns of social complexity in the Mesoamerican world will continue to be plagued by the likes of the Heisenberg principle and its calculus of uncertainty. As such, we acknowledge that the archaeological or cultural positioning of social complexity necessarily remains at variance with its sociopolitical and economic momentum in time and space. Like the Uncertainty principle (aka Heisenberg's equation), "the more precisely the position is determined, the more imprecisely will the impulse be known, and vice versa" (Heisenberg 1927: 175). Admittedly, therefore, where the cultural, read archaeological, study of social complexity is concerned, we are necessarily constrained by those metrics, scales of analysis, training, and methods, techniques, and technologies presently available for calibrating measures of complexity.

Where Teotihuacan, and by extension Mesoamerica, is concerned, any measurement of social complexity along any one axis of the spatial–temporal continuum may appear at variance with the human dimension and its relative scales of analysis. As such, our measurement of the dynamics of Mesoamerican cultural evolution remains wedded to our ability or inability to unravel the tangled web of incipient (or networked) versus secondary (or derivative) state formations. Our assessment, therefore, was necessarily dependent on a complex host of cultural variables and natural conditions, not the least of which concerned our ability to identify and define hierarchical versus heterarchical multiethnic mosaics. Interpreting social complexity, therefore, necessitates the ongoing interrogation of the role of technology transfers, environmental and cultural variability, and resource circumscription through time and space. Despite the daunting challenges posed by attempting to intercept and frame the often volatile trajectory of human behavior, Mesoamerican scholars have largely succeeded in breaching the epistemological divide that once constrained scholarly perceptions of the interpretive landscape. Therefore, the past three decades of sustained interdisciplinary field investigations have radically transformed, and thereby revolutionized, our understandings of the spectacular rise and catastrophic collapse of the ancient metropolis of Tollan Teotihuacan.

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Chapter 14
Pathways to Social Complexity in the Norte Chico Region of Peru

Matthew Piscitelli

Introduction

The Central Andes[1] of South America is one of six major world areas where early complex societies emerged under independent and endogenous conditions (Mesopotamia, Egypt, India, China, Mesoamerica, and the Andes). At the beginning of the third millennium B.C., a stretch of the north central Peruvian coast known locally as the Norte Chico ("Little North") became an epicenter for the transition from relatively simple forms of sociopolitical organization to more complex ones (Haas and Creamer 2004, 2006; Haas et al. 2004; Shady et al. 2001; Shady and Leyva 2003). The period from approximately 3000–1800 B.C. is known as the Late Archaic Period. During this time, groups both on the coast and in the highlands underwent a transition from mobile hunting, fishing, and gathering to a sedentary lifestyle in which they established permanent villages. Plant domestication intensified as irrigation agriculture assumed greater importance as a subsistence practice. The most dramatic cultural transformation of the Late Archaic Period, and most conspicuous from an archeological perspective, was the construction of monumental architecture. During the Late Archaic Period, the Norte Chico region was the focus of a major cultural florescence that consisted of at least 30 sites with large-scale ceremonial structures (Engel 1987; Haas et al. 2004; Kosok 1965; Shady 1997; Vega-Centeno et al. 1998; Williams and Merino 1979).

[1]Following Lavallée (2000), the Central Andes is considered the region encompassing the desert Pacific coast, the Andean Cordillera, and the eastern forested piedmont from southern Ecuador to northern Chile.

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The Norte Chico region is a cluster of four river valleys along the north central coast of Peru (from south to north): Huaura, Supe, Pativilca, and Fortaleza (Fig. 14.1). To date, 30 Late Archaic sites with monumental architecture have been found in the area (Creamer et al. 2007; Engel 1987; Haas et al. 2004; Kosok 1965; Lumbreras 1987; Perales 2006, 2007; Ruiz and Nelson 2007; Shady 2004; Shady et al. 2001; Vega-Centeno et al. 1998; Williams and Merino 1979; Zechenter 1988). These sites range from 10 to 400 ha in area and include one to six platform mounds measuring from 15,000 to over 300,000 m^3 in volume (Creamer et al. 2007; Haas and Creamer 2004, 2006; Haas et al. 2004; Shady 2004, 2006a). The platform mounds are rectangular terraced stone structures constructed with 2–3 m high retaining walls and filled with a combination of soil, loose rocks, and woven *shicra* bags containing stones (Asencios 2009; Quilter 1985). The platform mounds vary in terms of size both between and within sites (Haas and Creamer 2012, 293). Constructed on the tops of these mounds are walled enclosures often arranged to form a "U" around an open atrium. From most of these atria, stairs lead down to sunken circular plazas which range from 15 to 45 m across and from 1 to 3 m deep (Williams León 1985). Considered together, these architectural elements—the platform mounds and sunken circular plazas—characterize a basic Late Archaic pattern of monumental ceremonial structures that has received considerable attention in the archeological literature (Fung 1988; Haas and Creamer 2004, 2012; Shady and Leyva 2003; Vega-Centeno 2010; Williams León 1985).

Several scholars (e.g., Haas and Creamer 2012; Haas et al. 2005; Moseley 1975; Pozorski 1987; Pozorski and Pozorski 1986, 1992) convincingly argue that the construction of monumental architecture required complex forms of sociopolitical organization typically associated with centralized decision-making (for an alternative perspective, see Burger 1992; Burger and Salazar-Burger 1991). Moreover, the clustered distribution of monumental buildings in the Norte Chico area signaled the advent of a distinctive architectural tradition (Williams León 1972, 1985). Additional evidence of differences in status and rank (Chu Barrera 2011; Noel Espinoza 2004; Shady and Leyva 2003) further substantiate that new kinds of power relationships between leaders and respondent populations emerged within this region during the Late Archaic Period (Haas et al. 2005). For example, excavations have unearthed craft items such as carved bone flutes (Shady 2006a, Fig. 2.9) and there is clear evidence of differential investment in the decoration and construction of some structures at these Late Archaic sites.[2] Although these cultural changes did not occur simultaneously throughout the rest of the Central Andes, the developments of the Late Archaic Period in the Norte Chico region had a provocative impact on neighboring regions in subsequent time periods.

[2]Intensive excavations, primarily in the Supe Valley, have revealed evidence of buildings made of waddle-and-daub as well as more permanent structures with stone foundations and elaborately plastered walls and floors (Chu Barrera 2011; Noel Espinoza 2004; Shady and Leyva 2003).

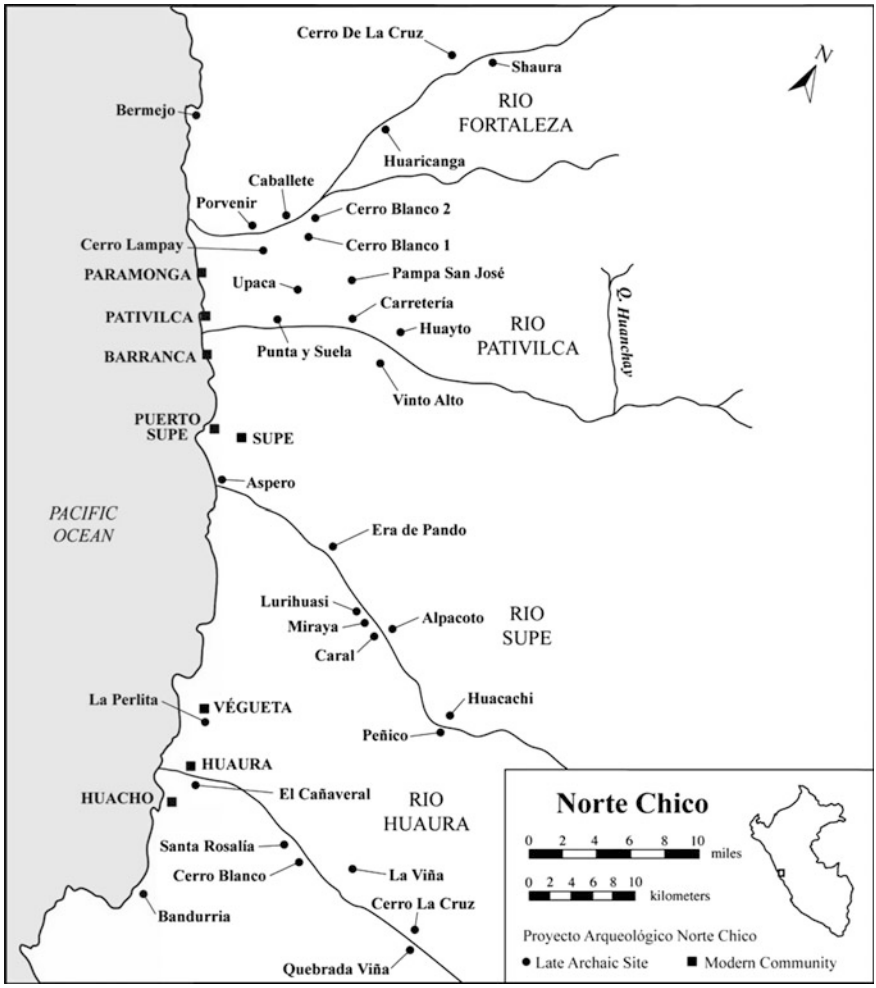

Fig. 14.1 Map of Late Archaic archaeological sites in the Norte Chico region

The Late Archaic Archeological Record

Archeological research in the Central Andes over the past 20 years has identified the north central coast of Peru as an epicenter of early social complexity. However, the Norte Chico region was not the only inhabited area during the Late Archaic Period. Elsewhere, sites have been identified that reveal the presence of coastal fishing villages, inland agricultural settlements, and highland communities, some with ceremonial architecture. Marine-oriented groups lived up and down the Pacific coast at places such as: Alto Salaverry in the Moche Valley (Pozorski and Pozorski 1979, 1987), Salinas de Chao in the Chao Valley (Alva 1986), Las Haldas and

Huaynuná in the Casma Valley (Pozorski and Pozorski 1987, 1990), Huaca Prieta in the Chicama Valley (Bird et al. 1985; Dillehay et al. 2012), Asia near the Omas River (Engel 1963), and Kilómetro 4 north of the Moquegua Valley (Wise 1997, 2000; Wise et al. 1994). Furthermore, highland sites in southern Peru such as Asana (Aldenderfer 1998) and Jiskairumoko (Aldenderfer et al. 2008) also have Late Archaic components. Due east of the north central coast are additional highland sites located at Kotosh, Huaricoto, Piruru, and La Galgada, where ancient inhabitants shared architectural canons for building small-scale ritual structures (Bonnier 1997; Burger and Salazar-Burger 1985; Grieder et al. 1988; Izumi and Terada 1972). Moreover, there are some inland locales situated just north and south of the Norte Chico region that feature large-scale monumental architecture. These sites include Sechín Bajo in the Casma Valley and El Paraíso in the Chillón Valley (Fuchs et al. 2006, 2009; Quilter et al. 1991). Nevertheless, it is the remarkable density of the monumental architecture found between the Fortaleza and Huaura valleys that has inspired considerable archeological fieldwork and broader anthropological theorizing concerning the development of social complexity (Moseley 1975; Haas and Creamer 2006; Shady and Leyva 2003).

The Norte Chico region has been a focus of archeological research since the 1940s. Excavations at the coastal site of Aspero (Moseley and Willey 1973; Willey and Corbett 1954) and limited faunal data recovered from other early sites along the central coast inspired Moseley (1975) to write his seminal book *The Maritime Foundations of Andean Civilization*. He argues that the rich marine environment served as the economic base underpinning the development of complex social-political organization in the Central Andes. This controversial hypothesis inspired considerable reaction for and against its findings (for example, Bonavia and Grobman 1979, 1989; Osborn 1977; Quilter and Stocker 1983; Quilter et al. 1991; Wilson 1981) and later manifestations of Moseley's arguments (Moseley 1985, 1992, 2001) have continued to resonate within the archeological community (Feldman 2009; Sandweiss 2009).

Subsequent archeological surveys in the region identified additional sites including a substantial early inland occupation (Engel 1987; Vega-Centeno et al. 1998; Williams and Merino 1979; Zechenter 1988). Zechenter's work in the Supe Valley is particularly notable because she obtained radiocarbon dates from three agricultural settlements with monumental architecture that situate the inland communities firmly within the Late Archaic Period. These dates also established that Aspero was not an isolated maritime settlement, but rather part of a larger valley-wide economic system. Additional surveys and radiocarbon dating programs have identified similar Late Archaic sites with large-scale ceremonial structures in the inland regions of the other Norte Chico valleys as well (Haas et al. 2004; Shady et al. 2001). Excavations have been conducted at a limited number of these sites (Chu Barrera 2008; Feldman 1980, 1983, 1985, 1987; Ruiz 2008; Ruiz and Haas 2007; Shady 2004, 2006a; Shady and Leyva 2003; Vega-Centeno 2005a, b, 2007, 2010).

The archeological record of the Late Archaic Norte Chico region consists of three marine-oriented sites with communal structures evenly distributed along the

Pacific coast as well as at least 30 inland agricultural communities with monumental ceremonial architecture (see Fig. 14.1). The coastal fishing communities include Bandurria, Aspero, and Bermejo. Extensive excavations have been conducted at Bandurria and Aspero while Bermejo has received less scholarly attention (Silva 1978).

Bandurria is located just south of the Huaura Valley. The site consists of both an extensive domestic sector and a concentration of monumental architecture. Bandurria features four large platform mounds and at least six smaller mounds. The largest mound, 60 × 30 m in area and 10 m high, is associated with a sunken circular plaza that measures 8 m in diameter. Radiocarbon dates from the Late Archaic occupation at Bandurria range between 4530 ± 80 B.P (3150 cal. B.C.)[3] and 3440 ± 15 B.P. (1690 cal. B.C.) (Chu Barrera 2008, 33; 2011, Table 18).

Aspero is a 15 ha site at the mouth of the Supe River. The coastal site consists of at least six platform mounds (Feldman 1987), the largest of which has a volume of 3200 m^3, measures 4 m high, and covers an area of 40 × 40 m (Haas and Creamer 2004, 45; Moseley and Willey 1973, Table 2). The structures were built of cobble and basalt block masonry plastered with clay and also contained *shicra* fill. Feldman's (1980, 1983, 1985, 1987) excavations on the three largest mounds revealed atria and several clusters of decorated rooms that exhibit increasingly restricted access and likely served a ceremonial function. Radiocarbon dates recovered from excavations range between 4900 ± 190 B.P. (3650 cal. B.C.) and 3950 ± 150 B.P (2420 cal. B.C.) (Feldman 1985, 77).

As previously mentioned, the Norte Chico region contains at least 30 inland agricultural settlements with large-scale platform mounds and sunken circular plazas. Since the late 1990s, two research teams have primarily carried out archeological excavations there: the Caral-Supe Project and the Proyecto Arqueológico Norte Chico (PANC). Independently operated excavations by these two teams have been focused at the sites of Caral, Caballete, and Huaricanga. In addition, Vega-Centeno has excavated at Cerro Lampay.

Caral is a large ceremonial site with an extensive residential occupation located 23 km inland from the mouth of the Supe River (Fig. 14.2). The site covers an area of approximately 110 ha[4] and contains six large platform mounds, three sunken circular plazas, and numerous smaller mounds (Shady 2004; Shady and Leyva 2003; Shady et al. 2001). The largest mound, called the *Piramide Mayor*, measures 150 × 100 m and is 18 m high, while the smallest has basal measurements of 65 x 45 m and is 10 m high (Shady et al. 2003 [2000], Fig. 26). Radiocarbon dates

[3]Unless otherwise noted, all calibrated dates are weighted averages based on recalibrations made using the Calib 7.0 software and the SHCal13 calibration curve (Hogg et al. 2013). In addition, the RCYBP and standard error are reported for all dates.

[4]This areal measurement for Caral follows Haas and Creamer (2004, 45) who define the site based on "contiguously occupied land including the main ceremonial and residential center and the adjacent mound/plaza complex referred to [by Shady (2006a)] as Chupacigarro." Shady (2006a, Table 2.1) distinguishes between the two locales and maintains that Caral itself only measures approximately 66 ha in area.

Fig. 14.2 Panoramic view of the site of Caral in the Supe Valley. Note the six large platform mounds in the background

Fig. 14.3 The main mound at Caballete with its associated sunken circular plaza surrounded by large standing stones called *huancas*

recovered from the site range between 4090 ± 90 B.P. (2630 cal. B.C.) and 3650 ± 50 B.P. (1990 cal. B.C.) (Shady 2006a, 60–61; Shady et al. 2001, 726).

Caballete is a Late Archaic site located on the right (north) bank of the Fortaleza River, approximately 8 km from the Pacific coast. The site lies on a low terrace above the floodplain and consists of six large platform mounds arranged around a large open plaza area. Three of the mounds are associated with sunken circular plazas. The monumental architecture is roughly oriented in a U-shape with the principal mound of the site at the base of the "U." This mound measures 130 × 68 m and stands nearly 20 m tall (Fig. 14.3). A circular plaza, 16 m in diameter and outlined by large standing stones, or *huancas*, is situated directly in front of the platform mound. Two smaller platform mounds and one circular plaza make up the western side of the site while an additional three platform mounds and another circular plaza are located on the eastern side. Radiocarbon dates ranging from 4440 ± 40 B.P. (3040 cal. B.C.) to 3550 ± 60 B.P. (1880 cal. B.C.) have been recovered from Caballete (Creamer et al. 2013, Table 11; Haas et al. 2004, Table 1; Haas et al. 2013, Table SI 1).

Huaricanga is located 23 km from the Pacific coast in the Fortaleza Valley along the left (south) bank of the river. The site consists of a monumental central mound complex and several much smaller auxiliary mounds (Fig. 14.4). There are subsurface indications of a large circular plaza on the north side of the main mound while a smaller circular plaza associated with a low mound complex is situated to

Fig. 14.4 General view of the site of Huaricanga in the Fortaleza Valley. Note the large mound complex on the *right side* of the photo

the south of the principal mound. A third small circular plaza and several small mounds are located to the west of the main mound and make up the rest of the Late Archaic occupation at Huaricanga. The preceramic component dates to between 4550 ± 45 B.P. (3220 cal. B.C.) and 3770 ± 70 B.P. (2140 cal. B.C.) (Creamer et al. 2013, Table 31; Haas et al. 2004, Table 1; Haas et al. 2013, Table SI 1).

Cerro Lampay along the south bank of the Fortaleza Valley is another Late Archaic site in the area (Vega-Centeno 2005a, b, 2007, 2010). The 2.4 ha site consists of a platform mound measuring 38 × 31 m in area and 5 m high with an associated square plaza. The plaza measures 47 m per side and contains a 21 m diameter sunken circular plaza. Twenty-seven radiocarbon dates have been assessed from the monumental architecture at Cerro Lampay. These dates cluster tightly between 3984 ± 49 B.P. (2430 cal. B.C.) and 3423 ± 40 B.P. (1680 cal. B.C.) (Vega-Centeno 2005b, Table 5.6).

Archeological investigations have demonstrated that the Late Archaic inhabitants of the Norte Chico region consumed a broad diet consisting of both marine products and a variety of wild and domesticated plants. Fauna recovered from middens indicate that terrestrial species are poorly represented while fish bone, clams, and mussels dominate the faunal assemblages and served as the primary source of protein (Béarez and Miranda 2003 [2000]; Creamer et al. 2011; Feldman 1980; Shady 2003d [2000]). The species of plants grown include edible crops such as sweet potato (*Ipomoea batatas*), chili pepper (*Capsicum annuum*), squash (*Cucurbita moschata*), avocado (*Persea americana*), maize (*Zea mays*), beans (e.g.,

Phaseolus lunatus and *Phaseolus vulgaris*) as well as industrial crops such as cotton (*Gossypium barbadense*) and gourd (*Lagenaria siceraria*). Of these many plants, guava (*Psidium guajava*) was the primary source of sugar in the diet (Haas et al. 2013).

Given these data, Moseley's controversial hypothesis has continued to receive widespread acceptance among scholars who debate over the subsistence practices of the Late Archaic mound builders. However, Haas et al. (2013) have recently published a comprehensive dataset demonstrating the major dietary role that maize played during the Late Archaic Period. These findings directly challenge Moseley's earlier ideas. Although the macrobotanical evidence of maize is sparse, Haas and others establish through pollen samples, stone tool residues, and coprolites that maize was an important component of the diet. They argue that the presence of maize starch grains (considerably more than phytoliths) on the working surfaces of stone tools suggests that cobs, not stalks, were consumed (Haas et al. 2013, 4 of 5). Furthermore, the research team determined that maize was the most common starch in both human and dog coprolites (Haas et al. 2013, Table S4), thus indicating that maize was more than just a ceremonial food reserved for human consumption. The work of Haas and others shifts the balance of the debate over the subsistence economies underlying the emergent social complexity of the Late Archaic Norte Chico region.

