



Geography and Ethnography

Perceptions of the World in Pre-Modern Societies

Edited by Kurt A. Raaflaub
and Richard J. A. Talbert

 WILEY-BLACKWELL

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Series Editor's Preface

The Ancient World: Comparative Histories

The application of a comparative approach to the ancient world at large has been rare. This series, of which the current volume is the third, intends to fill this gap. It pursues important social, political, religious, economic, and intellectual issues through a wide range of ancient or early societies, occasionally covering an even broader diachronic scope. "Ancient" will here be understood broadly, encompassing not only societies that are "ancient" within the traditional chronological framework of *c.* 3000 BCE to *c.* 600 CE in East, South, and West Asia, the Mediterranean, and Europe, but also later ones that are structurally "ancient" or "early," such as those in pre-modern Japan or in Meso- and South America before the Spanish Conquest. By engaging in comparative studies of the ancient world on a truly global scale, this series hopes to throw light not only on common patterns and marked differences, but also to illustrate the remarkable variety of responses humankind developed to meet common challenges. Focusing as it does on periods that are far removed from our own time, and in which modern identities are less immediately engaged, the series contributes to enhancing our understanding and appreciation of differences among cultures of various traditions and backgrounds. Not least, it thus illuminates the continuing relevance of the study of the ancient world in helping us to cope with problems of our own multicultural world.

Earlier volumes in the series are *War and Peace in the Ancient World* (ed. Kurt A. Raaflaub, 2007) and *Household and Family Religion in Antiquity* (eds. John Bodet and Saul Olyan, 2008). Forthcoming volumes include *Epic and History* (eds. David Konstan and Kurt Raaflaub, 2009), *Highways and Byways in the Ancient World* (eds. Susan Alcock, John Bodet, and Richard Talbert), *The Roman Empire in Context* (eds. Johann Arnason and Kurt A. Raaflaub), and *Thinking, Recording, and Writing History in the Ancient World* (ed. Kurt A. Raaflaub).

Kurt A. Raaflaub

Introduction

RICHARD J. A. TALBERT AND KURT A. RAAFLAUB

It is a sad opening, but an unavoidable one, to acknowledge that this volume remains lame. Its Introduction cannot be balanced by the corresponding Conclusion that Denis Cosgrove provided with his unrivalled range, flair and insight to a workshop on this volume's topic at Brown University in March 2006. In planning this volume and the program of the workshop at which contributors had a chance to present and discuss first versions of their chapters, Kurt Raaflaub and I had been eager to include a capstone session at which some synthesis and reflection on themes in the individual contributions could be ventured, and broad lines of continuing enquiry identified for further discussion. Denis Cosgrove at the University of California, Los Angeles, seemed to us a scholar ideally suited to open such a session. We were delighted and honored when he accepted our invitation to do so, and he duly spoke with characteristic authority and enthusiasm. Tragically, however, he died two years later on March 21, 2008 from complications following cancer surgery, and in consequence he was never able to distill his words into writing for this volume.

Denis Cosgrove's death is a major loss to us all. To quote David Lowenthal in his obituary for *The Independent* (April 8, 2008): "Cosgrove's central mission was to illuminate the dynamic interplay between the world's diverse material landscapes and equally diverse modes of imagining and exploring them." At Brown, Denis formulated for us eight questions as potentially rewarding lines of comprehensive enquiry into worldview among premodern societies, and I reproduce them here as recorded in my imperfect notes scribbled on the occasion. The introductory overview which follows would hardly be the place for any attempt to do full justice to the eight, but a shared concern for many of the themes and issues raised should readily be apparent.

- 1 What counts as geographical knowledge, and how is it produced, coordinated, learned, represented?
- 2 How are the disjunctures of system and autopsy managed, if at all?
- 3 How universal/mobile/restrictive are our own contemporary metageographical concepts?
- 4 How useful, or restrictive, is our privileging of maps and our focus on vision?
- 5 How has ethnographic diversity been related to environmental diversity? And how far is the diversity of mankind related to the diversity of the environment?
- 6 How, when and where did world, earth and globe unite?
- 7 How do territorialized geographies or spatialities relate to geographies of mobility, either conceptually or representationally?
- 8 How are hybridity and diasporas, and the question of cosmopolitanism, dealt with within territorialized geographical schemes?

To determine the order in which the 19 contributions should appear in a volume as wide-ranging as this one presents a delicate fundamental challenge that its editors may postpone, but ultimately cannot evade. In the obvious absence of any natural order, we have followed our inclination not to privilege Europe, and indeed to place the most familiar theme last – that is, David Buisseret’s account of how from the fifteenth century onwards a combination of the Ptolemaic and Portolan chart traditions enabled European cartographers to record the expanding exploration of the world launched from their continent, and eventually to produce maps of all kinds according to the widely recognized norms still taken for granted today. Even in the 1570s, however (as Buisseret recounts), reliance upon any such standards was strikingly premature. Philip II of Spain had hoped that his cosmographer could be supplied with maps, or *pinturas*, by the various administrative divisions of his farflung empire, which would then form the basis for a detailed, comprehensive map of the whole. That ambition proved impossible to achieve, however, because the 200 or so *pinturas* sent adopted too wide a variety of styles, many of them reflecting not European cartographic norms, but rather those of such subject peoples as the Aztecs and the Maya.