Explaining Emergent Social Complexity

Current discussions of the emergence and development of social complexity in the Central Andes begin with the archeological record of the Late Archaic Period. Shady (2006a)[5] uses architectural data to assume the presence of a centralized authority in the Norte Chico region during the third millennium B.C. She states that the Supe Valley is unique because of the "quantity, size and complexity of monumental architecture within its settlements," which she refers to as "urban centers." Shady (2006a, 30–34) presents survey data to argue for the existence of a "capital zone" centered on the site of Caral as well as a multitiered settlement hierarchy based on site distribution, site size, investment of labor in monumental architecture, settlement location, and access to strategic communication routes.

Shady's explanation for the developments that took place in the Supe Valley is primarily economically oriented:

> Later, in the Late Archaic, the technological innovation represented by the cotton net for fishermen and cultivation on small terraces, watered by canals, for the agriculturalists, improved the economy of these populations and led to a series of social changes, including increased productivity and the availability of exchangeable goods, population growth and

[5]Most of the arguments and data presented in Shady (2006a) are also published in Spanish in Shady et al. 2003d [2000].

> expansion, increasingly complex social relations of production, the organization of communications for the construction of public works, etc. These changes, at the area level, accelerated the whole development, although it would eventually benefit coastal societies most, particularly Supe, where diversified economic activities were more productive and better located, at that time, for exchange between coastal societies and inland ones. In this context, between 2100 and 1600 B.C. were the conditions for the formation of the Supe Valley State, the first form of centralized government together with urban centers. (Shady 2003d [2000], 112, author's translation)[6]

This system of exchange between the coast and inland areas eventually expanded to include groups situated elsewhere in the Central Andes. Shady (2003d [2000, 119) further argues that emergent elites who benefited from the widespread exchange network acquired preferential access to both basic resources and prestige goods from distant locales such as vegetables including achiote (*Bix orellana*), *palillo* (*Campomanesia lineatifolia*), and huayruro seeds (*Ormosia* sp.) from the Amazon rainforest, *lloque* (*Kageneckia lanceolata*) from higher elevations, and *Spondylus* shells from coastal waters farther north. Concomitant with the economic development, Shady (2003b [1999], 133) asserts that religion played an influential role in the emergence of the Supe state. More specifically, religion served to integrate the diverse set of interacting communities and to legitimize the existence of a governing class. Shady goes on to stipulate that these religiously sanctioned political authorities established a "sphere of domination and direct control" (Shady 2006a, 63) over communities in the Supe, Pativilca, and Fortaleza valleys. Furthermore, this controlling influence also impacted groups as far away as the Chao and Chillon valleys as evidenced by the distribution of similar monumental architecture (Shady 2003d [2000], 109–110; see translated quotation in Haas and Creamer 2006, 751).

Haas and Creamer (2006) provide several critiques of Shady's model positing that Caral was the capital of a Caral-Supe (Shady 2003c [2000], 94–97) or Supe-Peru (Shady 2003d [2000]) state. They emphasize not only the ambiguity of her definition of a "state," but they also undermine her assertions that Caral and the Supe Valley are unique among the other Norte Chico settlements in terms of site size, the amount of monumental architecture, and construction chronology (Haas and Creamer 2006, 751–752). According to Haas and Creamer (2006, 752), "Caral is a large and important site, but there is simply no physical evidence supporting the notion that it is somehow the capital of a state-level polity centered in the Supe Valley."

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[6]"Posteriormente, en al Arcaico Tardío, la innovación tecnológica que representó la red de algodón para los pescadores y el cultivo en pequeñas terrazas, regadas por canals, par alas aldeas agrícolas de la sierra, mejoró la economía de estas poblaciones y propoició una serie de cambios sociales, mayor productividad y disponibilidad de bienes intercambiables, crecimiento de la población y la expansion de ésta, complejidad creciente en las relaciones sociales de producción y organización de las comunidades para la construcción de obras de interés public, etc. Estos cambios, a nivel del area, aceleraron el desarrollo del conjunto, aunque el beneficio mayo lo tendrían con el tiempo las sociedades costeñas, en particular las de Supe, al efectuar actividades económicas diversificadas y más productivas y al estar mayor ubicadas, en esa época, para el intercambio entre las sociedades costeñas y las del interior. En tal contexto, entre los 2100 y los 1600 años a. C. se dieron las condiciones para la formacin del Estado en el valle de Supe, la primera forma de gobierno centralizado sobre un conjunto de centros urbanos."

In addition to the flaws in the Caral–Supe state model highlighted by Haas and Creamer, it should also be noted that Shady (2006a, 61–63) demonstrates little consideration for social dynamics and actual process. The privileged position of political authorities in the Supe Valley is assumed without explaining how they obtained their power: "the immense investment of labor in monumental buildings, and their permanent remodeling, was underwritten by production in other valleys from the area that Supe's political authorities *somehow learned to appropriate*" (Shady 2006a, 62, emphasis added). Furthermore, Shady and colleagues insinuate that the Supe Valley is uniquely situated at a strategic crossroads for communication and interaction in the Central Andes:

> It is interesting to observe that, within that area, the Supe Valley occupies a strategic position for communication, with a series of pathways that permit rapid and easy access to the Callejón de Huaylas, Conchucos, and the Marañon and Huallaga valleys in the Amazon Basin. That is, in less time and without difficulty, its inhabitants can reach the coast highland products or jungle and vice versa. The Supe pathway has traditionally and until present been used to connect regions of coastal, mountain, or jungle region and to obtain access to various products. (Shady et al. 2003c [2000], 52, author's translation)[7]

Recent GIS analyses carried out by Carlson and Craig (2005) demonstrate that inter-valley pathways also existed for the Fortaleza Valley and it is highly unlikely that only leaders in the Supe Valley could establish exchange networks among different ecological zones. Rather, Caral and contemporaneous Late Archaic sites in the Supe Valley were only participants in a regional exchange system through which social interaction among peer communities, as Vega-Centeno (2005a, b, 2010) argues, stimulated increased levels of social complexity.

Vega-Centeno (2005a, b, 2007, 2010) follows recent theoretical reactions to evolutionary approaches to the study of social complexity—particularly what he calls the "*energy flow* perspective" (emphasis in original)—in order to emphasize social practices and the role ritual plays in cultural interactions (Vega-Centeno 2005b). He argues that the construction of public architecture does not necessarily indicate the existence of a centralized decision-making authority or a hierarchical society. Furthermore, Vega-Centeno (2005a, b, 155) states that it is necessary to study the construction process in order to better understand labor requirements and building chronologies. During his excavations at Cerro Lampay, Vega-Centeno identified at least 10 areas of feasting remains that he argues reveal that consumption was a required task of the building sequence (Vega-Centeno 2005b, 2010). Moreover, "the permanent repetition of feasting during the building process

[7]"Es interesante observer que, dentro de aquella area, el valle de Supe ocupa una posición estratégica para la comunicación, con una serie de vías de tránsito que permiten un rápido y fácil acceso a las sierras del Callejón de Huaylas, Conchucos y a los valles del Marañón y Huallaga, en la cuenca amazónica. Es decir, en menos tiempo y sin mayores dificultades, sus habitantes pueden hacer llegar a la costa productos de la sierra o la selva y viceversa. La vía de Supe ha sido utilizada tradicionalmente y hasta el presente para conectar regions de costa, sierra o selva del país y tener acceso a productos variados."

suggests that this power [to mobilize labor] was relatively limited and needed to be constantly reinforced through feasting acts for either the same or different groups of laborers" (Vega-Centeno 2005b, 167). Echoing the sentiments of Burger (1987, 1992), this "relatively limited" authority runs contrary to the hierarchical social organization proposed by Shady and Haas and instead resembles the emergent phases of a society at the cusp of increased social complexity. Following Hayden (1995, 49), Vega-Centeno suggests that within such emergent context there is competition among individuals not only within one's community but also among peers (Renfrew 1986). For Vega-Centeno, the Late Archaic Norte Chico region resembles a peer-polity social environment whereby the intensified building of large-scale public architecture took place within a non-centralized regional political sphere. In his scenario there is "no clear hierarchical differences among the sites and, that instead of a unitary network, the differences in the number of architectural units among sites might reflect different trajectories which might have involved different phenomena such as long vs. short occupational sequences, internal community growth, or aggregation process" (Vega-Centeno 2005b, 117).

While Vega-Centeno's peer-polity model adequately considers the sheer density of monumental architecture, it does not explain how power differentials among emergent leaders developed. He divides the Fortaleza Valley into four different ecological zones (see Vega-Centeno et al. 1998) and implies that communities had access to different types of resources that may have led to specific preferences and, as a result, demands. However, he does not actually provide evidence of these different resources (for a discussion of the similarities in shell remains between sites see Creamer et al. 2011) and the notion of noticeable heterogeneity among resources is further negated by the social interaction and likely exchange that took place during the Late Archaic Period. In addition, Cerro Lampay is one of the smallest of the 30 sites in the region and has only minimal communal architecture. Therefore, it is not necessarily the best barometer of the sociopolitical situation. Consequently, Vega-Centeno leaves open the possibility of centralization by stating that:

> The processes of aggregation and/or internal growth that ended in the development of these large architectural complexes might imply a shift from communal entities at a local level towards sociopolitical entities at a larger scale. In addition, it is also possible to consider that, without going beyond the local level, these sites might have developed structures and institutions that formalized forms of inequality or heterogeneity within them. In other words, we cannot deny the possibility that large sites might have developed more complex sociopolitical scenarios than the one proposed for Cerro Lampay. (Vega-Centeno 2005b, 365)

At a more basic level, Vega-Centeno assumes that those who participated in the feasts at Cerro Lampay included the laborers who erected the public structures. However, as his own spatial analysis reveals (Vega-Centeno 2005b, 2007, 2010) the buildings at Cerro Lampay were specialized structures with differential access likely intended for power holders within the community. Thus, the peer-polity model, although largely explanatory for the widespread distribution of Late Archaic sites, does not satisfactorily deal with the concept of power.

Haas and Creamer (2006, 2012; Haas et al. 2004, 2005) offer a cogent argument to explain the dense distribution of large-scale monumental architecture along the north central coast as well as the concomitant cultural transformations that persisted for nearly 1200 years. They suggest that Late Archaic communities in the Norte Chico region participated in a regional interaction sphere in which ritually controlled staple finance allowed early leaders to convince others to construct ceremonial buildings. They consider the social dynamics of the relationship between power holders and respondent populations to address "why the Norte Chico leaders wanted so many mounds built and why their followers so consistently went along with their directions" (Haas and Creamer 2012, 300). The answer, in the authors' simple terms, is that "people build monuments because someone tells them to" (Haas and Creamer 2012, 289).[8] How exactly this was accomplished is elaborated upon in their model.

In early versions of their hypothesis, Haas and Creamer (2006) argue that climate change at the beginning of the third millennium B.C. limited the available resources for foragers and encouraged some groups to seek alternative means of subsistence (ibid, 755). While many coastal populations turned to the rich Pacific Ocean, Haas and Creamer emphasize how "inland innovators" in the Norte Chico region experimented with simple forms of agriculture. More recently, however, Haas and Creamer (2012) dismiss notions of primacy for Late Archaic agriculture and characterize the inhabitants of the Norte Chico region as "borrowers rather than inventors." They note that successful farming at the inland sites would have required irrigation due to the lack of naturally arable land in the area. Nevertheless, Haas and Creamer point to Middle Archaic irrigation canals in the Zaña and Jequetepeque valleys (Dillehay et al. 2005) and contemporary examples of small-scale irrigation systems adjacent to the ancient sites as indirect evidence of at least the potential for farming. Both macroscopic and microscopic remains of various fruits, vegetables, seeds, roots, and tubers provide the flesh to substantiate Haas and Creamer's claim that agriculture was a vital component of Late Archaic subsistence in the Norte Chico (Haas and Creamer 2012; Haas et al. 2013).

Recognizing the qualitative differences in the number of sites as well as the size and quantity of monumental structures between the coastal Late Archaic occupation and the inland one, Haas and Creamer argue that agricultural products provided the necessary economic base of power for early leaders (Earle 1991, 1997; Haas 1982). More specifically, cotton necessary for the production of fishing nets and the variety of comestible plants vital to a balanced diet tipped the scales of power in favor of the farmers (Haas and Creamer 2004, 2006, 2012; Haas et al. 2005; Shady 2006b). Due to the relatively small amount of permanent residential architecture at the

[8]It should be noted, however, that Flannery and Marcus (2012) among others (see Dietrich and Nortroff, this volume) have documented examples of societies capable of moving massive stones without strong political leadership. Nevertheless, the case of the Late Archaic sites in the Norte Chico region is unique because the construction activities were likely conducted on a larger scale involving larger numbers of people working for longer periods of time. Such activities would have required considerable coordination that is probably not feasible in more egalitarian contexts.

inland settlements (Shady and López 2003 [1999]), Haas and Creamer (2006, 755) suggest that this leverage provided the means to attract labor from maritime communities up and down the Pacific coast as well as from the nearby highlands.[9] For Haas and Creamer, the density of monumental architecture resembles a peer-polity context in which the different inland communities attempted to attract participants (Creamer 2006). They state that "the mounds are overt signaling devices that display a measure of the strength, power, and grandeur of the people who built the platforms and the leaders who had them built" (Haas and Creamer 2012, 301). In their model Haas and Creamer suggest that groups visited the agricultural communities on a seasonal basis, possibly during the dry season in July and August when there would be a lull in work for both fisherfolk and agriculturalists. Temporary campsites in the large, open spaces at the centers of the inland sites housed many of the migratory individuals while they took part in and/or observed the ceremonial activities that occurred on top of the mounds or within the sunken circular plazas (Wulffen 2009). During these seasonal occupations, the temporary inhabitants received agricultural products in exchange for their labor and the marine resources they brought with them (Creamer et al. 2011; Haas and Creamer 2004, 2006, 2012; Haas et al. 2005). This labor force took part in periodic construction events such as the remodeling and re-plastering of platform structures. *Shicra* made from coastal sedges and grasses may have served as a form of labor tax that administrators could count and record. Subsequent ritual redistribution and repayment in the form of feasting also occurred; more specifically communal cooking and eating that coincided with construction phases (Vega-Centeno 2005a, b, 2007, 2010). By the end of the Late Archaic Period, the long-term sequence of seasonal congregations and subsequent construction in the Norte Chico region had created a dense concentration of ceremonial architecture that, in turn, provided evidence of the first complex societies in the Central Andes.

Thus far, the available archeological data have only further substantiated many of Haas and Creamer's explanations for the development of complex sociopolitical organization in the Late Archaic Norte Chico region. In fact, contemporary communities in the region offer interesting parallels to the sort of peer-polity interaction that took place during the Late Archaic Period. Throughout the year, various festivals are held to commemorate a particular Catholic saint. Although these celebrations are not mechanisms for social change akin to "fiesta labor mobilization" (Wells 2007) or "fiesta finance" (Monaghan 1996), community prestige is intimately tied to the quality of performances, the quantity of food and beer served to participants, and the number of attendees. These modern festivals provide an example of ceremonial competition within a shared religious context comparable to the broad similarities in Late Archaic monuments and perhaps the religious beliefs materialized in the ceremonial architecture (DeMarrais et al. 1996).

[9]It is likely that groups flocked to the inland ceremonial sites from the surrounding highlands. In addition to the temporary campsites, botanical remains from highland plant species and particular cooking facilities (e.g., *pachamancas*) indicate the presence of individuals from the Central Andean highlands.

Although none of the alternative models (Shady 2003a [1999], 2003c [2000], 2006a; Vega-Centeno 2005a, b, 2010) have considered the Late Archaic Norte Chico as a regional phenomenon quite like Haas and Creamer's, there are some valuable critiques of the general framework. By emphasizing the importance of "inland innovators" (Haas and Creamer 2006: 755), their model can be broadly categorized as adopting a political approach in line with other sorts of accumulator, aggrandizer, or achiever models (Roscoe 2008, 78; for examples, see Clark and Blake 1994; Feinman 1995; Hayden 1995). Roscoe asserts that such explanations are undermined by reducing power to economics at the expense of other resource bases such as ideology. Within the field of archeology it is easy to emphasize the tangible evidence of economic systems; however, as Roscoe argues, in the "struggle to build power relations, it is in their [a leader's] interest to use *every* resource at their command, not just the most valuable ones" (Roscoe 2008, 84, emphasis in the original). While Haas and Creamer do recognize how leaders may have used supernatural sanctions and rewards to convince populations to contribute labor, they consistently prefer to highlight the importance of economic control over agricultural products. They argue that "the strictly ideological power of religious leaders, which lacks concrete immediate consequences, is relatively weak. This is especially true when compared to the relative strength of leaders who exercise some combination of economic or physical power" (Haas and Creamer 2012, 305). However, the abundance of ceremonial architecture in a region as small as the Norte Chico bears close similarities to the broad, yet limited, emergent political hierarchies built on the manipulation of ritual knowledge (Roscoe 2008, 86; Wells 2007, 29).

Indeed, the density of ceremonial architecture in the Norte Chico region cannot be contributed to a shift in subsistence practices alone. The close association between the transition from foraging to farming, sedentary communities, and ritual buildings evident in earlier sites from the Zaña Valley (Dillehay 2011) and the Santa Elena Peninsula (Stothert 1985, 1988) only resulted in the construction of small-scale communal structures. In order to explain why groups in the Norte Chico region would construct so much large-scale architecture requires a careful consideration of the functions that ritual spaces serve. Following Rappaport (1979, 174) who defines ritual as "the basic social act," Adler argues that "not only is social integration a result of ritual, it is a necessary condition *for* ritual" (Adler 1993, 322, emphasis in the original). He refers to ceremonial architecture as "social integrative facilities." More specifically, Adler and Wilshusen (1990, 133) define a social integrative facility as "a structure or prepared space that is socially acknowledged as a context for integration of individuals above the household level." As arenas for religious ritual, the platform mounds and sunken circular plazas of the Late Archaic sites served as contexts for performances designed to ease social tensions and to solidify identities for recently settled communities living together in close proximity.

Closer attention to building function also necessitates a better understanding of the variations among the sites and the ceremonial structures themselves. For

example, Haas and Creamer attribute the differences in ceremonial architecture between the coastal communities and the inland settlements to the power relationship. But why build monuments at Bandurria, Aspero, and Bermejo? In other words, why did groups orchestrate the construction of platform mounds at those sites and not at the other numerous fishing villages that dotted the Pacific coast? Seeing parallels to the Initial Period occupation in the Casma Valley, the Pozorski and Pozorski (2008, 611) envision the inland-coastal subsistence exchange system as one where certain partners may have held a monopoly over marine resources and thus curried special treatment from the leaders at the agricultural settlements. Alternatively, the coastal structures may have served as ritual loci for religious leaders who performed ceremonies specifically aligned with the lunar calendar of the fisherfolk.

Moreover, the emphasis in Haas and Creamer's model is on the large-scale platform mounds as indicators of a managerial elite found only in complex sociopolitical arrangements. They fail to mention the numerous small-scale ceremonial structures that were built adjacent to the monumental buildings (Piscitelli 2014; Ruiz 2008; Ruiz and Haas 2007; Shady and Machacuay 2003 [2000]; Shady et al. 2003 [2000]). Although the types of interaction possible within such small spaces were undoubtedly different, the spaces were no less arenas of power. Perhaps as Chicoine (2011, 434–435) suggests in his discussion of the dual properties of feasting, these more intimate rooms were where early leaders emphasized divisive (centrifugal) social forces while ritual activities to promote communal solidarity (centripetal ones) took place in the plazas and on top of the mounds. Moore (1996, 226) offers an alternative perspective in which visibility and social distance distinguished between public and private forms of religion. Accordingly, the platform mounds and sunken circular plazas served as a venue for more broadly accessible forms of religious belief while the small-scale structures were where specialists congregated to discuss subtle nuances of the ideology.

Differentiating among the previously described ideas is difficult given the current state of knowledge of ritual activities and ceremonial architecture in the Late Archaic Norte Chico region. Research to date has focused on establishing the economic foundations for these early complex societies and thus Haas and Creamer's model is an outgrowth of these available data. Despite the obvious gaps in the explanatory framework, Haas and Creamer offer an excellent starting point that continues to gain acceptance as additional evidence is obtained.