Almost to its very end, therefore, this volume compels readers to engage with the unfamiliar. It is, as Christopher Minkowski aptly summarizes it in the opening contribution, “a project of recovering and understanding the uses of geographical and ethnographical knowledge and conceptions by the peoples who produced them, in their own times and places.” For twenty-first century Westerners, the difficulties are many and formidable. Particularly taxing for us are non-literate societies. Hence it takes special dedication and sensitivity on the part of Kathleen DuVal, Barbara Mundy and Catherine Julien to tease out the worldview of Mississippi peoples (whose own names we do not even know!), the Aztecs, and the Inca respectively. Archaeology and material objects can yield vital testimony, if only the relevant pictographs and other signs can be interpreted. Potentially valuable, too, but liable to mislead and frustrate at the same time, is the written record of Westerners whose own ingrained conceptions inevitably influenced their understanding. In the Inca

case, as Julien explains, the territory of Tawantinsuyu (Peru) survived, but it was entirely reimagined by its Spanish conquerors; the original conceptualization of the name – which seems to have combined geography, political theory, and a statement of power – resists our full comprehension in the absence of accounts by native authors in local languages.

More generally, throughout the volume it is essential to distrust any presumption – so easily made on our part – that the societies under investigation approached the world at all as we do. Mundy warns: “the insistence in modern geographic practice on vision and verisimilitude as the basis for geographic representations does not always hold in the New World, where ‘ways of knowing’ are not always based on sight.” Julien offers reason to think that the Inca system of orientation may not have relied upon the cardinal points. John Henderson, in explicating nonary cosmography in ancient China – a long-lasting and highly influential ordering of space – articulates the risk inherent in tapping Chinese texts of this type for insight into matters of prime concern to us (the Chinese concept of the world, for example). Such matters may in fact have been of marginal interest at best to these ancient authors, giving rise to the danger that our preoccupations will not only prove largely fruitless, but will also lead us to overlook the authors’ own priorities. By the same token Michael Loewe, reviewing the various types of reports to survive in Chinese documents, concludes that it is not the norm to find there a sense of space, or recognition of long distances, or appreciation for the effect of natural conditions on the growth of a community, let alone on the characteristics of its culture. Our deep-rooted intellectual categories and periodizations, moreover, may act as a positive hindrance to appreciation of premodern cultures. As Henderson cautions, the Chinese division of space according to the pattern of the square divided equally 3×3 is an ordering that falls between modern geography, cartography, even cosmography. Adam Silverstein concludes from his discussion of “the medieval Islamic worldview” that the very notion is an oxymoron. The relevant body of writing in Arabic and Persian is uniquely large. However, it is hardly accurate to describe those geographers who did form a worldview – one very dependent upon Hellenistic, Iranian and Mesopotamian ideas in fact – as genuinely medieval or Islamic. On the other hand, the geographers who were Islamic and, in chronological terms “medieval,” hardly had a *worldview*; they felt obliged to draw upon only personal observation or the testimony of eye-witnesses, and so ignored non-Muslim lands as a result.

A further assumption to be avoided is that maps or map-like images occupied an important place, indeed any place, in the premodern societies discussed. In early Mesopotamia the symbolic literary imagery examined by Piotr Michalowski is paramount. In early Greek culture, too, discussed by Susan Cole and James Romm, maps were created as aids to philosophical and geographical speculation about the world. Literary records, including geographic catalogs in Greek epic poetry, as well as itineraries, predated maps and were never superseded by them. Division of the globe by continents, climates and cultures became a topic that engaged a long succession of Greek writers, who in turn later influenced Jewish, Roman and

medieval thinking in East and West. Meantime the “colossal,” comprehensive work of narrative geography by the Greek author Strabo – the subject of Daniela Dueck’s contribution – confined itself to words and ideas, without maps. Even so, Strabo insisted that any geographer should be an experienced traveler who could claim *autopsia*, as he proudly did himself. As my own contribution recognizes, Roman culture likewise, despite its unwavering pride in territorial expansion, never enlarged the limited range of contexts and purposes for which it employed maps of various types; in part for this reason, cartographic norms failed to develop. Romans clearly came to share an extensive “mental map,” but this remains elusive, as does insight into the learning and cognitive processes underlying it. As Emilie Savage-Smith reveals, our perception of Islamic cartography in general, and of its mapping of the Mediterranean in particular, has been hugely enriched by the recovery of the *Book of Curiosities of the Sciences and Marvels for the Eyes* that only came to light in 2000. Its novel rendering of the Mediterranean forms a stark contrast to the vision conveyed by the earlier “Balkhī School” of cartography. But the contrast in turn raises questions of whether the eastern Mediterranean’s dominance (to the surprising exclusion of Muslim Spain and western Europe) merely reflects eccentricity on the part of the anonymous Egyptian mapmaker, or whether his perception was in fact one widely shared in early eleventh-century Egypt.

For early China, Agnes Hsu’s contribution makes the persuasive claim that the maps found at Mawangdui in 1973 – hitherto admired principally for their rendering of hydrology and topography – also convey a ritual and symbolic quality that should not be overlooked. The demarcation of Han-controlled territory in Changsha on one of these maps acts as a visual symbol signifying the separation between the civilized world and the landscapes of untamed peoples. In addition, once the set was placed in the tomb from which it has been recovered, the maps became a metaphor for a space that is preserved in perpetuity. In the same way, Hsu maintains, the Anping map-like mural of Eastern Han – with its axonometric, or characteristically Chinese “bird’s-eye view,” perspective – had a spiritual function in the tomb where it was painted; it, too, arrested time and space for ever.

Regardless of whether or not the societies under discussion developed maps, there emerges from the volume a persistent (and perhaps hardly surprising) tendency for them to situate themselves at the center of their world, to exaggerate the extent of their control, and at the same time to envisage one or more zones beyond. There their own exemplary level of civilization is missing, and indeed even their knowledge of the land and its peoples gradually fades – the “distance decay function,” as Cosgrove termed it. Akkad in Mesopotamia represents itself not so much as a center to be contrasted with a periphery, but more as a focal point for the whole world, with the kings of Akkad claiming to rule the four corners of the universe. Babylonian literature draws a basic distinction between “home-land” (*kalam*, further divided into cultivated and uncultivated areas) and “the Eastern mountains” (*kur*). In the Aztec empire, with its concentric spaces extending out from the island capital Tenochtitlan at the center, the equivalent contrast is between the nearby and intelligible (*nahuac*) and the distant unknown (*buehca*). Mississippian

peoples had a keen sense of self-identity and of borders, yet were inclusivist in outlook, eager to learn from outsiders. Egyptians mirrored these attitudes in the first two respects, but (as Gerald Moers illustrates from an exceptional variety of texts and images) their rejection of most foreigners was extreme – peoples viewed as disgusting, unsettled, desperate to rob Egypt of vital resources. As the living incorporation of the god Horus, Pharaoh's role in principle was to impose orderly rule upon the cosmos from its center Egypt; yet the foreigners' zone was acknowledged to be uncontrollable in practice, and a constant threat to Egypt's wellbeing unless confronted with unflinching violence. Greeks imagined three zones: themselves, with *barbaroi* beyond and, further still, horrific *agrioi* – cannibals, or lice-eaters, or people who turned into wolves once a year. The Chinese, like Egyptians and Greeks, were especially fearful of marauding nomads, above all the Xiongnu to the north; hence their "Great walls" were built as protection.

At the same time, flexibility in attitudes towards foreigners is unmistakable. Egyptians idealized the exotic, distant and near-mythical land of Punt. Once the Chinese realized the prospects for trade and settlement in such remote regions as Da Xia and Anxi (Bactria and Persia), they willingly developed friendly relations with the aliens there. Strabo, in his highly ethnographic *Geography*, remains inconsistent in his ranking of Romans. There are times when he groups them together with his fellow Greeks as "us" against "them," the rest of the world. Elsewhere, however, he insists upon the overall superiority of Greeks on cultural grounds, but in recognition of the Romans' achievement as empire-builders he is prepared to term them "refined barbarians." What remains unique in Greek geographic and ethnographic writing is the remarkable attempt of the incomplete medical treatise *Airs Waters Places* – an anonymous late fifth century BCE work, discussed by Romm – to link the earth's climates, continents and political structures into a single comprehensive system. Later Greek thinkers preferred to credit that both climate and culture were primarily determined by heat, cold and a mix of the two; none adopted the anonymous author's more intricate climatic model, with its consideration for the effects of East and West winds together with the established opposition between North and South.

It is vital to appreciate that many premodern societies attached the greatest importance to situating themselves not merely within the immediately perceived world, but also within a vaster universe, as already noted of Akkad and Egypt. To them, moreover, the teaching of sacred scripture may be held superior to scientific knowledge. India's Sanskrit texts, the Purānas, present an outstanding instance, not merely defining geography but also thereby justifying a hierarchical ordering of Aryan society by castes. This vast assemblage of mythology, legend and history is discussed by both Christopher Minkowski and Kim Plofker. In the latter's words:

It represents the earth as a flat circular disk resting in the middle of the *brahmānda* or "cosmic egg" surrounded by the primal elements. Above the disk of the earth are stacked the layers of the various heavens; below the earth are corresponding layers of the various *patālas* or underworlds, and beneath those in turn successive *narakas*

or hells. All the dimensions involved are immense: for example, the diameter of the earth's disk is said to extend for five hundred million of the units called *yojanas*, which would be approximately on the order of five billion kilometers. The great mountain Meru in the middle of the earth's disk reaches to the pole-star in the heavens, and the other stars and planets wheel around it, appearing to rise or set as they are revealed or hidden by its massive form. All the locations in this vast expanse are teeming with beings of elaborately diverse sorts. [pp. 35–6]

Despite the revered status of this Purānic vision, both Minkowski and Plofker are particularly concerned to show how attention was also still paid to real-world geography and astronomy in India, and how intersection of the two types of vision occurred. A comparable amalgam treated by James Scott is to be found in the Hebrew *Book of Jubilees*. This neglected apocalyptic text (surviving complete only in an Ethiopic translation) skillfully exploits both biblical and Hellenistic Greek conceptions of geography in order to establish the prominent place of Israel and the Jews in the world, both now and in the expected eschatological future. *Jubilees* affirms a spatial symmetry between heaven and earth and promises that, in accordance with God's original plan for his creation, blessings will radiate out from Zion to the rest of the world.