New Directions

As noted above, most discussions of Late Archaic ceremonial architecture in the Norte Chico region—and by extension, the emergence of complex societies—have focused on the question of "why?" In other words, "why did ancient groups decide to build monumental platform mounds and sunken circular plazas?" Although recent data have confirmed the importance of agricultural products to the Late

Archaic political economy (Haas et al. 2013), most of the explanations for the dramatic cultural transformations of this time period are best categorized as "aggrandizer" models that privilege an economic base of power and, at best, posit a complementary role for religious ideology (Roscoe 2008, 78). Such models can only improve by incorporating a more central role for ceremonial performance as a means to promote the cooperation and collective action necessary for mobilizing the labor and resources that were required to construct ritual structures (Carballo et al. 2012).

Given the current state of knowledge, it is time to shift the focus from the question of "why?" to "why so much?" Bell (1997, 173) has used the term "ritual density" to help explain the uneven distribution of ritual practices across time and space. Considering the Late Archaic Central Andes as a whole, there are pockets of ceremonial architecture dotting the landscape and then there is the Norte Chico region. Within an area of only 1800 km^2, there are 30 sites with monumental sunken circular plazas and platform mounds—some measuring up to 300,000 m^3 in volume (Haas and Creamer 2012). Large ceremonial centers with open plazas spanning several hectares are visible from one another and demonstrate a remarkably dense ceremonial landscape. In addition, recent excavations at Late Archaic sites in the Norte Chico region are revealing a more complex ceremonial landscape with numerous small-scale ceremonial structures situated among the monumental platform mounds and sunken circular plazas (Piscitelli 2013, 2014; Shady and Machacuay 2003 [2000]; Shady et al. 2003 [2000]). Unlike the monumental architecture, these smaller buildings were likely the location of nonpublic rituals with face-to-face interactions among higher status individuals or perhaps different kin groups. Overall, this area represents one of the greatest concentrations of early ceremonial architecture in South America and perhaps the ancient world.

Following scholars working elsewhere (e.g., Lipe and Hegmon 1989; Winkelman 1990), I argue that there is a connection between the amount of ceremonial architecture and social integration, particularly in times of stress (see also Piscitelli 2013, 2014). It appears as though drastic cultural changes, such as establishing a village or altering common subsistence practices, led to social stress that required religious activities to alleviate tension and to bind the communities together. Furthermore, the onset of the current environmental conditions and the establishment of modern sea-levels during the Late Archaic Period brought farmers and fisherfolk into closer contact (Richardson and Sandweiss 2008; Roscoe 2008). These groups, who operated on different celestial and ritual calendars, required products from one another for survival. Ritually motivated staple finance was likely practiced in order to ensure social integration and to encourage the necessary interaction (Haas and Creamer 2004, 2006; Haas et al. 2005; cf. Stein 1994). Increased social interaction likely facilitated the construction of similar ceremonial architecture and the practice of similar religious rituals. As McCoy (2008, 261) neatly summarizes for prehistoric Hawaiian religious structures, there is a "clear association between the development of complex societies and the increase in size, elaboration, frequency, and *standardization* of temple architecture" (emphasis added). The Late Archaic Period is noteworthy because of its longevity, and it is

likely that a close relationship between and politics facilitated the long-term stability that characterizes the pathway to social complexity in the Norte Chico region of Peru.

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Chapter 15
How Chiefdom and Early State Social Structures Resolve Collective Action Problems

David Willer, Pamela Emanuelson, Yamilette Chacon and Richard J. Chacon

How do early social structures resolve collective action problems? In answering that question it would be good to be clear on what collective action is and why it should be problematic. The traditional place to begin is with Olson's *Logic of Collective Action* which founded the modern study of collective action and defined its problematic. For Olson collective actions are actions in pursuit of collective goods. He defines collective goods as any good such that, if any person in a group "consumes it, it cannot be feasibly withheld from others of that group" (1965: 14). That is to say, collective goods are defined by non-excludability. For example, a wage settlement is a collective good, but only if, by law, it must apply to all of some group —such that no one is excluded.

For Olson collective action is problematic because acting collectively is more costly than not. Those who expect others to act and to provide the good are "free-riders" (1965: 76). In fact, every rational actor prefers not to pay the cost of acting collectively. Since all free ride, collective action is doomed to fail. It is doomed unless incentives or disincentives external to it motivate collective action (Olson 1965: 132ff). For Olson, and for much of the literature, collective action is solved when individuals are paid to act collectively, are threatened with negatives for free riding, or both. From this small beginning a gargantuan literature has grown, a literature that includes ample experimental proof of the propensity of collective actions to fail even in human groups as small as three or four.

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Another approach to collective action is that proposed by Hardin (1982). Unlike Olson who defines collective action in terms of the consumption of collective goods, Hardin (1982: 19) defines collective action by their production, by the necessity for *collective provision.* That is to say, an action is collective if and only if provision of the good requires that people act jointly regardless of whether the good provided be consumed collectively or individually. Joint action implies organization.[1]

Taking Olson (1965) and Hardin (1982) together, collective action can be problematic for two reasons. The first reason is Olson's incentive problem: because cooperation is more costly, free riding is always preferred to acting collectively. The problem is solved by reversing the preference for free riding over acting collectively by adding contingent incentives for acting collectively and/or disincentives for free riding. Second, collective action is problematic because of Hardin's provision problem: to succeed, collective action must be organized action. Whereas the literature of collective action focuses almost exclusively on the incentive problem, we will focus on how collective action is organized.

To understand how collective action problems are solved in chiefdom and early state structures is to understand how each of those structures is organized; an organization that resolves the incentive problem while combining actions of individuals. Merely mapping incentive systems, as suggested by approaches grounded in Olson (1965), does not explain how collective action is organized. It misses the mark being both too much and too little. It is too much in that there are important solutions to collective action problems that are not incentive based. The most important of those solutions is influence. A influences B when A affects B's beliefs.[2] For example, if under A's influence B comes to believe that a collective action will succeed if and only if B cooperates, B will cooperate, and the collective action problem is solved—at least for B. Influence can affect collective action in other ways, for example, by changing beliefs such that the valuations of actions change. If all come to believe that acting collectively is a duty, acting collectively is not a cost but a benefit, and the problem is solved. Many societies contain influence structures that are particularly effective because they are grounded in status structures. As will be seen later in the chapter, the status-lineage structure of chiefdoms is an ideal influence structure—at least in its theoretically pure form.

Mapping incentive systems is also too little to explain collective action. Organizations that solve collective actions, unless they rely exclusively on

[1]Organizing labor unions and pressure groups and subsequent actions by both are examples of collective action for both Olson (1965) and Hardin (1982).

[2]Influence and power are distinct phenomena and are distinguished in the following way. For Mokken and Stokman, "The exercise of influence takes place mainly by means of persuasion, information and advice" (1976: 37). For power, "force, coercion and sanctions are sufficient" (1976: 35). Zelditch agrees, "What distinguishes power is that it involves external sanctions. Influence, on the other hand, persuades B that X is right according to B's own interests" (1992: 995). In structures, influence is produced by status differences. Coercive relations and structures produce power differences between positions.

influence, will contain incentive systems. But, organizations capable of resolving collective action problems consist of structured social relations that cannot be reduced, without loss, to incentive systems. Yet, as shown in the section to follow, the vast majority of theory and research on collective action ignores organization. In that section, we will show that solving the collective action problems of $n > 2$ people, whether selective incentives are used or not, always requires organization.

Given that collective action is organized action, exactly what kinds of activities do chiefdom and early state structures organize? Here it is useful to separate out two kinds of activity that are *not* organized by those larger social structures: the real activities of individual/nuclear families and the 'phantom' activities. By 'phantom' activities we mean, activities that never existed in the past but are believed by scholars to have existed.

All societies, particularly the early forms considered here, are full of activities wholly planned and carried out by individuals and/or their nuclear families. These are activities that do not have collective action problems extending far beyond the family and they are emphatically not managed by the larger polity in which they occur. The most important among these unmanaged, activities is the production of food. Chiefs do not take to the fields to show farmers how to farm. Nor do the citizens of ancient city-states manage their debt-slaves as they produce food.

Chiefdom and early state structures were not organizations that managed basic maintenance activities of the society, nor did they have the organizational capability to do so. When these early structures managed anything it is their military and not all did that. Otherwise they did not manage, they administrated and what they administrated was very much limited to the political/military structure. For example, the highly effective Spartan military phalanx was not managed. It had no organization beyond one of their two kings and one or two elected Ephors who did little more than point the way toward the battle. Each Spartan was a trained expert warrior. Coordination in battle had already been provided for by the Spartan education (Xenophon [4th century BCE] 1968).

The distinction between administration and management is significant. Administrators are superordinates who do not direct the detailed activities of subordinates. Instead they establish and apply incentives that are intended to frame and motivate the activities of those under them. Beyond establishing incentives, managers directly govern activity by giving orders, setting rules, and establishing routines. To take a familiar example, university officials administrate. They do not come to the classroom to show professors how to teach or to the laboratory to show them how to carry out research. They do not manage teaching and research through rules and orders and do not establish routines that govern processes of education and investigation.[3] By contrast, modern military hierarchies manage and do so in detail. For the enlisted man and woman, every detail of daily life is dictated from above. Similarly, the Roman army was managed by a hierarchy of officers (Mackay

[3]As professors know, however, administrators such as deans establish routines that create work above and beyond teaching and research.

2004). Administrators frequently claim to manage when they do not. That claim is intended to justify of their privileges today as well as in chiefdoms and states of the past.

Phantom activities are activities believed by scholars to be managerial concerns of chiefdoms or early state structures but were not. That is to say, these are not real but mythical activities. As Fried put it, "There is no indication that ranking develops out of any managerial necessity" (1967: 115). For example, it seems to be universal that chiefs claim to be generous in giving gifts to their people. In societies with simple ranking, chiefs gain reputations for generosity by redistributing surpluses to all (Fried 1967; Sahlins 1958; Service 1985). Research over the last 40 years, however, has made it increasingly clear that, in developed chiefdoms, the chief's generalized generosity is a legitimation not grounded in fact. Chiefs practice a kind of redistribution, but unlike Robin Hood, they take from the poor—from the producers—and give to the rich—those who support the rule of the chief (Fried 1967; Hayden and Villeneuve 2012; Malo [1898] 1903).

Perhaps the most infamous phantom activity was Wittfogel's contention that early states come into being in order to manage systems of irrigation (1957). Subsequent research has shown that neither chiefs nor the leaders of early states instituted systems of irrigation or managed irrigation systems once established. No early state had a department of irrigation management. Early irrigation systems were built by the families of agricultural producers themselves, frequently in cooperation with other families. Later states, for example, the Ptolemaic state of Egypt, did build and manage systems of irrigation (Butzer 1976). But that was activity of a wholly developed state occurring fully 2000 years too late to explain Egyptian state development.[4]

Chiefdom and early state structures are polities. They are political and military structures: it is an error to seek other functions that they perform. Furthermore, their management activities, if any, are very narrowly focused on the organization of the military. Beyond that they are almost exclusively administrative structures whose management activities are not real but mythical and legitimating.[5] Nor could they manage complex activities for neither chiefdoms nor early states had trained officials with the expert knowledge.[6] Therefore, in analyzing the structures of chiefdoms and early states, we can safely focus on them as polities.

This chapter is organized in the following way. The next section reviews collective action formulations. Then capabilities and limits of collective action in

[4]Moreover, in southern Arizona, recent archaeological finds indicate that canal irrigation for crop production dates back to at least 1000 BC. Furthermore, additional excavations in the American Southwest have uncovered similar indications of crop irrigation in small communities. Thus, it is now certain that water-control technology preceded the development of large permanent villages (Damp et al. 2002; Milner 2005).

[5]For example, the Roman and Inka states organized extensive road systems used for military purposes.

[6]The most important civil activity of early states was the collection of taxes (Trigger 2003).

chiefdoms and states are taken up one at a time, in a series of sections. The conclusion reviews the issues of collective action and oligarchy.

Collective Action and Its Problems

This section begins by analyzing the incentives and disincentives of collective action, an analysis that leads inexorably to issues of organization. Having critically examined the logic of Olson's formulation, we introduce parametric and strategic rationality. From a 2-person game, we move to $n > 2$ person social dilemmas that are exemplified using the payoff matrix from the Marwell and Ames (1979) experimental design. Changing the focus from individuals to coalitions leads to the discovery that cooperation is possible when coalitions organize. Since increased size makes organization more difficult, the larger the group the more likely it is to differentiate into leaders and followers, presaging the emergence of oligarchy.

Olson's Logic of Collective Action

The logic of Olson's theory of collective action is intended to show that "rational self-interested individuals will not act to achieve their common or group interests" (1965: 2 italics removed). But does it? The first three of the equations and inequalities below are the thinking that led him to the just quoted conclusion. Let C_i be i's costs in pursuing the collective good, V_i be i's gross benefit and A_i be i's net benefit. For an i who cooperates, C, V and A are subscripted c and for a defector who free rides are subscripted fr. Remember, V is a collective good from which no i can be excluded. For simplicity, assume that the gross benefit to each cooperator and free rider are the same ($V_c = V_{fr}$) and that the cost of cooperation is nonzero ($C_c > 0$).[7] Then free riding is always preferred to cooperation because

$$A_c = V_c - C_c$$

and

$$A_{fr} = V_{fr}$$

[7]As in Olson (1965), 'costs' are subtracted which is odd because costs are negative. Subtracting a negative only makes sense if Olson is subtracting the absolute value of the cost. Olson's usage is followed here. Therefore, the statement $C_i > 0$, means that the absolute value of the cost is larger than zero.

it follows that

$$A_{\mathrm{fr}} > A_{\mathrm{c}}$$

And all *i*, cooperators and free riders prefer to free ride. When all free ride, the net benefit is zero. Therefore,

$$A_{\mathrm{fr}} = A_{\mathrm{c}} = 0$$

Which is impossible because $A_{\mathrm{fr}} > A_{\mathrm{c}}$. Therefore, Olson's logic is self-contradictory.

The error is fundamental to Olson's formulation. Rationality can take two forms, parametric or strategic and Olson's error was to represent a strategic situation parametrically. Parametric rationality optimizes among alternatives that are fixed by the environment (Elster 1986: 7). For example, when prices are given by a perfect market, economic actors do not affect prices or each other as they select things from that market. Since they do not, prices can be treated as part of a fixed environment. Much economic thinking uses parametric rationality, a use that is justified by appeal to parsimony.

The parameters of the collective action problem, however, cannot be treated as fixed. That they cannot be is seen by comparing the conclusions, $A_{\mathrm{fr}} = A_{\mathrm{c}} = 0$ and $A_{\mathrm{fr}} > A_{\mathrm{c}}$, which contradict because in $A_{\mathrm{fr}} > A_{\mathrm{c}}$ the A values are nonzero. That is to say, Olson's formulation begins by assuming that all A_i are nonzero because, if they were zero, no one would be moved to act, either to cooperate or free ride. Olson then concludes that all are zero. But A_i cannot be both zero and nonzero: thus the contradiction.

Strategic Collective Action

Since Olson (1965), collective action has been reformulated in terms of strategic rationality. As defined by Schelling, rationality is strategic when "each player's best choice of action depends on the action he expects the other to take" (1960: 86).[8] To introduce strategic rationality, we first discuss a 2-person strategic situation and then move to an *N*-person analysis. The Prisoners' Dilemma (P/D) game of Fig. 15.1 illustrates a strategic decision situation: it has 2 players each with binary choices called cooperate or defect—labeled C and D, respectively. To defect is to free ride. Player 1 selects between the rows and Player 2 selects between the

[8]Strategic rationality is the default assumption of game theory. In fact, von Neumann and Morgenstern (1944) introduced game theory with the strategic—parametric distinction. But more than 25 years earlier, Weber distinguished the two types of rationality and used the distinction to differentiate economics with its parametric rationality from sociology with its strategic rationality ([1918] 1968: 22–23).

Fig. 15.1 2-Person prisoner's dilemma game

		PLAYER 2	
		C	**D**
PLAYER 1	**C**	4, 4	2, 5
	D	5, 2	3, 3

columns. The payoff to the left of the comma goes to Player 1 while the payoff to the right of the comma goes to Player 2. Note that each payoff is the result of the decision of *both* players—thus demanding strategic thinking by the players. Reading the figure, there is a collective good because the payoff for joint cooperation is higher than for joint defection. But the highest payoff goes to the defector when the other cooperates while the lowest payoff goes to the cooperator when the other defects. Together these payoffs are the dilemma. The 'strategy' of defecting always pays more than cooperation. Since defection always 'dominates' cooperation, defection is the 'dominant strategy.' Though dilemmas like P/D's are at the core of all collective action problems, we will not review opportunities to cooperate in the 2-person P/D game because our interest is in larger structures and opportunities to cooperate in N-person dilemmas are quite different.[9]

The incentive structure of an *N*-person collective action is brilliantly represented in the game developed by Marwell and Ames (1979) that has subsequently found extensive use in experimental investigations. Multiple players begin with the same number of resources. Each player decides on a division between resources that are kept and resources that are contributed to a common pool. All resources contributed to the common pool are enhanced by a multiplier $M > 1$ (often $M = 1.5$) and divided equally among all players regardless of their contributions. Contributions are cooperation while keeping is defection/free riding.

For example, let $M = 1.5$ and each of three players be given 10 resources. When all contribute all their resources to the pool, each gains 15. When none contribute to the pool each gains the 10 initially held. Full cooperation pays better than full defection. Between those two states there are a number of states that combine varying amounts of cooperation and defection across the three players.

[9]Whereas, when played only once, defection is the dominant strategy, when played many times no best strategy can be deduced. Inductive approaches that play strategies against each other in "round robin" tournaments have shown that reciprocity strategies like tit-for-tat offer the opportunity to gain joint cooperative payoffs while guarding against other's defection. Tit-for-tat cooperates in the first game and then subsequently plays the other's choice of the previous iteration (Axelrod 1984). While the 2-person P/D game illustrates how strategic decision making is distinct from parametric, it does not generalize to the incentive structure of $n > 2$ collective action for a number of reasons. Here is one. When the 2 person P/D game is played more than once, either player can "punish" the other by defecting. But when *N*-persons play, with some defecting and some cooperating, a response of defection by any player serves no purpose because it punishes both defectors and cooperators.

For example, if only one player cooperates giving all 10 to the pool, then $10 \times 1.5 = 15$ resources are divided equally: the three players each receive 5 from the common pool. Now the payoff to the cooperator is 5, but each defector's payoff is 5 + 10 = 15. More generally, Marwell and Ames (1979)'s incentive system has the following qualities:

- Full cooperation gives the highest joint payoff.
- Cooperation increases the payoff to all.
- Any defector always receives a higher payoff than any cooperator.

These satisfy Komorita and Parks' dilemma criteria (1996: 40–41). When Marwell and Ames' game is played repeatedly in experiments, initially high rates of cooperation soon decline to or near zero. This is a dilemma game and, like all dilemma games the individual player, if rational, should always defect.

From Individuals to Coalitions

Though the individual player should always defect, changing the focus from individuals to coalitions tells a different story. Again let Marwell and Ames' 3-player game be played many times—as are most collective actions. Assume that two players want to cooperate, but know that the third will defect. The payoffs are known to the players. Therefore the two cooperators can infer that, if both fully cooperate, each will receive a payoff of 10 (because $10 \times 2 \times 1.5 = 30$ divided 3 ways is 10 each). They also know that, if both defect, their payoff is again 10. It follows that, when the two switch from cooperate to defect their payoffs are unaffected. Now look at the payoffs to the defector. When the two others cooperated the defector gained 10 from the pool that, together with the 10 initially held, gave a payoff of 20. But if the two others defect, the defector's payoff is only 10.

Therefore, a coalition of two cooperators has a costless threat to use against the defector. Since the threat is costless, rational would-be cooperators will form a coalition if they can. Furthermore, the coalition will succeed because a rational would-be defector, facing the threat, will cooperate. Therefore, coalition formation solves the game's collective action problem and, furthermore, does so for groups of any size. For example, for the same game played by 150, only 100 need form a coalition to have a costless threat to use against 50 defectors—and similarly for larger collectivities. $N > 2$ dilemmas in repeated games can be solved by a coalition of cooperators, but only when that coalition is organized. Exactly how organizations work is the subject of much of the rest of this chapter.