A superficially more familiar case of amalgam may be found perhaps in European ethnography, geography and cartography during the Middle Ages, the focus of Natalia Lozovsky's attention. In fact only quite recently has a serious effort been made to understand the different ways in which medieval scholars reconciled classical scholarship and Christian doctrine in order to develop their own distinctive presentation of the world and its peoples. New knowledge was incorporated where possible. Thus it is no surprise to find ninth-century scribes at St. Gall in Switzerland glossing a geographical chapter of Orosius' early fifth-century *History Against the Pagans* with up-to-date information about the encroaching Bulgars and Hungarians (the latter would eventually sack the abbey). Medieval *mappae-mundi* purposefully combined both spiritual truths and information about the material world. The image of the earth seen from above became an aid to prayer and meditation, a chance to ponder its smallness, transience and sinfulness, as in St Benedict's vision. At the same time, geographic and ethnographic texts had real-world value in education, as well as in reinforcing rulers' self-identity and sense of authority; the Roman tradition of creating maps to serve as statements of power was extended too.

Ideally this volume might have sought to include discussion of still more pre-modern societies than it does, but by its very nature it is open-ended, a work in progress. A single pathbreaking volume can only accomplish so much; if other colleagues are subsequently inspired to follow this lead, that further progress will be very welcome. The present contributions amply confirm the rewarding scope, diversity and extraordinary richness of the themes that they unlock. At the same time they underline the risks to be incurred by the all-too-common temptation to draw conclusions about a society's worldview based on inadequate knowledge

or inappropriate modern assumptions. As it happens, a memorable instance of such flawed knowledge and its misuse is recalled on the first page of the first contribution below: an unwary British scholar in Calcutta developing outlandish theories about the origins of civilizations gains over-zealous assistance from a Brahmin Sanskrit expert, and the published fraudulent testimony is later used by a British explorer in Africa to aid his (successful!) search for the headwaters of the Nile. Read on.

Richard Talbert

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After initial collaboration between editors and authors, early versions of most of the chapters in this volume were offered for discussion in a workshop that took place under the auspices of the Program in Ancient Studies at Brown University in March 2006. This workshop – preceded by three lectures on important aspects of our topic relating respectively to the Middle Ages, the early modern period, and native peoples of North America – had the purpose of enhancing a common focus in all contributions, fostering intense interaction and collaboration among contributors, and facilitating the creation of a coherent book rather than merely a volume of collected essays. To amplify the coverage, a few chapters were solicited following the workshop.

For several years a grant from the Kirk Foundation in Florida, offered through the good services of Faith Sandstrom, a Brown PhD in Archaeology and Classics, and her husband Frederick, one of the foundation's financial advisors, enabled the Program in Ancient Studies to organize a lecture series, sometimes ending with a small colloquium, that discussed an important topic from the perspectives of several ancient civilizations. For this volume's topic, we organized for the first time a workshop with stellar international participation. This event, too, was the first that the Sandstroms themselves supported with a major gift. In appreciation of their continuous enthusiastic support, this workshop bore their name: we are truly thankful to them. But thanks are owed to many others as well for their generous contributions: the Program in Medieval Studies, the Program in Renaissance and Early Modern Studies, the John Carter Brown Library, the Artemis and Martha Sharp Joukowsky Institute for Archaeology and the Ancient World, the Departments of Classics, Egyptology and Ancient Western Asian Studies, and History, the Marshall Woods Lectureships Foundation of Fine Arts, the Charles P. Sisson II Memorial Lectureship, the Bruce M. Bigelow Class of 1955 Lecture Series, and the Royce Family Fund for Teaching Excellence, all at Brown University. The publication of this volume has been facilitated by contributions from the Program in Ancient Studies and the Royce Family Fund for Teaching Excellence.

Finally, we should not forget that it is individuals who make things happen. I thank the contributors for their participation in our project, whether they were part of the initial cast or joined us afterwards, and for their valuable contributions; the

willingness of all to engage in an extended collaborative effort has enriched the final product. Most of all, I thank Richard Talbert for his enthusiastic endorsement of this project, much good advice, and excellent collaboration in preparing the volume for publication; Mark Thatcher, graduate student in Classics at Brown University, for preparing the index; and the administrator of the Program in Ancient Studies, Maria Sokolova, for taking care of innumerable administrative details before, during, and after the conference.

Kurt Raaflaub

Where the Black Antelope Roam: Dharma and Human Geography in India

CHRISTOPHER MINKOWSKI

Preamble: Speke, Memory, and the Proper Use of Native Lore

In order to consider the history of geography-writing in India let us begin with the story of an intrepid British explorer of the nineteenth century, and a notorious Sanskrit forgery. The explorer was John Hanning Speke (1827–64), the discoverer of the source of the Nile, who was, at least in part, correctly guided by false information. That information came, as he thought, from archaic Indian sources.

The story of the discovery of the source of the Nile by Speke in 1862, on an expedition that was supported by the Royal Geographical Society, is well known, but this minor part of the story is not. It begins somewhat earlier, in Calcutta at the end of the eighteenth century. There, a British Sanskrit scholar called Francis Wilford (1761?–1822) hired a pandit, that is, a traditionally trained “native” Sanskrit expert, a Brahmin, to collect for him all the references that the pandit could find to two locations outside of India.¹

The literature that Wilford identified as the best source for his research was a genre of Sanskrit text called the Purāṇas, a name which means “ancient lore.” The Purāṇas are lengthy, versified compendia of mythology, cosmology, and the related knowledge traditions of what we now define as the classical form of Hinduism. At the time, Wilford and most of his contemporaries in the Asiatic Society thought that the Purāṇas were very ancient records. The Asiatic Society was founded in Calcutta in 1784 by Sir William Jones “to enhance and further the cause of Oriental research,” and Wilford had been one of its earliest and most active members.

Wilford asked his pandit to go through the Purāṇas, and to collect from them any references to Egypt, and to a place called Śveta Dvīpa, the White Island. On

the basis of the evidence that his pandit collected, Wilford published two geographical articles in *Asiatick Researches*, the journal of the Asiatick Society, in 1799 and 1805. The earlier of the articles was about Egypt, which, Wilford concluded, had known settlements of Indians from very early periods, and the ancient geography of which was preserved in the Purāṇas. The later article was about the White Island which, Wilford concluded, was England with its white cliffs, and from which much of Indian civilization had itself long ago derived.²

Whatever the truth of Wilford's claims about historical antiquity and priority, his publications had real-world effects. His first essay found its way into Speke's hands at a crucial moment, in 1860, when he was on his final Nile expedition and had arrived in Zanzibar. He was about to begin the arduous trip inland, in an attempt to reach the northern end of Lake Victoria where he suspected the Nile began, when, at the British Consulate in Zanzibar, a Colonel Rigby put a copy of Wilford's article on Egypt into his hands. The article confirmed in Speke's mind the association of the Mountains of the Moon – that is, the terrain around the lakes in East Central Africa, which Speke thought must be the headwaters of the White Nile – with Egypt, the Land of the Moon, downstream. This was a fact, Speke was now convinced, that had been known long ago to the ancient Indians, though not to the Egyptians. Speke also thought that the Indians had somehow maintained connections with both the northern and southern ends of Lake Victoria for some time. Fortified with this confirmation by ancient Indian knowledge, Speke set off inland with his company.³

However, this ancient knowledge which so fortuitously confirmed Speke's hunch, was not just ill-conceived methodologically; it was also fraudulent. On the eve of the publication of his later article, on the White Island, Wilford had discovered that his pandit had not merely gone through the Purāṇic texts as he had been requested. Rather, he had created an anthology of altered or freshly-made Sanskrit versified passages, which demonstrated the points that Wilford had told the pandit he hoped to discover. When Wilford asked the pandit to show him the original sources that he had used to make his compilation, the pandit, no doubt still trying to be obliging as he understood it, generated those as well. He scratched out words in existing manuscripts and replaced them with the needed references to Egypt or England, or created extra pages for existing manuscripts of Purāṇas, or even created lengthy texts entirely anew.

Despite the discovery of this creative enhancement of his sources, Wilford did not retract his general claims.⁴ These, he thought, were based on correct premises, even if the principal evidence that demonstrated them had lost its value. So Wilford went ahead, prefacing his publication with an acknowledgment of the forgery. As a result, his reputation was ruined, as was the reputation of the Purāṇas as factual historical sources, as was for some time the reputation of Sanskrit studies as well. Even so, the fact is that Speke did indeed find the headwaters of the Nile, at Ripon Falls, on Lake Victoria. Moreover, when he published his book about the expedition in 1863, he invoked Wilford and the ancient Hindu knowledge of the Purāṇas that had aided his planning and supported his geographical conclusions.⁵

The uses of research

The story of the use of the Purāṇas to further a modern expedition sponsored by the Royal Geographical Society presents us with several problems. Wilford's sources were old texts, if not very ancient ones, and modified versions of them at that. They nevertheless supported the acquisition of modern, even imperial, geographical knowledge. A pragmatist's approach to testing the reliability of knowledge – through verifying what is true by appealing to what “works” – leaves us in a quandary here. This tale poses several other problems, too, for the philosophy of history. Here, however, suffice it to say that we should be cautious about our use of textual sources communicated in the cosmopolitan languages of ancient civilizations. There are dangers in attempting to strip-mine them for their geographical ore, if we seek only to extract and isolate this for contemporary use, while laying waste to the sources from which it is hewn.

To serve or endorse that sort of mining for positive facts is hardly the goal of the present volume, aimed as it is at the comparative study of geographical knowledge around the world before the modern period. Nor is the volume intended to reassert a perennial and essential difference between civilizations. It is, rather, a project of recovering and understanding the uses of geographical and ethnographical knowledge and conceptions by the peoples who produced them, in their own times and places. It seeks to recapture something of what those societies intended in writing their geographies. On the basis of that recapture, there could then ensue a very interesting, if conceptually challenging, project of comparison, and of global history.

In the case of ancient and early medieval India, it is appropriate to turn first to the Sanskrit texts, since they constitute the most extensively preserved and most culturally influential sources for intellectual history that are available. In these Sanskrit sources, especially the Purāṇas and other related works of the first millennium CE, we find that what pervades their account of the world and its people is the enactment of a cosmological and moral principle, that of *dharma*. Dharma constitutes, in this view of things, the logic whereby an ordered cosmology, geography, and ethnography interlock.