When M is the multiplier for cooperation, the proportion which must cooperate in a coalition to exercise the costless threat is $1/M$. Therefore, the greater the payoff from collective action, the proportionally smaller the coalition need be. Call that proportion the 'critical mass' and note that a coalition smaller than critical mass

does not merely breakeven: it profits when switching from cooperation to defection —though it has a smaller effect on the defectors.[10]

Furthermore, coalitions of cooperators are privileged. Since payoffs to cooperators and defectors alike increase with the number who cooperate, cooperators want a coalition of cooperators to form and, having formed, to increase in number—and so do defectors. Conversely, there is no motive for defectors to encourage others to defect. If by chance there was a coalition of defectors each member would want all others to quit and cooperate. Therefore, a coalition of cooperators will have no opposition.

Given the ease of forcing a minority of organized defectors to cooperate, why is collective action seen as problematic? Here is the answer. Collective action is problematic if and only if players are blocked from organizing a coalition *even when motivated to do so.* The conditions of game theory that block organization are called 'conditions of noncooperation.' They are four (Luce and Raiffa 1957):

- Players act without knowledge of any other player's choice.
- Players cannot communicate.
- Players may not make binding agreements.
- Players may not introduce side payments.

The conditions of noncooperation are useful to game theory for they form an essential part of analyzing games. They are the conditions normally realized in experiments on social dilemmas. When used in analyzing games and building experiments, the four conditions perform good and useful purposes. Our objection begins when the four conditions of noncooperation are taken as the normal conditions in which collective actions occur. They are not normal: they are unrealistically extreme. The four conditions rule out organized action by producing Robinson Crusoe-like perfectly isolated individuals such as never have existed even in the most restrictive totalitarian regime.

Under the four conditions, organized collective action is not problematic, it is impossible. It is impossible because the people of the collectivity are not allowed to organize.[11] For example even the simple coalition of two players that switched from cooperation to defection violates the conditions of noncooperation because to do so requires organization to coordinate their actions. Since organization is ruled out prior to analysis, conventional interpretations do not see it as the solution to

[10]For the mathematics of this solution see Willer et al. (2002). Like collective action theory, the analysis thus far does not consider opposition to the coalition from individuals or groups outside the collectivity. Though it is obvious that coalitions routinely fail because they are opposed by outsiders, as when strikers are shot by police, because that opposition finds no place in collective action theory, it is ignored here.

[11]It has long been known that locally isolated people cannot organize to pursue their interests. Marx ([1869] 1963) commenting on the peasants of France noted that they have no manifold relations. They are like potatoes in a sack of potatoes. In our terms, the peasants were a collectivity that could not organize because they were locally isolated. As Marx put it, they could not represent themselves, they had to be represented—presumably by one or the other Napoleon ([1869] 1963: 123).

collective action problems. We strongly disagree. For understanding how collective action problems are actually resolved, the conditions of noncooperation are phantom conditions: ghost-like they pose problems that do not exist while ignoring difficulties that do exist.

Thinking again about Marwell and Ames (1979)'s design, in those experiments organization might have two functions: the distribution of payoffs and the coordination of subjects' activities. The distribution of payoffs is organized by the experimenter and carried out in exactly the same way in all experiments. Since that organization is the work of the experimenter and since it is not varied, the experiment does not investigate how organizations distribute incentives. Turning to the second component, as we have seen, subjects are not allowed to form coalitions. Therefore, the experiment does not investigate how coordination is organized. The two uninvestigated components exhaust the organization of collective action that occurs in the experiment. It follows that, Marwell and Ames (1979)'s design does not investigate how organizations solve collective action problems. Since the problems of collective action are solved by organization and only through organization, it is to the structure of organizations that we now turn.

The Logic of Oligarchy

In the sections to follow, the social structures of chiefdoms and early states are presented. With one exception, those structures solved their collective action problems by centralizing influence or power: they were oligarchical. But why were early organizations oligarchical and why have they largely remained in that form to today? According to Michels, "Who says organization, says oligarchy" ([1915] 1962: 365). But why? In fact, collective action theory offers at least one insight into why, in prehistory, social structures were centralized and not representative.[12] Before we leave collective action theory, it will be helpful to see what it implies about ancient oligarchy.

From its inception, collective action theory has known that size is a very important condition of organization. As Olson (1965) put it:

> [T]he larger the number of members in the group the greater the organization costs, and thus the higher the hurdle that must be jumped before any of the collective good at all can be obtained. For these reasons, the larger the group the farther it will fall short of providing an optimal supply of a collective good, and very large groups normally will not, in the absence of coercion or separate, outside incentives, provide themselves with even minimal amounts of a collective good. (P. 48)

By the effect of size alone, small segmented tribal societies should have very simple social organizations and they do: they are organized around the "big man."

[12]While that insight may apply today, contemporary oligarchical structures are outside the scope of this chapter.

The big man is notable for outstanding previous accomplishments as a consequence of which he holds high status in what is otherwise an egalitarian society. The big man does not hold power. He leads by example and influence. The influence he exercises is a consequence of his status.[13] (The relation between status and influence is explained below). In Weber's terms, the big man is a charismatic leader ([1918] 1968). Like many other charismatic leaders, being a big man is normally not heritable.

For larger societies, the effect of size is captured in the following proposition: *Smaller groups always organize before larger ones*. Imagine a village larger than a tribe that has, as yet, not developed organization beyond a segmented structure. The size is such that the big man finds it difficult to organize either hunting expeditions and/or war parties. Possibly other big men will develop, but, lacking as they do any organization that would coordinate their activities, they cannot solve the collective action problems of the village. An organization that incorporated all people in the village would solve their collective action problems. But before such a large organization could develop, an organization of the few would develop. Because smaller organizations occur earlier than larger ones, the organization of the few will develop first. By establishing relations of influence to the rest of the village people, the organization of the few solves the village's collective action problems while blocking the development of an organization of the many in the future.

The organization of the few could develop in either of two ways. It could be headed by one big man or could include multiple big men who have worked out a system coordinating their decisions. In either case, as seen in the next section, status-lineage structures are societies that rank all members into a single well-ordered status structure. Status-lineage structures are generally held to have evolved out of segmentary structures (Fried 1967; Leach 1954; Oberg 1955; Service 1985). We suggest that they evolved in societies that had become too large for their collective action problems to have been solved by big men—but that suggestion is not investigated here.

The Chiefdom as a Well-Ordered Influence Structure

Drawing heavily from Chacon (2014), this section presents a theoretic model for chiefdoms. The model for chiefdom is purposefully pared down to be as simple as possible while still explaining how the members of the chiefdom can act together to pursue their common goals (Hardin 1982). Beyond showing how collective action problems are solved, a simple model may well capture what is common across chiefdoms at least insofar as structure is concerned. The term 'chiefdom' does not refer to an unsegmented or segmented society with a recognized head or chief. The structure of the chiefdom is more complex. It is a kin-based ranked polity

[13]For more on 'big man' societies see Chacon and Hayward's chapter in this volume.

characterized by a status-lineage structure in which the chief holds the highest position in the highest status-lineage (Kirch 1984; Kirchhoff 1949, [1955] 1959; Oberg 1955; Sahlins 1958; White 1959; Widmer 1994).[14] Prior to the state, the chiefdom was the most complex of all human social organizations.

This complex social structure was once quite widely distributed (Chacon 2014). According to Sahlins (1968) and Service (1985), status-lineages have arisen on all the inhabited continents.[15] Fustel de Coulanges ([1864] 1980) described the structures of Greek and Roman descent which he called gens that were status-lineages. The existence of lineage-based status structures is also documented in Africa (Sahlins 1964: 618, 1968: 24; Service 1975:106, 1985: 330).[16] Adams (1966) and others suggest that they were present in Mesopotamia prior to the rise of states during the late Ubaid and early Uruk periods (Frangipane 2007; Friedman and Rowlands 1978). Some scholars claim that status-lineages were present among the Semitic tribes (Kirchhoff [1955] 1959; Sahlins 1968; Service 1985). Similarly, Thapar ([1984] 2005) notes that status-lineages were present in India's Ganges Valley prior to the development of the state. In Southeast Asia, Leach (1954) characterizes the Kachin of Burma as being a three-class society comprised of hereditary status-lineage structures with distinct lineages of chiefs, lesser aristocracy, and commoners. In central Asia, Bacon (1958) documents the presence of the *okon* system, a status-lineage structure. In north China, status-lineages are characterized by a fixed genealogical mode of kinship (Cohen 1990). The existence of status-lineage structures has been documented in both Americas (Drucker 1939; Marcus and Flannery 1996; Oberg 1955:484; Sahlins 1963). While status-lineages were widely distributed, they are by no means universal. Simpler unsegmented and segmented social structures were also widely distributed.

Since a well-ordered status structure is a more effective influence structure than one with imperfect rankings, how status is assigned in the lineage structure is central to the effectiveness of the chiefdom (Chacon 2014). Leading theorists of chiefdoms, including Kirchhoff ([1955] 1959) and Goldman (1960) refer to status rankings as determined by the 'closeness' of each person to the current chief. "Clan membership so-to-speak shades off the farther one is away from the center-line of the clan – the real core of the group" (Kirchhoff [1955] 1959: 266). Because there are multiple positions that are the same number of steps from the chief, 'closeness' and 'shading off' are imprecise. Others have suggested that high status positions are 'closer' to the founder (Widmer 1994). But Widmer is wrong: distance from

[14]"A lineage is a descent group whose members can usually trace or remember genealogical ties" (Bates and Fratkin 2003: 188).

[15]Terms used to designate status-lineages (Goldman 1955, 1957, 1958, 1960) include: conical clans (Kirchhoff [1955] 1959), gens (Fustel de Coulanges [1864] 1980), ramage (Firth 1936), Gumsa (Leach 1954), and chiefdom (Oberg 1955; Sahlins 1968). In this work, we only use the term 'status-lineage' (Hage 2003; Johnson and Earle 2000; Sahlins 1963).

[16]Service (1985: 124) points out that "Several British social anthropologists working in Africa have described hierarchical political systems and even focused on the aristocratic rankings within the clan.".

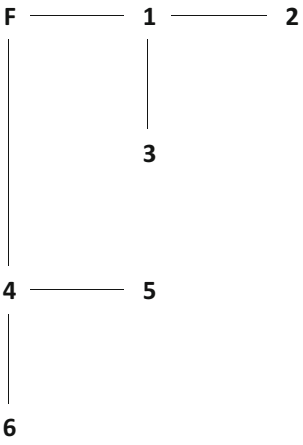

Fig. 15.2 A two generation status lineage structure: static view

founder is generational. All individuals in the lineage of any given generation are exactly the same distance from the founder.

A procedure to discover statuses in lineage structures was only recently developed by Hage and Harary (1996).[17] That procedure is used in the status-lineage structures mapped in Figs. 15.2 and 15.3: it works in the following way. To assign statuses, begin with the founder ('F' in the figure) and trace down the senior line assigning status rankings in order. Then, doubling back, assign statuses by tracing through all branchings in the order encountered. For example, in Fig. 15.2, the nodes are numbers indicating status, "1" is higher status than "2," while "2" is higher status than "3" and similarly. The node labeled "1" is the founder's first born son and "4" is his second. The first born son's own first born is labeled "2," his second born is "3" and similarly for the remaining nodes. The senior line is *F*–1–2 and is the highest status line. Note that the founder's second son is out-ranked by both sons of the founder's first born son.

It has long been known that status differences produce influence—what Weber called deference ([1918] 1968). Lower status actors defer to and thus are influenced by higher status actors. Berger et al. (1972, 1977), in a theory subjected to a series of experimental tests, have shown that status differences differentiate (1) action opportunities, (2) performance outputs, (3) evaluations of performance outputs, and (4) influence. Higher status actors initiate actions and influence lower status actors to join them while their actions are more favorably evaluated than those of lower status actors. Importantly, new experimentally tested theory by Simpson et al. (2012)

[17]We do not suggest that people in a lineage did not know the distribution of statuses in their lineage for it is clear that they did (Malo [1898] 1903). We only note that, prior to Hage and Harary (1996), scholars did not have a procedure for finding that distribution.

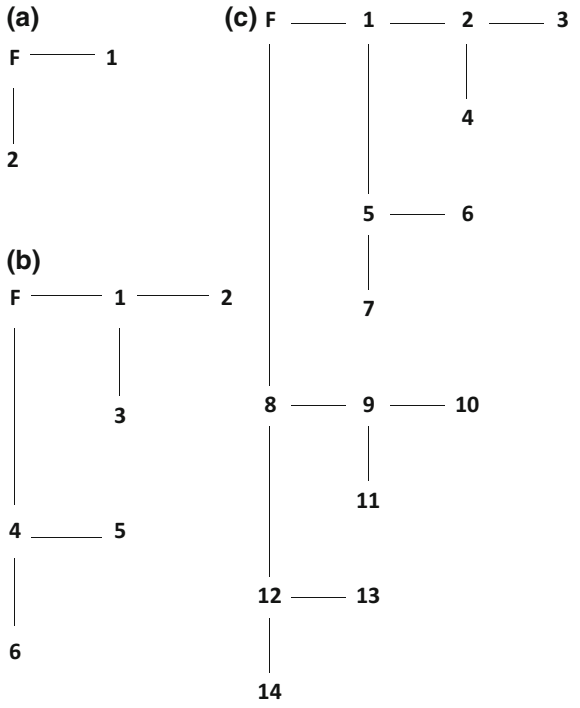

Fig. 15.3 Cross generation, dynamic view of influence in a status-lineage

shows that established status structures solve collective action problems through the influence relations produced by that structure.[18]

Applying Simpson et al. (2012), the status-lineage of the chiefdom is an organization that solves collective action problems in the following way. Any higher status member of the chiefdom, including the chief himself, can initiate collective action. Since influence follows status in the lineage, the chief can influence everyone to act while any higher status member can influence anyone of lower status to act. As a result, collective action is jointly organized toward common individual or collective goals. Additionally, the chief can set the chiefdom's agenda (Bachrach and Baratz 1962).

The status-lineages of chiefdoms are effective organizations for the solution of collective action problems for two reasons. First, as seen from Hage and Harary (1996), the status-lineage assigns an internally consistent and unique status to each member. In the theoretically ideal case, when influence follows status, no one in a lineage will be subject to contradictory pressures. Second, as we move down the status hierarchy, each member is subject to the influence of more and more higher status others. Thus, the status structure itself is the organizing system. Any human

[18]See also Chacon and Hayward in this volume for documentation of how incipient status differentials facilitate collective action in egalitarian settings.

group which faces collective action problems is better equipped to solve them if it has a status-lineage structure in place than if it has no organization capable of solving them. The structure of the chiefdom clearly shows that collective action problems are problems only until solved by organization.

Why are status-lineages better organized than egalitarian communities? To be equally well organized, egalitarian communities would have to develop alternative modes of solving collective action problems and, being egalitarian, those organizations could not work through status-based influence. As will be seen below, centralized coercive systems can solve collective action problems through power, not status. But egalitarian communities cannot have power centralization for that centralization itself produces status differences.[19] When human communities face collective action problems, the chiefdom with its status-lineage has a competitive advantage over more egalitarian communities such as those with unsegmented and segmented social structures—a point made some time ago by Sahlins (1963). The distribution of the chiefdom and its status-linages across the continents suggests multiple independent developments of the lineage structure with its greater capabilities.[20]

Seen at only one point in time, status-lineage structures are optimal influence structures, but seen dynamically they contain what Marx might call "The seeds of their own destruction." Figure 15.3 traces a status-lineage structure across generations. Again the node numbers indicate status with the lower numbers indicating higher status. As can be seen, the senior line, F–1–2–3 is always highest status. Now focus on those off the senior line. In the first generation, the founder's second son has status 2. By the third generation the second son's status has declined to 4 and by the fourth generation has declined to 8. As time passes, like the second son, all in the status-lineage structure who are off the senior line are downwardly mobile. That downward mobility introduces instabilities into the status-based chiefdom setting the stage for its transition in a coercive direction.[21]

From Influence-Based to Coercion-Based Chiefdom

Oddly, there is little consensus insofar as definitions of chiefdom are concerned. For example, according to Earle (1997),

[19]Athens, which was egalitarian insofar as citizens were concerned, certainly did solve its collective action problems. See below.

[20]It could be hypothesized that humans develop status-lineage structures in order to solve concrete problems such as war and group hunting that are collective action problems. Certainly humans make adaptive choices; nevertheless, it is difficult to see how such a hypotheses could be tested. What can be said is that, in any competing system, compared to simpler structures, status-lineage structures are advantaged and will be selected for.

[21]Transitions across chiefdom types and from chiefdom to state are more fully discussed in our "From Chiefdom to State: The Contribution of Social Structural Dynamics" forthcoming in *Social Evolution and History.*

> Chiefdoms are normally characterized as kin-based societies, meaning that a person's place in the kinship system determines his or her social status and political position. (P. 5)

According to Carneiro (1981),

> I would define a chiefdom as an autonomous political unit comprising a number of villages under the permanent control of a paramount chief. (P.45 [italics removed])

The two definitions are irreconcilable. The set of villages that come to be controlled by a paramount chief need not share kinship with each other or with the paramount chief and the villages that do share a kinship structure need not be under the same paramount chief. There is no agreement because Earle and Carneiro are referring to two different social structural forms. Earle (1997) is referring to the influence—based chiefdom like that just modeled and Carneiro (1981) is referring to a coercive-based chiefdom, a structure which we model below. There is little doubt that coercive chiefdoms grew out of influence-based chiefdoms. We now consider the process linking the two and, in so doing, a third chiefdom type is uncovered.

War the Transforming Mechanism

The social structure of the coercive chiefdom is very different from the status-lineage, influence-based chiefdom modeled above. Whereas status-lineages are ranked, coercive chiefdoms are stratified into three status groups here called castes: warrior, commoner, and slave. The chief holds the highest status in the warrior caste. To say that the structure is stratified is to say that commoners and slaves do the productive labor some of the value of which is extracted by the chief and warriors. That extraction of value from the lower two castes is by coercive force threat. This structure is fundamentally changed from the influence-based chiefdom. By what process did that change occur?

Though earlier work by Sahlins (1958) and Service (1962) saw chiefdoms as grounded in economic developments, led by Carneiro (1981, 1998, 2012), anthropologists and archaeologists have come to place war at the forefront of their explanations (e.g., Haas 1982; Earle 1991, 1997). We agree with one qualification. Though the evidence seems to show that chiefdoms are universally warlike (Carneiro 1998), the propensity toward war is not necessarily associated with overpopulation and a shortage of land.[22]

War is the normal condition of chiefdoms. That is to say, not only are chiefdoms, whatever their form, capable to engaging in war, they do so intensively. From the

[22]Butzer (1976), Liu et al. (2004) and Pollok (1999) assert that (respectively) the Nile, Yilou, and Tigris-Euphrates river valleys were not overpopulated even after the rise of the states. See also Wright and Johnson (1975). Thus, it is very doubtful that they were overpopulated when the coercive chiefdoms rose that preceded the state.

perspective of the twenty-first century, it may be difficult to recognize the significance of warfare for prehistoric societies: successful wars are important in acquiring resources. Because of explosives, war today destroys both the means of production and the products thereof. Lacking explosives, prehistoric war could destroy only people and other living things, such as cattle, but not land and durable goods. That people and cattle were valued as booty sharply limited their destruction. Furthermore, their value as booty was enhanced because they provided their own transportation. Odysseus, who Finley characterizes as a chief, boasted of the cattle he had run off (Finley 1954). Though Marx said that history was not a history of taking (Marx and Engels [1845] 1946: 90), when production is slow and taking is quick, acquisition through warfare is an important mode of acquiring value.[23]

War is the mechanism transforming the chiefdom in a coercive direction. For the chiefdom, successful war increases status differences beyond those of influence-based chiefdom by differentially distributing resources acquired by war. When the resources acquired and differentially allocated are land and slaves, the ranked society moves toward a caste system in which the means of production are allocated to the developing warrior caste and separated from the commoners (Goldman 1955, 1957, 1958, 1960).