The dharma-centered worldview was not the only one current in India in the first millennium; it was not even the only view expressed in Sanskrit. Moreover, the realm of possible views changed later. Nevertheless, this was a hegemonic way of seeing the world, that is, culturally powerful beyond the range of its proponents' worldly sway, and influential long after the circumstances that brought it into being had vanished.

This chapter therefore has two parts. In the first, I present the pervasive and dominant “dharmic imaginary” of locations and peoples that took shape in the first millennium, and I attempt to describe its function. In the second, I consider alternatives, those in play in the first millennium and those that developed in the second. In these alternative geographies dissenting views were offered, or other

models of the nature of geography were used for other purposes, be they ritual, pastoral, mercenary, governmental, and more. My discussion will touch on some past treatments of Indian geography-writing, especially of the writings that are found in the Purāṇas and other Sanskrit sources. As we have seen, there are dangers in taking the Purāṇic accounts as transparently accessible, factual descriptions. This is where Wilford went astray. On the other hand, it would also be mistaken to conclude on that basis that there was no real-world geography in pre-modern India, another view that has been expressed more than once.

Part 1. The Dharmic Imaginary of the World and Its Peoples

Let us begin, then, with a description of the “dharma-eyed” view of the world: what it was like, what it meant for the description of the world’s terrain, and how that terrain was populated. Three points follow about this model as a form of internal ethnography, about the substantial differences between its regions, and about its history.

The Purāṇic earth

The canonical description of the earth, its continents and subcontinents, and its inhabitants, is found in most of the Purāṇas, the Sanskrit texts mentioned above. There are differences in detail between these descriptions, but far more striking is the extent to which they are in agreement.⁶ The Purāṇas were compiled in something like their modern form in the fifth to ninth centuries CE. Some of their material belongs to an earlier period, other material to a later one. The outline of the world’s geography agreed upon in most Purāṇas appears to date to the first centuries CE.⁷

The Purāṇic description of the earth forms a theoretically coherent part of a more expansive, total cosmology. Kim Plofker describes this cosmology on its largest scale in her chapter in this volume. In brief, the earth is a flat horizontal disk in a vertical, egg-shaped cosmos, in which there are five heavens above and seven underworlds below; the universe’s axial mountain, Meru, stands at the center of the earth’s disk.

Viewed from above, the disk of the earth is made up of seven concentric circular continents with seven intervening oceans. The central continent with Meru at its center is called the Jambūdvīpa, which is surrounded by the salt ocean. Each successive ring-shaped continent is twice as wide as the one inside it, with a correspondingly wider ocean. The oceans that intervene consist of liquids other than salt water. There are, in order, oceans of sugarcane juice, of wine, of ghee, of curds, of milk, and of fresh water.⁸ Around the outside of the ocean of fresh water there is a further stretch, a deserted, golden tract that extends to the outermost

ring of mountains at the edge of the cosmos. Each of the ring continents has a massive tree after which it is named. For the central island this is the Jambū or rose-apple tree, which grows on the slopes of one of the mountains that surround Meru.

The central continent, Jambūdīpa, is divided into nine subcontinents by tall ranges of mountains. There are three parallel ranges on both its northern and southern side, and a range separating the central space around Mount Meru from subcontinents both to the east and to the west. The southernmost range of mountains is the Himālaya. This divides the southernmost continent, Bhāratavarṣa or Bhārata, the Indian subcontinent, from the rest of the Jambūdīpa. The geographical description therefore does correspond roughly to the situation experienced locally in India, that is, of mountains to the north and seas on the other sides.

In turn, Bhārata is subdivided into nine broad strips of land that traverse the subcontinent from east to west. A great deal more detail is provided for the geography of Bhārata than for any other part of the world. There are lengthy lists of the mountains and hills of Bhārata, and even lengthier lists of the rivers. The distances concerned are vast. Jambūdīpa is said to be 100,000 yojanas in diameter, the Bhāratavarṣa to be 9,000 yojanas in extent, while the disk of the earth as a whole, including its seven continents, seven oceans, and what lies outside them, is fifty crores or 500,000,000 yojanas wide. The size of a yojana is somewhat variable, but probably something like eight to fifteen kilometers in length.⁹

Populating the terrain

The Purāṇic account includes a description of the populations of people distributed through the continents and subcontinents. This description has two distinctive features: an insistence on the organization of society into a hierarchy of four varṇas or classes, and a placement of peoples in janapadas, that is, countries or city-states. Both features put into geographical terms the logic of dharma, which in its intention is simultaneously descriptive and morally normative. More discussion of dharma will follow, but as a first approximation one could characterize its model of society as not only maintaining that there is a vast and diverse population of beings in the world with a place provided for every being, but also expecting that every being should remain in its place.

In this view, the arrangement of society into the four classes is desirable and proper. The classes are listed in their hierarchical order, beginning at the top: the Brāhmaṇas – priests and educators; the Rājanyas (or Kṣatriyas) – rulers, soldiers, and policemen; the Vaiśyas – merchants and farmers; and the Śūdras – servants. The goods of society, intellectual, political, and economic, are distributed among the three upper levels of society, whose status is inherited. In relation to the social realities of South Asia in any period, this would always have been a highly simplified and schematic model; there are reasons for that, about which more will be said later.