Furthermore, war opens the door for the achievement of status in a society otherwise pervaded by ascribed status (Chacon 2014). Warfare provides those of lower status who are courageous warriors with pathways to higher status. Recognition of achieved status by the chief, as shown in granting benefits in the form of prestige items and high status wives, legitimates achieved status while building a loyal warrior caste.[24] The resulting warrior caste is composed in part of those once high in lineage status and in part of those upwardly mobile through success in war. The two parts are potentially hostile with those from high lineage being proud of their birth, those from lower status being proud of their courage and each disdaining the other. Both parts are loyal to the chief because, standing above both, only the chief can resolve their hostility. Ruling through *divisare et empiretor* begins in the coercive chiefdom and prior to the state. Furthermore, the possibility of improving social status through combat performance connects status motives to fighting leading to more and larger wars (Trimborn 1949).[25]

War was the evolutionary mechanism transforming the influence-based chiefdom, through the concentration of the means of violence, into the fully developed

[23]As a warrior ethos develops, theft through raiding and war can come to be seen as honorable in contrast to manual labor that comes to be seen as dishonorable and contrary to warrior's lifestyle (see Weber [1918] 1968 for the concept of status group, its ethos and lifestyle). Crow Indian warriors could win glory by stealing horses from an enemy camp (Garbarino 1976). See also Trimborn (1949).

[24]The term 'caste' is sometimes used to designate a status group closed to outsiders. That is not the meaning here. The warrior caste includes warriors from lower status positions whose courage has been recognized by the chief.

[25]See Chacon and Dye (2007) along with Chacon and Mendoza (2007a, b) for documentation of the antiquity and widespread spatial distribution of warfare.

coercive-based chiefdom. Nevertheless, it is difficult to see how the capability of solving collective action problems was maintained throughout that process. It is difficult to see because what is missing is explication of the social structure that stood between the two chiefdom types.

The Indirect Coercive Chiefdom

How, seemingly out of nothing, does the chief's warrior caste arise? How is the capability of organized action maintained while the means of violence, though not yet concentrated, are moving toward concentration into the hands of the chief and his developing warrior caste? To answer those questions a third social structure for the chiefdom is here introduced: the indirect coercive chiefdom.

In coercion, or what will now be called direct coercion, the coercer extracts value from the coerce by force threat. Indirect coercion separates the role of the coercer into two parts, an outsider who threatens and an insider who receives value from the coercee by promising to defend the coercee from the outsider. While very ancient, indirect coercion is still seen. Today, the Mafia extracts payments from shopkeepers by promising to defend them from thugs. Similarly, in the U.S., the president is granted both extraordinary powers to defend citizens from terrorist threats and the funding to exercise those powers.[26]

Indirect coercion produces power relations between the chief together with his warrior caste and the commoners and slaves, but only if there is an external threat (See Fig. 15.4a). The answer to external threat is war and a chiefdom at war can extract value from commoners by promising to defend them. In Fig. 15.4a, W, the warrior caste engages X, the external threat in conflict and gains support from commoners and slaves, the Ss. The exercise of power though indirect coercion does not require the concentration of the means of violence within the chiefdom. Instead, ethnographic study shows that power exercise rests upon the threat of negative sanctions that originate outside of the chiefdom (Fortes and Evans-Pritchard 1940). Similarly, experimental studies show that external threats such as intergroup conflict motivate group cohesion and self-sacrifice for the group (Barclay and Benard 2013). Importantly, the external threat may or may not be real. Barclay and Benard show that high-ranking group members exaggerate threats to promote cooperation and suppress competition for their positions.

For indirect coercion what matters is that the threat is believed to be real. It matters not whether that threat is actually real of not. Hayden and Villeneuve (2012) found it strange that the two chiefdoms on the island of Futuna remained at war

[26]See Feil (1987) for a situation in Papua New Guinea where warfare had become so intense that, in order to survive, egalitarian tribesmen allowed despotic political warrior leaders to rule over them. These leaders ran roughshod over the people they led for more than two decades but were generally exempt from any sort of public retaliation. Skilled military leadership was a vital necessity for survival therefore, their fellow tribesmen tolerated abuse. See also Watson (1971).

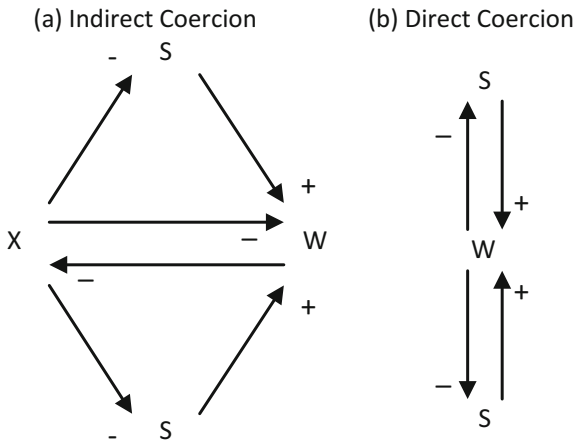

Fig. 15.4 Indirect and direct coercive structures

with each other for more than 500 years without either conquering the other. Their observation points to the fact that indirect coercion leads to power exercise, not merely in one chiefdom, but in all chiefdoms engaged in the struggle. Pairs of chiefdoms can act as external threats for each other. As seen in the case of the nearly 50 Cauca Valley chiefdoms in Colombia (Carneiro 1991), whole systems of chiefdoms can be in longstanding hostile contact with each other.

How effective is indirect coercion as a basis of power? Call the volume of value extracted by threat from coerces the "rate of coercive exploitation." Recent experimental research has compared the rate of coercive exploitation between indirect and direct coercive structures and found the two to be effectively identical (Emanuelson and Willer 2011).[27] For the indirect coercive chiefdom this suggests that the chief and his warrior caste can and will extract substantial value from the coerce commoners as long as belief in external threat can be maintained.

Fried has suggested that "Rather than war and military roles being the source of stratification, it seems that stratification is a provoker of war and an enhancer of military status" (1967: 216). (See also Jones and Kautz 1981). Fried's point seems amply supported by the indirect coercive chiefdom. In that structure, power is maximized when the chiefdom is at war. Furthermore, when ferocity in war determines status, there will be competition within the chiefdom to demonstrate that ferocity. When the status systems of related chiefdoms all link status with warlike ferocity, there will be positive feedback resulting in increasing warfare.

In turn, warfare and indirect coercion fuel status differences transforming the stratification of the chiefdom. No longer a status-lineage structure, the chiefdom engaged in permanent war separates a caste of warriors from a lower caste, now called

[27]We use the term 'coercive' exploitation to distinguish it from the exploitation of workers in capitalism discussed by Marx ([1867] 1967). As explained by Marx exploitation in capitalism occurs though exchange relations, not through coercive relations as in chiefdoms and states.

commoners, and, given their capture, a stratum below that of slaves (Malo [1898] 1903). As documented by Chacon and Mendoza (2012), battle participation enhances warriors' status while experimentally supported theory of R. Willer (2009) shows that status solves collective action problems when those who contribute to the collective good gain status and those who do not lose status. Therefore, through indirect coercion and the allocation of status, the indirect coercive chiefdom can solve collective action problems at least insofar as war is concerned. Whether, it can solve other types of collective action problems remains to be investigated.

The Coercive Chiefdom

In the fully developed coercive-based chiefdom there are coercive relations between the chief and warrior caste on the one hand and the commoners and slaves on the other. Direct coercive relations are power relations in which the coercers extract value from, and control coercees by, threat of negative sanctions. As shown in Fig. 15.4b, W, the warrior caste threatens the Ss, commoners and slaves with negatives thus extracting positives. For coercion to be routine, coercees must be separated from the means of violence for, if they are not, potential coercees will resist threat with threat resulting in conflict, not coercion. Whereas individual muggers concentrate the means of violence only briefly, over time, no individual can singlehandedly concentrate the means of violence over one or more others. In the chiefdom, commoners and slaves are the coercees and, as they are separated from the means of violence, those means come to be concentrated in the hands of the chief and his warrior caste. As seen in the previous section that separation occurs through war and indirect coercion.

With the development of direct coercion, the chiefdom is a relatively stable social structure built for war and justified through war. With the development of the coercive chiefdom, the stage is set for further evolutionary transformation. The mechanism of that evolutionary transformation is still war and the specific direction it takes is a result of the presence or absence of circumscription (Carneiro 1998). When there is space for expansion, the chiefdoms that loses a war will move away such that the system of chiefdoms expands without internal change. If the system of chiefdoms is circumscribed, however, war as a competitive system produces internal structural changes (Chacon 2014). Here inter-chiefdom conflict forms a competitive and selective system through which smaller units come to be combined into paramount chiefdoms. That is to say, paramount chiefdoms arise as some chiefdoms are subordinated to others.[28]

[28]Conflict relations can form a competitive and selective system that leads toward monopoly of the means of violence. We suggest that they will form such a system when the conflict is circumscribed. For example, in the third century BCE, China's period of Warring States began with nine major states in intense war-based competition (Hui 2005: 66). By the conclusion of the process a single state had absorbed the others and came to dominate the area once ruled by the nine.

It is useful to distinguish simple coercive chiefdoms from paramount chiefdoms. Both lack administrative structures for exercising power at a distance.[29] In the simple chiefdom, the coercive structure is a means of exercising power over subordinated castes; it is not an administrative system. Having no formal organization, no trained officials, and no bureaucracy, the ability to project power beyond those currently in the presence of the chief is limited. Said somewhat differently, the chief can exercise power through intermediaries only to a limited degree. Though, the coercive structure can solve collective action problems and thus can direct hunts and wage war, the chiefdom that is not a paramount chiefdom cannot be extended horizontally much beyond face-to-face relations (Blitz 1999). It follows that chiefdoms are sharply limited in size, usually maximizing out at a radius of one day's walk.

The paramount chiefdom, larger than the simple chiefdom, consists of an aggregated set of chiefdoms wherein links between sub-chiefs and the paramount chief are grounded in kinship, not coercion. Paramount chiefdoms seeking to project power will promote marriage and fictive kin relations with families of lessor chiefdoms over whom they seek to rule. Nevertheless, as the chiefdom grows in size, moving from simple to paramount chiefdom, it becomes less stable for the following reasons. In the coercive chiefdom, the most powerful force is the coercive structure itself. Because of the administrative limitations of chiefly rule, however, links between sub-chiefs and the paramount chief are grounded in the extended family, not coercion and thus are weaker. Within each of the aggregated chiefdoms, a warrior caste is composed in part of those once high in lineage status and in part of those upwardly mobile through success in war. Thus the paramount chief and sub-chiefs all rule through divisions within their respective elites. When the paramount chief is more powerful than any one of his sub-chiefs and less powerful than the sub-chiefs together, the paramount chief will rule, only as long as the sub-chiefs do not combine against him.[30]

Taken as a whole, the paramount chiefdom is an ungainly, poorly organized system of rule whose only advantage over the simple chiefdom is size. Its size, while an outcome of inter-chiefdom conflict, is, in turn, a decisive advantage in inter-chiefdom conflict. Put simply, the paramount chiefdom has greater military power than simple chiefdoms—but only as long as it can resolve the collective action problems associated with war.

Given its administrative limitations, the paramount chiefdom stands at the brink of a fundamental transition, the change of structure into a state. As will be seen, the social structure of the state solves the organizational problems of the paramount chiefdom. As will also be seen, the social structural change central to that solution has already begun in the chiefdom itself.

[29]Power at a distance is explained in the section on the state just below.

[30]This instability is much like that of feudalism. In feudalism, though the king is more powerful than any one of his nobles, together the nobles are more powerful than the king.

The Social Structure of Early States

Early states are distinct from paramount chiefdoms by their size, formality of their administrative structure, and, for empires, ability to project power at a distance. All represent fundamental changes in social structure from paramount chiefdoms. Two material conditions strongly influenced the social structures of early states. First, as pointed out by Boserup, "It is a fair generalization to say that all the ancient communities which applied intensive systems of land utilization used servile labour, usually captives of war and descendants of such captives" (1965: 73). With the coming of settled agriculture, labor became so intensive that the motive to avoid that labor by enslaving others through war to do the work, was perhaps the most significant motive driving state policy. Second, as pointed out by Trigger, "The level of agricultural productivity in early civilizations was so low that in territorial states it probably required at least nine peasant families to support a single family that did not produce food" (1993: 46). Because agricultural productivity was so low, the extracted surpluses available to the state to fund its civil and military organizations were very small. These two material conditions meant that states were warlike in order to replenish the unfree laboring class and had only very limited resources to do so. Thus, it is easy to see why so many early states fell.[31]

Three Definitions of the State

We begin with definitions of the state by Weber ([1918] 1968), Carneiro (1970), and, the Early State group. The latter is a definition by Bondarenko that was quoted as representative of the views of the Early State group by Claessen (2008). Using experimentally grounded theory, we then investigate how power relations in bureaucracies were extended beyond adjacent actors. That is to say, how A exercised power over C through B and similarly for further steps. Central to that analysis is the separation of people from positions, a separation that is unprecedented in earlier social forms. Having looked at 'hegemonic' and 'territorial' states we turn to city-states to consider whether they were, in fact, states.

Weber ([1918] 1968)'s definition of the state is:

> A compulsory political organization …will be called a "state" insofar as its administrative staff upholds the claim to the *monopoly* of the *legitimate* use of physical force in the enforcement of its order. (P. 54 [italics original])

Weber's definition is usually read as asserting that the state monopolizes the use of violence in the whole of society and that that monopoly is upheld as legitimate by most if not all of the members of society. From that reading it is thought that

[31]Chiefdoms faced the same two conditions but, with flatter social structures than early states, were somewhat less constrained.

Weber's definition applies only to modern states.[32] There is, however, an alternative reading.

The alternative reading takes the monopoly of force to be *within* the administrative staff and the legitimacy of that monopoly to be upheld by that staff. That is to say, Weber's definition focuses on qualities of state administration, not of the larger society. Certainly, a necessary condition for administration in the early state is the absence of conflict within its administrative staff, an absence that can be assured only when physical force is monopolized. Further, whatever its grounds, the administrative staff will assuredly claim legitimacy for its rule. Then whether and to what extent the physical force is monopolized and legitimacy is believed in the broader society is determined by the intensity of the state's administration—an intensity that in the early state is very low.

The alternative reading renders Weber's definition applicable even to early states where the use of physical force is spread across the society albeit unevenly. This reading, because of its focus on administration and thus on enforcement, is a useful point of departure for the analysis of state structures because it points to the organization of those structures as the core issue for the analysis. Furthermore, because chiefdoms do not have administrative staffs, or at least do not have staffs that can make the claims listed in the definition, Weber's definition differentiates the state from chiefdoms.

Here is Carneiro (1970)'s definition of the state:

> When I speak of the state I mean an autonomous political unit, encompassing many communities within its territory and having a centralized government with the power to collect taxes, draft men for work or war, and decree and enforce laws. (P. 733)[33]

This excellent definition covers the ground necessary to designate what a state is and what it necessarily must be capable of doing. Furthermore, it cleanly separates the state from earlier, simpler polities. For example, chiefdoms are not states by Carneiro's definition. Though the chiefdom can be autonomous and encompass many communities, it does not have a territory or laws and collects tribute, not taxes. Though warlike, we know of no chiefdom that can draft men for war. Chiefdoms do not have armies: they have militia.[34]

There is a complementarity between Weber's and Carneiro's definitions. What the one says explicitly the other implies. Here is an example. Only if a political unit is autonomous can there be a monopoly of force in administration. Loss of

[32]Since no state has ever monopolized the means of violence in a given geographical area, as that reading interprets, the definition applies to no known state.

[33]According to van der Vliet, "Carneiro gives no definition of the state" (2012: 110). As just seen, however, Carneiro does define the state, a definition that is not difficult to find for it occurs in the first paragraph of his 1970 "A Theory of the Origin of the State".

[34]Nevertheless, Spanish ethnohistorical sources indicate that the powerful Guaca chiefdom of Colombia's Cauca Valley had a large and well-organized army (Cieza de León 1984 [1553]; Villamarín and Villamarín 1999). The Cauca Valley was also home to the Popayán chiefdom which controlled more than a dozen formerly independent chiefdoms. Clearly these sophisticated societies might well have been proto-states (Trimborn 1949).

autonomy is necessarily loss of that monopoly. For example, after a city-state was swallowed up by expanding Rome, in losing its autonomy, its monopoly of physical force was lost. Here is a second example. States can and do draft men and collect taxes and they are capable of so doing only because their order is enforced though physical force deployed by their staffs.

Unlike the previous two definitions that apply to any state, that adopted by the Early State group is specifically for the early state. Here is Bondarenko as quoted by Claessen (2008):

> The early state is an independent three-tier (national, regional, local level) centralized socio —political organization for the regulation of social relations in a complex, stratified society, divided into at least two basic strata or emergent social classes – viz. the rulers and the ruled – whose relations are characterized by political dominance by the former and the obligation to pay taxes of the latter, legitimated by a common ideology of which reciprocity is the basic principle. (P. 13)

Up to a point this is an exemplary definition that shares much with the previous two. For example, though Carneiro and Weber do not mention ruler and ruled, their definitions would make no sense unless the state had exactly that differentiation.

Nevertheless, Bondarenko's definition adds dimensions not included or implied by either Weber or Carneiro and it is those dimensions that are questionable. Do all early states regulate social relations? While there is no doubt that modern states do regulate many social relations in their societies, and there is reason to suppose that at least some of China's warring states did so (Hui 2005), hegemonic states such as early Rome and the Inka did not attempt to control the societies they conquered, being satisfied with taxing. More generally, it is doubtful that most early states had the administrative capability to regulate anything in society beyond the minimum necessary to reproduce the state. The administrative structures of early states certainly claimed legitimacy and, if that is Bondarenko's meaning, it is unobjectionable. On the other hand, to suggest that early states were legitimated is unfortunate. To determine whether a state was legitimated—as opposed to simply claiming legitimacy—one would need to know the beliefs of the individuals in the state's territory, beliefs that today are unknowable. Finally, the qualification that the early state had three tiers (national, regional, and local) excludes city-states from statehood. Certainly, Bondarenko is not alone in that exclusion (Berent 2005). Are city-states states? That question is addressed below.

Territorial States: The Exercise of Power at a Distance

According to Trigger, "Early civilizations were governed by bureaucracies" (1993: 64), which was certainly true for what he called territorial empires, less so for hegemonic empires and not at all for city-states. In territorial empires, like classical China, the later Roman Empire and Byzantium, power was centralized by organizations extending outward from the capital city that administrated throughout the

whole of the state's territory. Few early states were territorial and those that were, like classical China, made little or no attempt to control activity at the village level. Hegemonic empires like the Aztec and the Roman Republic ruled outlying regions that had been conquered by the core. Rule was by military threat only and its sole purpose was to extract value from outlying regions, not to govern their way of life. Early Hegemonic empires projected power only as far as their military forces could dominate. City-states were small states such as those of the Maya and classical Greece. Ancient city-states occurred in clusters, while the size of each city-state was no more than a day's walk (Hansen 2006). Being small, city-states did not need to project power at a distance and thus had no bureaucracies. This section focuses on territorial empires, the problem of projecting power at a distance, and how they solved it.

The social structures of all early territorial states were distinguished from previous social formations such as chiefdoms by their formal organization called 'bureaucracies' by anthropologists, archaeologists and historians of early societies, but not by Weber. For Weber early formal organizations were not bureaucracies because they lacked officials who had been trained in an array of specialties. For states so organized Weber used the term "patrimonial state" ([1918] 1968:1013–15). However, we feel that later scholars are fully justified in their use of the term 'bureaucracy' for two reasons. First, Weber overemphasized the modern division of mental labor. Even today the education for line positions in bureaucracies is liberal arts, an education that does not differ in kind from that of the Chinese bureaucrat.[35] Second, and perhaps more important, the power structures of fully developed ancient and modern bureaucracies rest on exactly the same basis, a basis we call hierarchy-mobility which we now explain.

Bureaucracies are designed to exercise power at a distance by means of a hierarchy-mobility structure. That is to say, they are designed such that the exercise of the power of A over its Bs, of each B its Cs, of each C its Ds and similarly to the Zs results in the exercise of power by A over the Zs.[36] The achievement of this

[35]Modern bureaucracies often have two components, line and staff. Power at a distance is exercised through the line where there is little division of mental labor. Staff organizations are flatter, have extensive divisions of mental labor and provide technical advice to the line.

[36]Sociological theory has not recognized the extension of power at a distance because power beyond the dyad was undefined. For example, according to Dahl , "A has power over B to the extent that he can get B to do something that B would not otherwise do (1957: 202–3) and according to Lukes (1974), A exercises power over B when A affects B in a manner contrary to B's interests. (1974: 34). Other formulations explicitly restrict power exercise to the dyad. According to Zelditch, "'Power over' always implies a relation between two actors" (1992: 994). Nagel notes that, "a 'connection' between A and B is a 'necessary condition' for a power relation" (1968: 132). Similarly, for French, the basis of interpersonal power is "the more or less enduring relationship between A and B which gives rise to the power" (1956: 183). By contrast, organizational theorists have long recognized that power exercise extends through hierarchies (Pfiffner and Sherwood 1960: 65; Simon 1976: 22; Thompson 1961: 104). Nevertheless, none has explained how it is extended through hierarchies or why the effectiveness of that extension might vary across organizations.

centralization and concentration of power, required two changes from chiefdom organization: (1) separation of persons and positions, and (2) establishment of a hierarchy with mobility across levels.