The accounts of the janapadas, or countries, place different and differentiable groups of people into the spaces created by the geography, and peoples belong to their countries in more than an elective or accidental way. In fact, little terminological distinction is made in these accounts between a country and the people who inhabit it. This is made clear by the regular use in the Purāṇic texts of names in the plural to refer to places. Thus for example the country of Niṣadha is most typically called *niṣadhāb*, that is, the Niṣadhan people.

The lists begin with the peoples who inhabit what the Purāṇic texts take to be the heartlands of “Aryan” India, the central, and most behaviorally perfected places in Bhārata. These are the places, furthermore, that are known from the more ancient and more religiously authoritative texts, the Vedas, as well as the places that are also the setting for the two Sanskrit epics, the Mahābhārata and the Rāmāyaṇa. Thus the lists begin with the Kurus and Pañcālas in the Ganges-Yamuna Doab. Then come the Śālvas, Jāṅgalas, Śūrasenas, Kosalas, Kāśis, and Videhas in the countries surrounding them, and so on. Then, moving “sunwise” in a larger circle, there is an account of the people inhabiting the east, south, west and north of Bhārata.

For more remote places – that is, the parts of the central continent other than Bhārata – and the other continents, the distribution of peoples is less detailed and less localized, though the rest of Jambūdvīpa receives noticeably more detailed description than do the ring continents. For all of these places, we hear about the mountains that divide the continents and subcontinents into countries, about the rivers that run through those countries, and about the peoples who inhabit them. All of these places are further differentiated by the principal god who is worshipped there; the Purāṇas tell us in what form and under what name. For the regions surrounding Meru there are accounts of lakes and pleasure gardens. The people who inhabit the other continents are identified by their origin from a progenitor, a primordial sage or legendary figure of the past.

The other continents share the social structure of Bhārata in having four classes, though these classes have different names. The same does not apply to the other parts of Jambūdvīpa, where many peoples are listed, but their division into four classes is not. On the outermost ring continent, the island called Puṣkara, there is no need for social classes or social structure. A few texts say that Puṣkara is inhabited only by Brahmins; in any case everyone living there looks just the same. Life is idyllic, although that continent has no mountains, no rivers, no eponymous tree, and no rain.

Spatial principles

It should be clear even from this short summary of the Purāṇic account of the world that it assumes underlying differences between various lands, regions and continents. Indeed, there is more than mere difference here; there are hierarchical principles at work. In a word, they are principles of dharma, spatially enacted.

Let us consider four principles. There is, first of all, a binary distinction made between Bhāratavarṣa and everywhere else. There is also a linear gradient: the further north one goes, the better things are. At the same time, there is a concentric gradient, according to which the more central one is, the better. Finally there is a principle of mirroring, so that zones at opposite ends of a scale exist in a paired relationship that ignores the spaces between. In order to see these principles at work, let us consider, for example, what the Purāṇic accounts say about the lifespan of creatures, which depends on where in the world they live.

Lifespan

According to these accounts, people in Bhārata live for as long as 4,000 years when times are good, but less than 100 years when they are not. In the subcontinents that lie to the north of Bhārata, on the other hand, there is no such variation with the times. Human beings there always live longer than they do in Bhārata, and the further north they live, the longer they live. The span of life in the region lying just to the north, Kimpuruṣa, lasts for 10,000 years, while in Uttarakuru, the northernmost region, it lasts for 14,500 years. One variation to this south-to-north principle is that those who live in the central region, Ilāvṛta, live for 13,000 years, that is, for nearly as long as those who live in Uttarakuru.¹⁰ On all of the ring continents except for the outermost one, the human lifespan is 5,000 years, always far longer than in Bhārata even at its best, but shorter than in any other region on the central continent. On the outermost continent, Puṣkara, the lifespan is 10,000 years; that is, it is better than on the other ring continents, but only as good as the least of the central continent's regions (outside Bhārata). These long lives are passed in varying degrees of pleasure, youth, and health. There is no illness, infirmity, or old age, except in Bhārata. Life in Bhārata, therefore, is shorter than it is elsewhere, and can get to be nasty and brutish, since Bhārata undergoes the cycle of yugas.

Yugas

In Bhārata human life passes through better and worse times, in a way that it does not in the other parts of the world. Everything about life in Bhārata goes through this change, which takes place in a declining cycle that moves through four ages, called yugas, from best to worst, and decreasing in a stepwise fashion. Dharma itself, the texts tell us, declines by a quarter in each age from full strength to quarter strength. Thus in the best age or Kṛtayuga, when people live for 4,000 years, life is very much as it always is on the other continents. The gods are directly accessible to humans, who behave flawlessly, ever truthful and virtuous. In the second age, nearly everyone is still well-behaved, virtuous and pious, though now there is a need for the structures of government, explicit moral codes and

religious practices to guide people in their lives. By the third age things have declined again, so that while many do follow the principles established in the previous age, there are also many irreligious and impious people, who misbehave and are driven by motives of profit and greed. In the fourth age, when the life span is much reduced (less even than 100 years in the worst parts of this period), only a very few people are pious and well-behaved, tell the truth, and maintain their inherited duties in the world. Rulers would be kept busy attempting to maintain the proper order of things, if they could be relied on to do so; but rulers have themselves declined in quality during this bleak period called the Kaliyuga – which is, not coincidentally, the one in which we currently find ourselves.