In chiefdoms and earlier social forms, person and position are fused into a single entity. As outsiders we may speak of the "position of chief" as distinct from the person "holding" that position, but for those in the chiefdom, the chief person and chief position are fused in a single entity—as are all other positions of the society. Echoes of that fusion exist to this day in kingship. Nevertheless, it is in the chiefdom that this fusion begins to be torn asunder when, as already noted, chiefs bring into their warrior aristocracy commoners who have shown exceptional war prowess rewarding them with high status gifts including wives.[37] In the fledgling territorial empire, people and positions come to be separated through strategies of power centralization. The crucial step is this. "For the two to be separated, first there needs to be positons" (Lars Udehn personal communication).

In the bureaucracies of early states, positions are created to be linked to the head of state. Those positions are arrayed into a hierarchy of offices consisting of a series of levels with mobility across the levels. As a network, the hierarchy takes the form of a tree and it is pyramid shaped. All official communications go only up or down following designated links. Pay is not for the volume of work done but by status of the office. Those offices are stratified from top to bottom by status, pay and perquisites of office such that the difference between any two levels is significant to the office holders. Therefore, all persons in the hierarchy are motivated to move up. Promotion is determined by superiors and can be reviewed by anyone higher. Obedience to orders and effectiveness of that obedience is the sole official criteria for promotion. This organizational design produces strings of obedient officials such that each is a boss to those below and a subordinate to those above. That is to say, it produces a 'chain of command' such that power is centralized at the top.[38]

The normal condition of any bureaucracy (ancient or modern) is that the ultimate head is not a bureaucrat (Weber [1918] 1968). For bureaucratic states it is the head of state. In ancient times the ultimate head was a king or emperor. Today it could be a president. Why is the ultimate head not a bureaucrat? The reason is this. The whole purpose of the bureaucracy is to centralize power in the hands of that head. That bureaucracies with effectively identical social structures have been independently invented again and again on all inhabited continents is the single most remarkable fact of oligarchy in human societies.

Bureaucracies are expensive for two reasons. First, it takes a great number of officials standing between the ultimate head and those at the bottom who actually

[37]This mobility in chiefdoms is a foreshadowing of later hierarchy-mobility structures "growing in the womb of the old society".

[38]This discussion is based on Willer (1987) where hierarchy-mobility was first experimentally investigated and Willer (2003) where power at a distance was first studied experimentally.

administer policies to assure that power is centralized. While the work of those intermediate officials serves no useful purpose, when they function effectively, they do assure that power is centralized to the head of state. Second, to assure obedience, all officials must be paid a salary and those salaries must be graduated from bottom to top such that officials are motivated to move up. By a 'salary' we mean that the official's payment is periodic and that the period is short, typically being a month or less. Though payment in money is simplest, bureaucratic salaries may be in kind as in ancient Egypt (Trigger 2003). Even the officials of early Chinese bureaucracies were paid in both money and kind—more specifically in rice (Fairbank and Reischauer 1989). Nor should salaries in kind be surprising because the earliest of ancient bureaucracies predate the invention of money.

With the possible exception of some of China's warring states (Hui 2005), the ancient bureaucracies of territorial states did not attempt to penetrate their administrative power to the level of the individual. Nor did they create civil order: rule at the village and sometimes at the city level was by traditional means. For example, in the Inka Empire, local chiefs, shorn of power outside their former chiefdoms, were left to rule within (Chacon 2009) while under the Roman Republic the empire was formed of city-states, ruled by Rome, but self-ruled within (Hansen 2006). Though rule stopped at village or city level, nevertheless, territorial empires sought to extract value from individuals. To do so they instituted joint responsibility for the payment of taxes. The village or city that did not pay its taxes was jointly liable to penalties ranging from fines through decimation to deportation of the whole population (Chacon 2009). Still, the severity of penalties actually administered was balanced to some degree by the inefficiency of the rule and thus the spottiness of enforcement.

Though rule typically stopped at village or city level, bureaucratic rule was, nevertheless, very expensive particularly in light of the poor agricultural yields of antiquity. Antonio (1979) calls the problem of high organizational cost and low yields the "contradiction of domination and production." Add to this problem the need to defend against outside threat and it is easy to see why so many early states were unstable, that they rose only to fall soon thereafter.

The separation of position and person together with the hierarchy—mobility structure of territorial empires explain both how and to what extent their collective action problems could be solved and how oligarchical rule was imposed. More generally, the increase in social complexity resulted in a dismal picture insofar as human dignity and freedom are concerned. To the dismal picture of social structure in antiquity there is but one ray of light, the democratic city-state.

The Democratic City-State

This short section discusses elements of city-state social structure. Of that type only democratic city-states are discussed and among those that were democratic, due to

the lack of ancient sources and lack of space here, only Athens is considered.[39] Any discussion of democracy in Athens must begin by pointing out that its economy rested squarely upon slavery and dependent labor. So much was slavery and other dependent labor taken for granted that Aristotle remarked that citizens of a well-ordered state would not work! ([4th Century BCE] 2000: 82). As in ancient empires, in democratic Athens, persons and positions were separated. With that separation came the question of how positions in the state were to be filled and, once filled, the length of tenure in office.[40]

For democratic Athens, state positions were filled by lot from the pool of those who had expressed their willingness to serve. Lot was preferred to election that was seen as aristocratic, not democratic. Tenure in office was short, frequently limited to one year. There was a division of function for the offices. The Popular Assembly of Citizens which voted on laws was open to all citizens. Citizens were males over 20 years of age. The Assembly's agenda was set by its executive office. Military Magistrates commanded the military, Civil Magistrates presided over religious festivals, and the Popular Tribunal organized the courts. To be a citizen was to hold a position: only citizens had civil rights. Access to citizenship was normally by birth though in some few cases citizenship was granted to outsiders.

Democratic government in Athens and some other city states is so unique in antiquity—or in any age for that matter—that it calls out for explanation. How did democratic rule come to be? Finley (1983) and Weber ([1918] 1968) agree that the democratic state of Athens was grounded in the self-armed hoplite phalanx. Athens' army was, in point of fact, a self-armed militia that, having subjected itself to routine training exercises, was highly disciplined. All people in the militia were citizens and, conversely, the vast majority of citizens were currently in, or had at one time been in, the militia (Finley 1983). Given 30,000–60,000 heavily armed men in the city, the means of violence could not be concentrated or centralized out of their hands. Instead, state power was diffused across the citizenry. Given the diffusion of power, the citizens were sovereign.

Recently, questions have been raised as to whether the city-state was, in fact a state (Berent 2005; van der Vliet 2005, 2008). Among the conditions sited are the democratic spread of power across the citizens, the absence of an administrative bureaucracy, want of a police force and small size. Some of these points speak to an absence of knowledge of ancient history. For example, Berent and van der Vliet discuss city-states as if all were democratic which they were not. At times, in Athens, power was centralized in an aristocracy and, in other city-states, power was

[39]We have no original sources on many city-states because both sources and cities were destroyed (Finley 1983). For example Thebes was utterly destroyed by Alexander with all of the population either killed or sold into slavery. Though Xenophon's "Constitution of the Lacedaemonians" ([4th Century BCE] 1968) is a good source for Sparta that, like Athens, was democratic, space limits our discussion to Athens.

[40]Material in this section draws from Aristotle ([4th Century BCE] 2000)'s *Politics,* Finley (1983)'s *Politics in the Ancient World* and Hansen (1999)'s *The Athenian Democracy in the Age of Demosthenes*.

concentrated in a Tyrant. The lack of an administrative bureaucracy is not evidence that democratic Athens was not a state. It is evidence that Athens did not project power at a distance. Certainly, city-states either had no police force or only a rudimentary force, but exactly the same is the case for all early states including territorial ones. The police, as an organized force of officials, are less than 200-years old. It is true that all Greek city states were relatively small, being no larger than a day's walk from center to edge (Hansen 2006). If size is to be a measure of statehood, however, someone must first set a lower limit for the size of the state, but no one has yet done so. It may be that the smallest city-states do not qualify as states, but, until a valid size limit for statehood is established, no line can be drawn.

Is the statehood of city-states questioned because their social structures were very different from those of territorial empires? If so that they were different is not a sound basis to disqualify them from statehood. Perhaps a better indicator of their qualification for statehood is their military power. In spite of their small size, Athens and Sparta did quite well in their confrontations with the huge Persian Empire. Athens was a state as were Sparta, Thebes, Corinth, and any number of Greek city-states and undoubtedly so were the city-states of the Maya and elsewhere for which we have few if any records.

Conclusion

Solutions to problems of collective action are twofold; incentive systems suppress free-riding and reward cooperators and organization combines individuals' acts. To date, a vast majority of collective action research has focused solely on incentives, a focus that has overlooked nonincentive-based solutions, such as status-based influence, and any relevant element of structure not reducible to incentives. This paper shows how chiefdoms and early states, through structured relations of power and influence, both incentivize and organize collective action.

That most research focuses only on incentives is perhaps an artifact of conditions of the collective action paradigm that restrict research subjects' ability to organize. Unfortunately, such a restriction is unreasonably strict and misleading. It is misleading because, when actors can form coalitions, they can overcome collective action problems. Incentives are not problematic because coalitions of cooperators have a costless threat to levy against free-riders. To be specific, cooperators can threaten to disband the coalition should anyone free-ride. Then, free-riders face a choice between only two possible outcomes: join and benefit from the collective good or do not join and receive nothing. It follows that, when all actors are rational, the coalition will form and collective action will be successful.

All things being equal, cooperators and defectors prefer for coalitions of cooperators to form, however, with the notable exception of the democratic city-state, ancient polities were not coalitions of the all. Instead, most centralized power or influence into the hands of a small group of organized individuals; ancient polities were oligarchies. Nevertheless, collective action was still possible. In

oligarchies, coalitions of leaders use the relations of influence or power that connect them to the many to initiate joint action.

There is a tendency toward oligarchy, especially, when the number of people in a group is large. For example, in a small segmented society, organization is relatively egalitarian and flat as the influence relations of high status "big men" are sufficient to initiate joint action, but as the members of such a society grow in number, collective action is increasingly difficult to achieve. Now assume that the few can organize before the many. To solve emerging problems of collective action, high status actors organize themselves first, and then coordinate their influence to motivate others to act jointly. Since the coalition determines to which collective or individual goals joint activity is directed, high status coalitions have the interest and the ability to block coalitions of the many. Thus, oligarchy. It is the arrangement of influence relations between the high status coalition and the many that solves collective action problems, but that arrangement is not the same for all groups. Indeed, that status and thus influence is not heritable makes the big man structure unstable thereby sharply limiting its size.

Simple chiefdoms resolve collective action problems through the use of influence relations in status-lineage structures. In a status-lineage, each actor is assigned a unique status at birth. Actors in status-lineages can be influenced by all actors of higher status. Status permeates the whole of the society such that any actor of high status, including the chief, can initiate joint action then use influence to convince all those lower in status to participate. Because the assignment of status is unambiguous, status-lineage based chiefdoms can organize collective activity more quickly than unsegmented or segmented societies giving them a distinct advantage.

Whereas status-based chiefdoms organize through influence relations, coercive chiefdoms organize through power relations to resolve collective action problems. In a coercive chiefdom, the chief and warrior caste exercise power over the commoner and slave castes, a process that requires the concentration of force. It is through war that force is concentrated to chiefs and warriors.

War is the mechanism that transforms status-based chiefdoms into coercive chiefdoms. First, war disrupts existing status rankings by allowing the best, most courageous fighters to earn high status. As the sole arbiter of conflict between born nobles and accomplished warriors, the chief secures the loyalty of both groups. Second, war increases status differences as war booty is distributed favoring some over others. Lastly, chiefs and warriors use the threat of hostile others to extract value from commoners in return for the promise of protection. In this way, chiefs and warriors indirectly coerce commoners prior to, and begin the concentration of, the means of violence.

Gradually, the chief and warrior caste separates from the lower commoner caste and the lowest caste, the war captives turned slaves. In a fully developed coercive chiefdom, the chief and warriors directly coerce commoners. It is through threat of force that commoners are motivated to act collectively and in the interest of those above. However, the chief's power is limited in that it cannot extend much beyond face-to-face relations. It cannot because chiefdoms do not contain formal, organized administration systems.

In circumscribed areas, war can further transform disparate chiefdoms into paramount chiefdoms. Paramount chiefdoms combine smaller units such that some units are subordinate to others. Paramount chiefs do not administrate subordinate units, but rather integrate the self-managing units through the use of real and fictive kinship relations. Paramount chiefdoms are advantaged by their size when engaged in war with other chiefdoms, but otherwise the organization is ungainly and weak at best. Lacking a formal system of administration, the chief cannot extend power much beyond face-to-face relations. In more detail, chiefs and warriors within each unit dominate through coercion, but the administration across units relies on kinship relations, ties that are limited to influence and rife with mutual obligations. Ultimately, while the chief is more powerful than any one of his warriors, united the warrior caste is stronger than the chief.

Unlike the chiefdom, the social structure of the early state is a purposeful construction. To centralize power, rulers created ranked positions separated from the actors who would occupy them, and then endowed each position with status, prestige, and material perquisites; the higher the position's rank, the higher the privilege gained by the actor occupying it. Taken together, these hierarchically linked positions comprise an administrative system capable of extending power over any within the polity. Among the polities of antiquity, the separation of person from position is unique to the state, whether city-state or territorial state.

In territorial states, mobility through the hierarchy is essential to its ability to extend control to geographically and culturally distinct areas. Actors seeking promotion compete to be the most obedient to immediate superiors, a process repeated at each level ultimately resulting in a centralization of power to the top. This self-driven competition makes possible the exercise of power over distant others even in empires of vast size and composition.

In states, the means of violence are concentrated in the administrative structure. Relations between the administration and others in the community are coercive. This is true even in the democratic city-state of Athens where the administrative oligarchy was sizable including all citizens while relations to noncitizens, such as women, children, slaves, and foreign occupants were coercive. Though some were democratic, city-states were states because they, like territorial states, were deliberately designed to extend power throughout the structure. Like territorial states, in city-states person and position were separated.

For the early state, collective action is not problematic. Heads of state have easily mobilized joint action through administrative structures and coercion to purposes such as war and monument building. But, early states are not without weakness. Although their structures are ideal for centralizing control, the expense of administration is significant while the agriculture of antiquity was very limited in its productivity. As a result, many an empire has fallen for lack of the resources necessary to sustain its bureaucracy.

Problems of collective action are problems of organization. How are structures constructed? What are their strengths and weaknesses? What are the qualities of an

ideal structure given certain goals? Previously these questions had not been the focus of research on collective action, but they offer a promising new direction for future investigations.

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Chapter 16
Commentary

Robert L. Carneiro

The year 1725 saw the publication of Giambattista Vico's *La Scienza Nuova* (The New Science) in which he proposed to apply to human societies the same principles that had been so successful in the physical sciences. Published in obscurity, Vico's book remained virtually unknown for a full century. Then in 1824, the French historian Jules Michelet, still a young man, happened to read a cryptic reference to the book and was intrigued by it. But since no French translation of it existed, he decided to teach himself Italian in order to learn the illuminating ideas contained in its pages.

The labor involved proved to be worth it. After reading the book Michelet wrote, "I was seized by a frenzy caught from Vico, an incredible intoxication with his great historical principle" (quoted in Wilson 1972: 4).

In England some 30 years later, with no knowledge of Michelet's discovery, Herbert Spencer had a comparable experience when he was asked to review W.B. Carpenter's *Principle of Physiology.* As he later explained, "In the course of such perusal as was needed to give an account of the contents I came across von Baer's formula expressing the course of development through which every plant and animal passes—the change from homogeneity to heterogeneity…. [T]his phrase of von Baer expressing the law of individual development, awakened my attention to the fact that the law which holds of the ascending stages of each individual organism is also the law which holds of the ascending grades of organisms of all kinds" (Spencer 1924: I, 384–385).

This commentary is based on papers presented at the "Feast, Famine or Fighting?" session held at the 2014 Society for American Archaeology Meeting in Austin, Texas.

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> "Once having been possessed by the conception of Evolution in its comprehensive form," Spencer later wrote, "the desire to elaborate it and set it forth was so strong that to have passed life doing something else would, I think, have been all but intolerable" (Spencer 1924: II, 460).

What Spencer went on to write on evolution which in turn, influenced Thomas Henry Huxley. While Huxley experienced no such epiphany as reported by Michelet and Spencer, he nonetheless acknowledged the great effect that Spencer's depiction of evolution had had on him. After reading the page proofs of Spencer's ground breaking book *First Principles*, Huxley wrote to him: "It seems as if all the thoughts in what you have written were my own, and yet I am conscious of the enormous difference your presentation of them makes in my intellectual state. One is thought in the state of hemp yarn, and the other in the state of rope" (quoted in Huxley 1901: I, 229).

It would be presumption of me to compare my reaction to Huxley's when I first encountered the writings of Leslie White on cultural evolution (White 1959, 1987, 2004). My ideas before then would have been characterized, not as hemp yarn, but as hemp still growing in the fields, as yet unharvested, let alone spun into rope.

If a better analogy is to be sought, my ideas on evolution before reading White might be likened to shallow rivulets meandering in the same general direction but not yet combined and flowing together in a single deep channel.

It was not only a robust notion of evolution that I garnered from Leslie White. From him, I also learned that anthropology could be practiced as a true science, like any other; that human behavior was subject to specifiable determinants, as were the phenomena of other sciences. I also had driven into me the fact that cultural evolution was not an adventitious process but rather the determinate outcome of a long series of adaptations to the natural world. Pattern, order, and regularity had marked its trajectory and that it could even be seen as manifesting laws.

The overriding task of anthropology then was to explain how human beings, starting out from small Paleolithic bands, had advanced, step by step, from an initial simplicity to the overwhelming complexity that surrounds us today.

But not only did Leslie White's brand of anthropology lay out a path for me to follow in my own work. It also provided instruments to be used when assessing the scientific work of others. It is these tools that I mean to apply to a select few of the papers presented at this symposium and now gathered in the present volume. To do so I have chosen papers dealing with four different parts of the world—north-central Europe, the American Southwest, a remote section of China, and the New Guinea highlands.

Lubomir Lozny draws on archaeological and historical evidence to trace the course of political evolution in north-central Europe during the first millennium of the Christian era. Bringing to bear such familiar determinants as population pressure, social circumscription, and warfare, Lozny shows how during the early Middle Ages in this part of Europe, village autonomy was transcended and multi-community polities established. Social evolution subsequently proceeded through a chiefdom stage—although Lozny hesitates to use that term—and approached, if it did not actually attain, the level of the state.

Strong evidence of the role of warfare in driving this process is presented, principally in the form of several dozen fortified sites. Such evidence brings to mind Antonio Gilman's work on Bronze Age sites in Albacete province in southern Spain where, during his archaeological survey, Gilman recorded no fewer than 270 fortified sites. And this in turn brought to mind similar evidence from other more extensive archaeological surveys. For example, Portugal in pre-Roman times was found to have some 5000 fortified sites, and similar surveys in New Zealand have located the remains of 6000 pa, or fortifications.

Given evidence such as this, which can be matched in other parts of the world, it is hard to maintain the position held by some archeologists—like Antonio Gilman himself—who continue to discount war as having played a central role in political evolution. In this paper, Lozny has done his bit to undermine such a view.

I must however express my dismay on learning from him that what seemed to me a simple and straightforward process in the rise of chiefdoms and states, turns out, in Lozny's thinking to involve "non-monotonic logic" based on "context-dependent abductive reasoning," which is to be "distinguished from inductive or deductive approaches." Alas, ever the tendency seems to be to eschew the simple and obvious answers in favor of more convoluted ones, based on the principle, it would seem to appear abstruse if to be thought profound.

Richard Wilshusen presents an impressive example of how much can be extracted of the past history of Pueblo culture from a meticulous archaeological survey coupled with an analysis of its excavated remains. Many aspects of Pueblo culture, not simply architecture, but also sociopolitical organization and religion can be discerned as they varied over time. What emerges from Wilshusen's presentation is a picture of how, between A.D. 600 and 1300, Mesa Verde and Chaco Canyon, the two great regions of Pueblo culture, vied with each other for supremacy. Ecological factors such as changes in the pattern of rainfall and the occurrence of warfare may have played key roles in determining which of those two cultural centers was dominant during any given period.

Wilshusen points out that there were striking variations between the two: Chaco Canyon formed a tightly nucleated system, centered on the architectural marvel of Pueblo Bonito. In sharp contrast was Mesa Verde, which Wilshusen describes as "wide-ranging, heterogeneous, and in some ways disconnected."

The question arises from his description: Did Chaco Canyon, with its large size and tight nucleation, once constitute a chiefdom? Ordinarily a chiefdom is thought to be a polity embodying multiple communities. But could Pueblo Bonito have been an exception to this? Or, was it the case that Pueblo Bonito was once the capital town of a usual multi-community chiefdom but as a result of military or ecological pressure, was forced to consolidate into a single powerful center? Continued archaeological work may be able to bring us closer to answering this intriguing question.

It has always been my contention that no such thing as archaeological theory, separate and distinct from general anthropological theory, exists. Two centuries ago, Charles Lyell argued for *uniformitarianism* in geology, the doctrine that exactly the same geological forces operating today were operating in the past. Thus

no unknown processes were required to explain what had occurred on the earth's surface in past times.

E.B. Tylor put forward the same argument in the field of anthropology when it came to explaining how cultures had evolved. Extending the same principle here, I would say that there are no archaeological explanations that are not part and parcel of more general anthropological explanations.

Thus it is no surprise that Jianping Yi, a leading Chinese archaeologist should in the present paper turn his attention to ethnological matters. Dr. Yi is best known for his illuminating analysis of the various routes followed in ancient China in proceeding from autonomous villages through chiefdoms and on to states. But Dr. Yi shows that he is more than an archaeologist. He is also an ethnologist and in the present paper he shows in fine-grained detail, the development of native culture in the Lianshang region of southwestern China. We are presented here with a culture that, prior to 1956, manifested many traits of a society below the nation stage. Rather, it was still at what might be called a complex tribal stage, with independent or semi-independent political entities vying with each other, their competition often resulting in open warfare.

The people on whose culture Jianping Yi chose to focus are the Yi, who were divided into two major groups, the Black Yi and he White Yi. Each of these divisions was in turn, divided into tribes, which were further subdivided into five major social strata, even including a slave class. But the social divisions did not end there. Beyond this, societies in this region were subdivided into such categories as families, clans, and assemblies. In all, this constituted a most complicated social panorama which Dr. Yi painstakingly dissects.

Finally, accompanying the oral presentation of this work, many interesting vintage photographs were shown revealing a culture now greatly modified.[1] Particularly interesting was a photograph showing a magnificent set of agricultural terraces cut into the mountainside. These terraces provide a striking illustration of how the ancient Chinese, beset by the problems created by a growing population, responded in ways that enabled them to surmount the challenge by transforming their environment.

Cultural anthropology is not a laboratory science, but it is a science nonetheless. And as such, it seeks to formulate generalizations of the widest applicability. This means that many instances of a phenomenon must be brought together and compared before sound generalizations can be arrived at, After all, it is hardly possible to have a science of the unique! The comparative method is thus crucial to any such endeavor. The following study by Paul Roscoe of the sources of male prestige in New Guinea, although comparing dozens of societies instead of hundreds, is nonetheless a model of how comparative studies should be conducted. It demonstrates what rich results can be obtained when cross-cultural research is properly

[1]An early version of this chapter was presented in 2014 at the "Feast, Famine, or Fighting" session held at the Society for American Anthropology Annual Meeting in Austin, TX.

handled. A number of interesting, indeed surprising, findings emerge from this study.

It is striking, for example, to see how hunting skill diminished as a source of male prestige as population density increased. The mechanism at work here seems clear enough: as human numbers increase, and game animals are hunted out, hunting necessarily declines, and with it, the prestige associated with it when it was still a principal subsistence activity.

Indeed, it is fascinating to see how closely the various sources of high male status in New Guinea are associated, in one way or another, with population density. I have always been drawn to population as a determinant of many aspects of social life. And here I must interject that years ago, Paul Roscoe made me aware of the importance in distinguishing between population *density* and population *pressure*.

One surprising fact that came out of Roscoe's study—surprising at least to me—is that in New Guinea high military status is more closely associated with *defensive* war than with *offensive* war. The question naturally arises: Is this also the case in other areas of the world?

Let me cite just one more relationship I found of considerable interest. Roscoe's study shows clearly—and this observation is *not* surprising—that in New Guinea a diminution in the incidence of war has greatly reduced military prowess as a source of male prestige.

These as well as other associations emerged from this study because a large number of societies were studied together meticulously, showing once again the high value of comparative anthropological studies when they have been carried out with intelligence and precision. But I would go further than this. I regard Roscoe's study as a gem, and, as it becomes better known, deserves to become a classic.

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Chapter 17
Multiple Pathways to Large-Scale Human Cooperative Networks: A Reframing

Gary M. Feinman

> In evolutionary perspective, what is most remarkable about human sociality is its many and diverse forms of cooperation (Tomasello 2014: 187).

Inequality, large-scale networks of cooperation, institutionalized leadership, and hierarchical forms of governance all are central elements of the human career, often lumped under the rubric of social complexity. Unquestionably these key components that long have helped us categorize human socioeconomic formations (Fried 1967; Service 1975) do correspond to important degrees. Yet their equally significant tendency neither to shift nor to vary in lock-step fashion (e.g., Blanton et al. 1996; Feinman 2012a, 2013a) has necessitated a change in how we account for and conceptualize human sociality and the alternative historical paths taken (e.g., Smith 2009: 28). To date, most of the ways that archaeologists have looked for generality have not been adequately explanatory or widely influential in other disciplinary arenas, nor have they been able to achieve broad consensus even within our own field. The recent dearth of strong theoretical explanations for the development of cultural complexity [a point noted recently by Sabloff (2012: xvii)] encourages those of us interested in more general and comparative approaches (Drennan et al. 2012) to consider alternative ways to frame this issue.

As the inclusion of "multiple pathways" in the title of this volume indicates, the contributors to this collection, who in general employ comparative approaches and analytical perspectives, for the most part do not adopt or adhere to long-standing unilinear constructs but rather endeavor to understand historical parallels and cross-cultural processes at a less encompassing level of generality (e.g., Bandy 2008; Blanton and Fargher 2011; Peterson and Drennan 2012). Given the rapid expansion of archaeological and historical data and scholarship (as represented

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here), such a reframing is appropriate, but unquestionably raises challenges regarding how best to proceed. As Trigger (2003: 3) noted more than a decade ago, "the most important issue confronting the social sciences is the extent to which human behavior is shaped by factors that operate cross-culturally as opposed to factors that are unique to particular cultures." Archaeological investigation has an essential role to play in the examination of human sociality and cooperation, as it provides the sole means to examine the processes and circumstances that surrounded humanity's first steps toward institutionalized leadership, intergenerational inequalities, and multi-community networks of cooperation, all of which preceded the advent of written records in multiple global regions.

In this essay, I have dual yet intertwined intentions. As author of the concluding essay, my mission is to draw important threads from the suite of chapters to craft a larger comparative narrative that fleshes out key axes of variation in human cooperative networks with a focus on variation across space and over time. Yet, through that synthesis, I also address some of the challenges and framing issues that scholars presently face when they endeavor to compare and understand the diversity of human cooperative arrangements and how they came to be. More specifically, are there insights from the synthetic analysis of these cases and others that can help in the construction of overarching frames to conceptualize and explain multiple and shifting historical pathways, while also directing us to new questions and empirical gaps that require future investigation and consideration?

In the next section, I address the challenge left us by Trigger (2003: 3), a consideration of whether our search for cross-cultural parallels and comparative generalities has been appropriately situated. Rather than universal prime movers, law-like propositions, or uniformity in historical sequences, I propose that we focus our attention at a slightly lesser level of generality (e.g., Hedström and Swedberg 1996: 281; Smith 2011: 171–173; Tilly 2001), on the examination of processes and social mechanisms, the interrelationships between key variables that may lead to varied outcomes. I then draw on empirically based approaches to collective action (e.g., Blanton and Fargher 2008, 2013; Levi 1988) as a means to define and highlight important processes and mechanisms that underpin some of the rich variation outlined in the studies by volume contributors.

Prior Frames for Generalizations Concerning Cooperation

All cases of broad-scale historical change, including global episodes of archaic state emergence, are in certain respects and to varying degrees unique (Wright 2009: 122) and so important to unravel in detail. Yet for centuries, scholars (Carneiro, this volume) also have looked for more general processes or conditions that help explain major evolutionary transitions, such as the emergence of inequality, the institutionalization of leadership, and the rise of urban centers. The bulk of scholarly attention has been focused on parallels or similarities in these transitions from one

region to another, while questions and investigations to address differences or variation generally have been accorded lesser emphasis.

If we use as an example the comparative efforts to explain the emergence of early states, the contemporary streams of scholarly investigation arose from hypothesized notions that early civilizations arose in a specific environment (river valleys) or in response to particular prime movers [Wittfogel's (1957) irrigation management] (e.g., Steward 1955). Subsequent scholarship has illustrated that such attempts neither adequately accounted for the full suite of empirical cases nor could they draw convincing causal chains to explain the relevant societal transitions or the specific timing of the focal historical developments (Flannery 1972). Perhaps, over the years, the most cited and influential prime mover has been Carneiro's (1970) circumscription model, which advanced population pressure, geographic boundedness or circumscription, and offensive/conquest warfare as a lineal set of triggers that led to state development. Over the years, various shortcomings of this model have been outlined (Blanton et al. 1979; Feinman 2012b; Flannery 1972; Roscoe 2000). In turn, these critiques have prompted efforts by the author (Carneiro 1987, 1988, 2012) to broaden the original causal scenario to accommodate problematic cases. And yet, despite this subsequent adjustment, population pressure remains elusive, the envisioned impermeable or circumscribed region remains historically more mythic than real (Ofek 2001; Smith 2005; Wolf 1982), and the proposed empirical link between offensive warfare and the emergence of states has not been shown to be universal.

The unsuccessful search for a single, specific prime mover, or a set of universal conditions that invariably provoked early state development led to a reorientation toward approaches that more explicitly compared historical sequences in an effort to define more general properties. For example, refining earlier innovative studies by Carneiro (1962, 1968), a recent cross-cultural analysis (Peregrine et al. 2007: 77) uses Guttman scaling on 20 cases from the Collection of Archaeology in the Human Relations Area Files to outline a broad sequence of cultural change. Basically, their scaling confirms what decades of archaeological analyses have already evidenced, that sedentism, domestication, and increasing population densities precede the formation of states (Smith et al. 2014b; cf. Jacobs 1969; Taylor 2012). Yet even this broad-brush scaling does not conform with various historical specificities (region to region), such as precedence of sedentary life before agriculture in the Levant, the emergence of villages and inequality among sedentary foragers in several global areas, and the much later use of metal (compared to this scaled sequence) in Mesoamerica. Furthermore, as documented in several recent comparative analyses of regional sequences across time (e.g., Bandy 2008; Chacon and Mendoza, this volume; Peterson and Drennan 2012), the nature and timing of key transitions across different regions is anything but uniform.

Another tack has been to look for general, cross-cultural parallels in sequences leading up to state development. For example, Yoffee (2005: 44) has argued that when states arise they tend to be small, ensconced in networks of city-states or peer polities. Out of these networks, a large, more dominant polity can eventually emerge. In sharp contrast, Marcus (1998) has proposed that early states tend to be large polities that oversaw expansive territories, and that only later did these entities

sometimes break down into smaller states. Yet neither of these sequences has turned out to be universal when we consider the suite of cases of complex society development. In fact, in the two regions where I have investigated, we see the latter pattern in the Valley of Oaxaca, where one center, first San José Mogote and later Monte Albán, seems to have dominated the region basically from the outset of sedentary villages (Blanton et al. 1999; Kowalewski et al. 1989). Whereas in coastal Shandong (China), several roughly coequal and large centers arose and were rather evenly spaced across the landscape, more in line with the former model (Fang et al. 2015; Feinman et al. 2010; Underhill et al. 2008).

Refocusing Comparative Theory Building Toward a Middle Range

The focus on variation in the nature and timing of human cooperative arrangements is not intended to discourage comparison or the construction of a more general, comparative theory. Nevertheless, we must recognize that since Childe (1950), application of a series of conceptual frames has basically failed in the search for a unilineal pathway, a uniform proximate cause, or a universal set of unvarying properties that can account for early complex societies. In the face of this disconfirmation, what is needed is reenergized and more explicit comparative approaches that are more self-consciously cross-disciplinary and explicitly multiscalar (Feinman 2012a; Smith 2006, 2011), and so expand beyond the basically two-dimensional theoretical frames (general and specific cultural evolution) that developed from the works of White (1949) and Steward (1949), as reconciled decades ago by Sahlins and Service (1960). These recent theoretical frames, with two basic axes of variation, have guided productive research for decades. Yet with ever larger and diversified empirical records, they leave us with little recourse but to account for the diversity within sets of cases, such as early states, or middle-range societies (Feinman and Neitzel 1984), as due to idiosyncratic/local historical factors. And yet, cross-cultural diversity is demonstrably more patterned (e.g., Blanton and Fargher 2008; Feinman 2012a).

Following Merton (1968: 39–40) and Sampson (2011), Smith (2011: 170–172) views this intermediate level of theorizing as conceptual constructs that serve to bridge the detail of specific cases with grand theory, including social mechanisms (relational processes that have a causal component) (Gerring 2007; Hedström and Swedberg 1996). The focus on social mechanisms contrasts with intellectual approaches aimed at the building of more general covering laws (Bunge 2004) in that they look at consistent relationships between component elements of larger phenomena and hence can better account for consistent patterns of diversity. In so doing, such perspectives decouple unilinearity and uniformity from explanatory power (Kiser and Pfaff 2010: 573), and "highlight both the structural factors that govern change and the multiple pathways that change can take" (Little 2000: 89).

Analysis focused at this intermediary level offers a means to account for "outcomes on the basis of both social context and individual action" and so is inherently multiscalar (Hechter and Kanazawa 1997: 208).

Collective Action: Empirically Informed Approaches

The empirical relationship between human social group size and organization long has been recognized (e.g., Feinman 2013a). As Dubreuil (2008: 203) has observed: "(many) things are debated about the evolution of human societies, but no bands of 50 individuals have ever created a bureaucracy and no society comprising millions of individuals has remained perfectly egalitarian." I explicitly do not wish to imply that human cooperation in small groups is "natural," ever-present, or easily achieved (Blanton and Fargher 2013). Yet in repeated synchronic, cross-cultural studies, intensely interactive groups or networks over several hundred people (Dunbar 2011: Table 1) generally have some kind of suprahousehold integrative institutions, while sedentary populations numbering more than 2000–3000 are almost always hierarchically organized (Feinman 1995, 1998, 2011, 2013a). Various streams of research tie these emergent forms of cooperation either to mechanisms associated with the sanctioning of free riders (Baldassarri and Grossman 2012; Dubreuil 2010: 166–170; O'Gorman et al. 2009; West et al. 2011) and/or human cognitive constraints (Dunbar 1993, 1998; Johnson 1982; Kosse 1994); the two are not mutually exclusive (Chacon and Hayward, this volume; Hooper et al. 2010; Willer et al., this volume). And yet, despite the strength of the correlation between group size and hierarchical complexity (Johnson 1982: Fig. 21.1; see also Bodley 2003; Feinman 2011), there is considerable variation when one zooms down to more constrained group size ranges. No magic thresholds have been identified, and, most importantly, the kinds of social adjustments made by groups with increasing size are by no means uniform (Adler 1989; Adler and Wilshusen 1990; Feinman 2013a; Feinman and Neitzel 1984) as also illustrated by the collection of papers in this volume.

The absence of mechanical thresholds and the fluidity of human social networks (at all scales) over time and space reflect hominoid capacity to make rational choices regarding social actions (e.g., cooperate, punish, defect, deceive, etc.) and to assess the advantages and disadvantages of these actions. The nature and extent of individual cooperation is contingent on these assessments for self and for group (Blanton and Fargher 2013: 100–101). As network scale increases, cost-benefit implications for both individuals and affiliated groups shift. Leadership, which by definition is relational (Ahlquist and Levi 2011: 5), albeit in different ways, has a critical place in such social equations.

Human history has revealed that large-scale cooperative affiliations rarely, if ever, are simply primordial reflections of long-stable blood/kin ties (e.g., Blanton 2015; Jones 2008; Kristiansen 2014), but rather they are constructed through interpersonal trust, affiliations, institutions, leader–follower relations, shared moral

codes, communication, and other cooperative arrangements. The dilemma for the cooperator is that social networks and groupings that could yield mutual benefits to those affiliated are threatened by selfish but individually rational actions or agency (Blanton and Fargher 2013; Lichbach 1996). Cooperation dilemmas are met through the implementation of problem-oriented innovations or "social contracts" that serve to negotiate or establish the bases for specific, yet variable, arrangements of leadership, power, and religious behavior.

For years social scientists working from different approaches and disciplines have recognized that in human groups, even at comparable levels of vertical complexity, power is worn and wielded in distinct manners (e.g., Blanton et al. 1996; Feinman 2012c). As illustrated in the preceding chapters of this collection, some of these arrangements are autocratic, even despotic, with marked disparities in wealth, while others were organized more collectively with comparatively greater equality in wealth and access. Significantly, in this collection of papers, marked differences in wealth were not always strictly correlated with group size or scale or even level of political complexity.

For example, Ling and Cornell (this volume) note marked disparities of metal accumulations in Scandinavian Bronze-Age burials, yet polity sizes were small, while Kusimba and colleagues (this volume) describe the restriction of wealth-creating resources to a relatively select few in East African Coast polities that were considerably smaller than southern Zambezian states, such as Great Zimbabwe. Likewise, in their focus on later prehispanic Mesoamerica, Mendoza and Lucido (this volume) recognize the greater significance and accumulations of Postclassic portable wealth compared to what was found at larger, more architecturally monumental Teotihuacan during the prior Classic period.

Empirically grounded collective action approaches (e.g., Blanton and Fargher 2008; Levi 1988) provide a conceptual basis to address these seeming paradoxes through the connection drawn between the ways that power is funded or procured and the nature of governance. Blanton and Fargher (2008) build on the comparative study of Levi (1988) to propose that more representative or collective forms of leadership will be found where those with power are more directly dependent on the local populace for their economic underpinnings, whereas exclusionary/autocratic rule is more apt to occur where leaders are less reliant on their immediate populace and acquire their funds of power from external sources, such as the monitoring of exchange routes, war booty, or the control of spot resources (Fig. 17.1). In the latter cases, leaders exact less from their immediate populace and so are freer to afford diminished representation and fewer public goods. Consequently, they are more

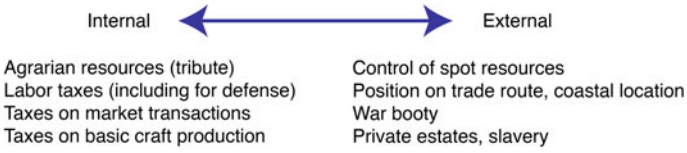

Fig. 17.1 Financial underpinnings of governance (adapted from Blanton and Fargher 2008)

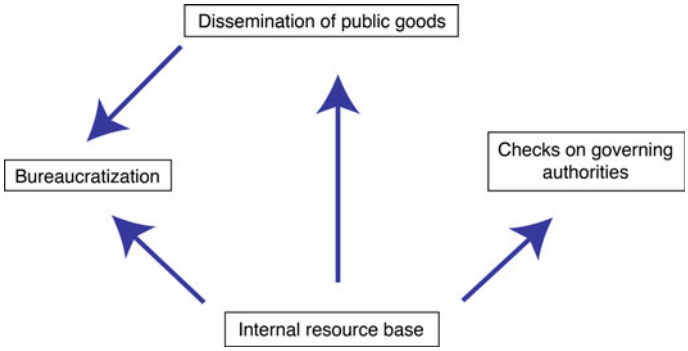

Fig. 17.2 Fiscal model of collective action (adapted from Blanton and Fargher 2008: 254)

able to concentrate wealth in their hands and those of their immediate allies and kin. In large human cooperative arrangements and institutions, the more rulers depend directly on their immediate sustaining population for their resource support, the more agency and voice that populace is likely to be able to assert and more public goods are apt to be distributed (Blanton and Fargher 2008: Fig. 10.2) (Fig. 17.2).

Obviously, this model cannot provide a complete roadmap to understand this aspect of the diversity of complex societies or early states, since human institutions, such as states, are complicated, and history does matter. Nevertheless, it does present a conceptual and testable basis to understand certain key aspects of variability in human cooperative institutions. And it links that relationship to the quantities and the means through which resources are acquired by governing authorities as well as the works and goods that are delivered. Here we stress that while such variables as primary productivity, available technologies, and, particularly, population size factor into the kinds and amount of resources governing authorities could potentially accumulate, critical too were the specific ways in which (and from where) these acquisitions occurred. In other words, the nature of cooperative arrangements, institutions, and their configurations do matter, and in ways that are potentially explicable.

The application of empirically based collective action approaches provides a means to address the micro–macro problem (e.g., Schelling 2006) in that mechanisms link individual motivations with institutional performance. In contrast to alternative theoretical perspectives, agency is not presumed solely to be restricted to those with power. Likewise, power is not presumed to be absolute, so exactions are seen as a negotiation rather than a mandate, which actually dovetails with the low taxation rates in most preindustrial contexts (Kiser and Levi 2015). Functionalist assumptions that group members necessarily always cooperate for the good of the whole also are eschewed (Carballo et al. 2014; Feinman 2013b). Furthermore, such approaches avoid the ever-present biases of Eurocentrism and Presentism (Blanton and Fargher 2008, 2013; Kiser and Levi 2015) as variability in both governance and fiscal regimes are seen to characterize the past and the present, even at different

levels of political complexity. Subaltern agency is not presumed as exclusively Western or modern, while change (for example, toward more democratic institutions) is not assumed to occur along strictly linear or progressive paths.

To assess and apply this theoretical frame, we must reevaluate from a different lens the material and architectural record that is central to archaeological interpretation. Most importantly, we have to reconsider how we think about monumental and civic-ceremonial building (e.g., Hildebrand 2013). For example, whereas an elaborate monumental palace is an indicator of wealth concentration and the centralization of aspects of governance in the residence of a central authority (family), monumental investments in community defense, sewage systems, public ritual spaces, or even gridded streets are indicative of the use of resources toward public goods, in that these constructions potentially enhance the well-being or standard of living of subalterns as well as elite. Even if local labor is drafted to build such architectural features, the work still was deployed to erect structures or facilities that provide services to the many as opposed to palaces or elite tomb monuments that benefit or glorify just the few. Therefore, the direct interpretive link drawn by several authors in this volume between monumental building and despotic power may be too reflexively assigned.

Likewise, we also should revisit how cooperative arrangements, power, and religion are problematized (Blanton and Fargher 2013). Religion may in some instances facilitate and encourage cooperation (e.g., Wilson 2002), but in other instances it may sanctify social conventions that legitimize the centralization of power (Rappaport 1978), which could dampen cooperation. In other words, to evaluate the role of religion on cooperation, it is necessary to dissect and contextualize its specific propositions and rituals (e.g., Jones 2013; Whitehouse 2004). Whitehouse (2004: 63–74) differentiates "imagistic" and "doctrinal" modes of religiosity. Whereas the former are steeped in emotion, highly stimulating, and often facilitated by altered states of consciousness, the latter are much more routinized and regimented, less arousing, and often conducted in relatively calm, sober contexts. Imagistic rituals are linked to revelation while doctrinal rituals depend on semantic schemas, repetitive rhetoric, and consistently messaged oratory. Immersion in doctrinal modes of religiosity likely does underpin greater in-group cooperation in many instances (Sossis and Ruffle 2003). Yet alternatively, imagistic religiosity has served to concentrate power and despotism through the sanctification of propositions that equate rulers with the divine or situate them at the center of the cosmos (Blanton and Fargher 2013: 109–113; Wolf 1999). The enhancement of absolute power almost never coincides with true cooperation and tends to be untenable unless bolstered through the direct control of circumscribed resources (Fig. 17.1).

The collective action perspective described here forces archaeologists to unpack concepts, such as "complex societies," monumental architecture, and the relation between religion and cooperation. In the next section, I use this lens to frame and interpret the case studies in this collection. Clearly, I depend mostly on the rich tableaus of information provided by the authors, and deeper analyses should be undertaken in the future. Polity scale and degree of political complexity help order

the comparative comments, but I also decouple elements of social complexity along the lines outlined. That is, how does the ways that power is funded relate to the disposition of those resources? Are there differences between the internally funded contexts where greater expenditures are made on public goods and inequality is damped down, as compared to externally financed cases where wealth is distributed toward the powerful during life and at their deaths?

A Comparative Vantage on Incipient Leadership and Collective Action

Four of the volume's chapters are focused on incipient emergence of leadership and/or collective action. Two of these cases are archaeological (Dietrich et al., this volume; Piscitelli, this volume), while the other two draw largely from fieldwork on more contemporary people (Chacon and Hayward, this volume; Roscoe, this volume). I begin with the latter as they provide a window into the processes through which leaders develop. Notably, in the two examples (Mbinime, Western Papua, and Achuar, Amazonia) discussed by Chacon and Hayward and the large comparative sample from New Guinea analyzed by Roscoe, leadership in war is mentioned as a key attribute of emergent interpersonal influence and status. Yet, in all of these cases, and as Roscoe (this volume) succinctly phrased it, "it was defensive—not offensive—warfare that drove a community's moral approval of military performance. For the Achuar, Chacon and Hayward (this volume) recount how a fierce warrior "employed his recognized high social status to decisively and effectively coordinate the village's response to an armed attack." These findings are in line with collective action perspectives as there are few, if any, public goods more important than community security. Leadership in collective feasts, displays, and communal rituals are described as potential enhancers of these collectively oriented leadership credentials.

In a number of the New Guinea examples, described in both of these papers, an alternative pathway to leadership is outlined, the building of trade partner and alliance networks (e.g., Feinman 1995). These networks (and the materials procured through them) are judged by the authors (Chacon and Hayward, this volume; Roscoe, this volume) to be generally less significant bases of status and leadership (for these cases) than their other roles, yet in some of the New Guinea contexts discussed by Roscoe (this volume) wider nets of external contacts were associated with higher degrees of prestige and status and, perhaps, greater hereditability of those attributes.

The two archaeological cases (Dietrich et al., this volume; Piscitelli, this volume) provide an interesting parallel in that both describe impressive scales of civic-ceremonial construction given the timing, subsistence economies, and presumed demographic parameters of the associated populations. In both contexts, it is unfortunate that we have little information regarding associated domestic contexts,

so there is little way to assess degrees of household inequity in residential architecture, access to portable wealth, or in burials. And yet, both at Göbekli Tepe (Dietrich et al., this volume) and in the Norte Chico (Piscitelli, this volume), the spaces created by the civic-ceremonial architecture could accommodate significant segments of the presumed populace. That is, for the most part, they do not give the appearance of having been highly restrictive or closed to all but a few privileged individuals. The communal/collective character of these architectural edifices and their associated plaza spaces dovetail with the evidence that construction (and subsequent use) was directly linked to episodes of communal/ritual feasting. In both regions, the resources employed for feasting came from plant cultivation, and in the Norte Chico, also from seafood, in other words, internal resources (Fig. 17.1). For both of these cases, if there were leaders, as the investigators assert (Dietrich et al., this volume; Piscitelli, this volume), my expectation is that it would have taken more collective than coercive forms.

Piscitelli (this volume) opines that the scale of the Norte Chico construction involved more labor than would be expected for an acephalous/egalitarian society (cf. Flannery and Marcus 2012), and he makes a reasonable case. But I also see alternatives to the assertion that "people build monuments because someone tells them to" (Haas and Creamer 2012: 289). As the two contemporary cases illustrate (Chacon and Hayward, this volume; Roscoe, this volume), incipient leaders often coordinate collective action that fosters community security. Such collectively oriented leaders tend to display and disperse resources and do not personally hoard or exclude them. Because of their interdependence with followers, they do more cajoling than coercing.

The civic-ceremonial architecture both at Göbekli Tepe and in the Norte Chico was built at the cusp of the transition to sedentary life in both regions. That is, people were transitioning to less mobility, residing in one place for longer episodes. The edifices built represented a costly labor investment in one such place. More research could be done, but in both cases the kinds of ritual spaces constructed seem more suitable for doctrinal modes of religiosity that could have involved large segments of the associated social configuration in relatively open ritual settings. Such contexts for rituals often involve dance, synchronized movement, face-to-face communications, procession, and so tend to enhance community solidarity rather than sanctify autocratic power (Whitehouse 2004; Wiltermuth and Heath 2008).

The transition to more sedentary living arrangements does have the potential to provoke greater interpersonal stresses (e.g., Johnson 1982, 1983), which may have been ameliorated through communal ritual events that fostered cooperative behavior. The more rapid the process of aggregation was, the more intense the stresses were apt to be (Birch 2013: 9). But the establishment of venues for communal ritual did not necessitate architectural investments that were as monumental as these specific constructions, particularly in the Norte Chico. The civic-ceremonial architecture both at Göbekli Tepe and in the Archaic Norte Chico seemingly were placed near rich resource patches or settings favorable to more sedentary life ways at a time when surrounding populations were still mobile or settling in other locations. In his discussion of incipient leadership in New Guinea,

Roscoe (this volume) concludes that ritual "material displays were faithful measures of a group's collective military capacity." Costly investments in civic-ceremonial architecture clearly would signal the same (see Blanton 2015; Smith and Bird 2005), while they also convey messages regarding subsistence abundance and, perhaps, moral piety. In contexts where much of the regional population was mobile, such costly signaling may have both discouraged aggression and encouraged others to join/move in. Up to a point, in-migration would have enhanced community security and added to the labor pool, a potential benefit for both those aggregated and their emergent leaders, even collectively oriented ones. As Kowalewski (2013: 202) has argued "the social labor of building is itself part of the process of forming enduring institutions."

Multiple Pathways Toward Social Complexity

Three chapters take long-term, broad-scale perspectives on social complexity, focused on the northern Southwest (Wilshusen, this volume), Eastern North America (Anderson and Cook, this volume), and the North Central European Plain 500–1000 CE (Lozny, this volume). In each of these cases, degrees of inequality and indicators of hierarchical leadership generally exceed that evidenced in the prior section. At the same time, these analyses serve to illustrate the diverse pathways to power and privilege.

For the Great House communities described by Wilshusen (this volume), many of the social mechanisms parallel the pattern noted in the previous cases. Heavy labor investments in civic-ceremonial architecture were made, which culminated in the elaborate Chaco Great Houses. The civic-ceremonial structures in these contexts generally corresponded in size with the adjacent communities. And, in general, these architectural features would have accommodated sizable segments from the associated settlements, perhaps with restrictions by age and gender. Leadership was most explicitly indicated by proximity to civic-ceremonial structures and through the maintenance of ritually important symbols. In general, leadership was not signaled by marked inequities in access to valuable portable goods, highly crafted or exotic, either during life or at death. Although leadership in the Mesa Verde communities likely was mostly funded through labor drafts and resources (internal) sustained by agrarian surpluses, acquisition of exotics through exchange networks may have been a more significant source funding power at Chaco (although the main base of power remained agricultural). The more explicit manifestations of power (such as the status-restricted Great Houses) at Chaco compared to earlier times are what you might expect based on the collective action approach outlined above (Feinman 2000; Feinman et al. 2000). Nevertheless, leadership was comparatively collective compared to the two other cases described in this section.

Significantly, when both Anderson and Cook (this volume) and Lozny (this volume) find indications of portable wealth accumulation by leaders during their lives and in their internments at death (for example phases 3 and 4 on the North Central

European Plain), a key portion of their financing is thought by the authors to have been derived through exchange/alliance networks and access to external resources. Lozny (this volume) contrasts the pattern with the earlier phases 1 and 2, when the resource base was more heavily agrarian and investments were more directed toward community fortifications. Over time, in the face of shifting networks and the collapse of threats from more encompassing foreign empires, which opened network-building opportunities for local leaders, individual accumulations became more disparate and the trappings of rank more diversified even though political units were small.

Likewise, in indigenous Eastern North America, cyclic episodes of more open networks of long-distance exchange, involving prestige goods, correspond temporally with more evident indications of leadership that generally took somewhat less collective forms than generally found in the northern Southwest. Civic-ceremonial constructions were often, although certainly not entirely, directed toward burial monuments where a small subset of the overall population was interred elaborately with caches of exotic and highly crafted goods. In some instances, offense warfare, along with captive and trophy taking, also were associated with leadership and its support. Nevertheless, the economic underpinnings of power in this region were diversified and included agrarian production, hence it is not surprising that expenditures on public goods, such as fortifications, plazas, and temples also are described for Woodland and Mississippian sites in this region. In the future, given this variation in time and space, Eastern North American might be fertile ground to test the causal expectations of the empirically grounded collective action approach advanced (e.g., Cook and Fargher 2008). I would expect that times of less collective forms of leadership also would tend to correlate with the advent of belief systems and rituals that tended to embed rulers in imagistic modes of cosmos-linked religiosity that served to sanctify power (e.g., Brown and Dye 2007).

These three cases not only illustrate different diachronic paths but how the elements often lumped together under the term, social complexity, do not necessarily change in tandem or in uniform steps. Likewise, the paths toward change discussed are more cyclic than progressive. In the next section, I review the remaining six essays, which each cover larger scale, more hierarchical sociopolitical formations. I endeavor to illustrate that across these examples, a reliance on internal resources basically corresponds with more collective forms of governance, while greater dependence on external resources is linked to less collective, despotic, coercive, autocratic ruler–follower relations.

Funding Power and Modes of Large-Scale Cooperation in Historical States

The last essays (Hansen, this volume; Kim, this volume; Kusimba et al., this volume; Ling and Cornell, this volume; Mendoza and Lucido, this volume; Yi, this volume) provide information relevant to eight historical states. Mendoza and

Lucido (this volume) contrast Teotihuacan and after in Central Mexico, while Kusimba and colleagues (this volume) compare the East African Coast with Southern Zambezia. In three of the discussions, the Preclassic Maya of the Mirador-Calakmul Basin (Hansen), Teotihuacan (Mendoza and Lucido), and the Yi region of southwestern China (Yi), the authors describe cooperative arrangements dependent largely on internal resources, while in four, post-Teotihuacan Central Mexico (Mendoza and Lucido), Bronze-Age Scandinavia (Ling and Cornell), East African Coast (Kusimba et al.), and Northern Vietnam (Kim), they give greater emphasis to external resources, albeit not exclusive reliance. For the final case, Southern Zambezia, particularly Great Zimbabwe (Kusimba et al.), both internal and external resources funded the powerful.

Governance at the large, monumental urban center of Teotihuacan during the Classic period long has been seen as corporate or collective in nature with dampened differentials in wealth (Smith et al. 2014a), no clear leader's palace or royal tomb, and few if any indications of flamboyant rulers (e.g., Blanton et al. 1996; Cowgill 2015; Feinman 2001, 2012c; Froese et al. 2014; Manzanilla 2015). The cruciform urban grid plan with wide thoroughfares that extend from the city's edge to its center as well as the city's large plazas are indicative of a significant investment in public goods that would have benefitted community access and interaction (e.g., Blanton and Fargher 2011). Despite its scale, monumentality, and political influence across Mesoamerica (Smith and Montiel 2001), leadership was not despotic, individualizing, nor was wealth highly concentrated. With a resource base heavily reliant on local domestic production (agrarian and craft), the broader population appears to have retained at least degrees of voice.

The Mirador Basin of the Maya region during the Late Preclassic period bears surprising parallels to Classic period Teotihuacan with massive investments in civic-ceremonial architecture and causeways of communication that linked sectors of the settlement (Hansen 2000, this volume). As discussed for Teotihuacan, the archaeological indicators of socioeconomic differentiation and divine rule were depressed, in stark contrast to most of the Maya Lowlands during the subsequent Classic period (e.g., Blanton et al. 1996; Feinman 2001) and even compared to other Maya regions near the end of the Preclassic period. As Hansen (this volume) notes "the function of the particular architecture and associated architectural art was an effective manipulative mechanism of establishing an organic solidarity of society, fostered by a standardized religious and political ideology that apparently was widely accepted and encouraged." The patrimonial rhetoric of the Maya Classic period provides a stark contrast. Significantly, the one elaborate funerary context with ample prestige goods in the Mirador Basin, cited by Hansen (this volume) for the Late Preclassic period, is thought by other scholars to be later (Reese-Taylor and Walker 2002). The contrast between the Mirador Basin in the Late Preclassic and the Maya Classic across most of the lowlands is important because it further indicates that the theoretically derived patterns of power, status, and its financing are not simply culturally bound relations, but rather they varied in a single regional/historical context as funding sources, societal challenges and perturbations, and other factors shifted.

Although the analysis of the southwestern China Yi region (Yi, this volume) is a bit more difficult to evaluate, the expected relations are found. That is, the resource base largely was internal (small-scale agrarian production generated small exactions through tribute and labor drafts), leadership was ephemeral, consensually based, and not marked by dramatic wealth accumulations or despotic practices. The duties of leaders, whose position was not closely tied to lineal descent, focused around negotiation, dispute resolution, performance in communal assemblies, and as point persons for collective defense.

In contrast, for four other cases, post-Teotihuacan Central Mexico (Mendoza and Lucido), Bronze-Age Scandinavia (Ling and Cornell), East African Coast post 1500 CE (Kusimba et al.), and Northern Vietnam (Kim), the funding of power was based more heavily on external resources, namely ties to external networks and the goods procured through them. Exotic prestige goods, in particular metals, were key elements in each of these networks, and they also were prominent as markers of high status. With the exception of Central Mexico, metal was cast into weapons of war. Militarism, including successes in both offensive and defensive warfare, is raised more prominently as having had a connection to power. In several of these cases, war booties also may have funded power, as did slave trade on the East African Coast.

Given these differences (compared to the more collective cases) in the funding of power and the trappings of elite status, the emphatic references to coercive power (Kim, this volume), warrior ethos and violence (Ling and Cornell, this volume) are in accord with the analytical frame. Likewise, expenditures on public goods, other than fortifications do not figure heavily in these cases. Although the Southern Zambezian states, especially Great Zimbabwe (Kusimba et al., this volume), had a more diversified economy and funded power through a broad mixture of internal (taxing pastoral and agrarian products) as well as external resources (control of mines, trade routes, exotic resources), the basic pattern conforms more closely to the less collective cases, especially later in the sequence when the control and processing of spot resources (iron and gold) and the reliance on trade routes and networks increased in significance. As described by Kusimba and colleagues (this volume), this later period also was marked by much greater elaboration and segregation of elite residential spaces. Both at Great Zimbabwe (Kusimba et al., this volume) and at Co Loa (Kim, this volume), fortifications that were built originally to defend whole communities became protection for just segments of the population as power was further concentrated and the settlements expanded. As Kim (this volume) hypothesizes, some of the inner Co Loa walls could have served to segregate and enclose elite spaces.

A Few Synthetic Thoughts

The comparative patterns noted in this essay are provocative and in basic accord with the conceptual expectations that were outlined based on the empirically informed collective action approach. Of course, given the nature of the sample,

further analysis is needed before too much weight can be placed on these specific inferences. Nevertheless, it is intriguing that many of the social mechanisms and relations seen here are much more thoroughly supported in an in-depth review of a large sample of historical cases of premodern states (Blanton and Fargher 2008). The broad-brush consistency of the patterns seen here with those prior results (Blanton and Fargher 2008) are useful, as two-thirds of the cases in this volume are based on archaeological data; the patterns noted in the historical set of data also are found for these cases from the deeper past. Furthermore, in this sample, we see that significant parallels in the relation between the financing of power, the nature of governance, and manifestations of inequality are evident in a comparison of cases at smaller analytical scales and lesser degrees of vertical complexity in leadership.

Based on these findings, I propose that an interdisciplinary, multiscalar perspective derived from empirically based collective action holds considerable promise for explaining the significant, yet patterned, diversity in the organization of human cooperative networks. This approach expands the analytical universe beyond the two broad dimensions of general evolution and idiosyncratic specificity that have dominated most, if not all, major anthropological perspectives for over a century (e.g., Feinman 2012a, 2013b). At the same, the interpretive focus is directed toward the explication of diversity in contrast to sociobiological perspectives that endeavor to explain human universals, a perspective that cannot alone account for the variation in human cooperative arrangements and social networks that characterizes humanity's career.

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