That Bhāratavarṣa is different from everywhere else in the world is explicitly recognized in the Purāṇas. Bhārata is a karmabhūmi, a place of action, while every other place is a bhogabhūmi, a place of enjoyment. It is only in Bhārata that ethical and religious actions can result in the moral and spiritual development necessary for perfect freedom (mokṣa), the long-term goal of life. Life in Bhārata is shorter and more difficult, but more significant as a result. Everywhere else there are only lands of enjoyment, with insufficient hardship to engender the desire for such freedom. People are born there to enjoy the results of the good karma they performed in Bhārata in a past life; but in living there they spend down their capital of merit, as it were. In this respect the other places are like the heavenly worlds. There also no progress is made toward the ultimate goal, things being too enjoyable as they are.

The other principles are not explicitly stated in the same way, and they are not always in conformity with each other. Complicating the south to north principle, for example, is the concentric one. Life in Ilāvṛta, the central continent, is the longest of all, with the exception of Uttarakuru at the northernmost edge of Bhārata. Similarly, the eastern and western subcontinents afford lives that are shorter than any other (non-Bhārata) subcontinents on Jambūdvīpa, while the ring continents enable lifespans that are shorter again. The reason that the outermost ring continent has a longer lifespan and other peculiar features is due to the least powerful principle, that of mirror images at the extremes. By the same token the northernmost subcontinent on Jambūdvīpa, the “heaven on earth” among the places in the world, is called the Uttarakuru or subcontinent of the northern Kurus. In other words, it is the northern counterpart of the land of the Kurus, the people who prevail in Bhārata, at least in the better times.

Many of these spatial principles and their contradictions are enacted on a more local scale as well, the behavior and quality of the inhabitants of the northern parts of Bhārata being better or more in conformity with dharma than those of the southern. Indeed, most Purāṇic accounts mention an island in the salt sea, to the south of Bhārata, on which dwell a population of humans who live even shorter and more brutish lives than the inhabitants of Bhārata to their north. They are dark-coloured, and likened to apes because of the way that they find their diet of roots and fruits. On the other hand, working against this linear principle is the concentric one, so that it is the central region inhabited by the Kurus and Pañcālas, and not the northernmost, that is the best of all in Bhāratavarṣa.

What dharma is

So far I have omitted to offer a definitive explanation of *dharma*, despite repeated reference to this crucial term. There is some excuse for such a lapse, given that the definition and translation of the term have bedevilled scholars for the past two centuries. Translations offered in the past include such terms as “rule, duty, law, world law, natural law, religion, order, custom, obligation, right,” and simply “good.”¹¹ This is an assortment of terms that do not belong together in either scope or conceptual context. As a result, in the specialist literature of Indian literary and religious studies, to leave *dharma* untranslated typically provokes no comment.

There are reasons why scholars are apparently at such a loss. Some are their own fault; others emerge from the usage of *dharma* in the texts, and from the role that *dharma* has played in Indian intellectual history. To some extent there has been a misunderstanding in the scholarly approach to the term, amounting to a category error, even if a reasonable one. *Dharma*, I think, is to be understood not so much as a discrete concept, expressible as a set of propositions or assertions, but rather as a framework of background knowledge, or a set of intellectual preconditions that establishes the conditions of possibility under which a practice can be judged to be dharmic or not, or an assertion about *dharma* valid or not.¹²

It is for this reason that in the articulations of *dharma* in the Sanskrit texts one finds paradoxical elements: *dharma* as unitary and singular, but also *dharma*s as plural and context-sensitive; *dharma* as normative and law-like in its function, but also *dharma*s as pluralist and accommodating to variety and difference; *dharma* as knowable solely from sacred text, but also *dharma*s as determined principally by the customary behavior of actual people; and so on. *Dharma*, then, constitutes the conceptual idiom in which arguments about society and its arrangements could be carried out.

Another reason for the paradoxical way in which *dharma* is articulated arises from the (especially political) uses for which the teachings of *dharma* were intended in the world. For embedded in the *dharma*-centered view is a distinctive vision of political power and its relationship to social order. All *dharma* texts assert that the king is to maintain the dharmic social order in its strict divisions; but the king does not design this order or revise it, legislate it or interpret it; those are the duties of Brahmins (Kaviraj 2005).

What is more, since the *dharma* model was intended to have effects in the real social world, there was an inevitable impingement on it of the complex social reality of ancient and medieval South Asia, a reality not especially in keeping with its very schematic, almost geometrical vision. One can see the fact of paradoxical, varying assertions about multiple *dharma*s as in part an outcome of this impingement, which called for an accommodation and incorporation of reality, in its own peculiar way.

For these reasons it may be difficult to provide a satisfying account of *dharma* as a whole as a discrete concept. Nevertheless, as we have seen, there are aspects

of the dharma-centered view of the world that can be clearly discerned in their spatial enactment. Here there are three further points to be made.

On being an Aryan

The key to the first point is the distinction that the Purāṇas make between Bhārata and every other place in the world, that is, between home as the land of deeds (karmabhūmi) and everywhere else as lands of enjoyment (bhogabhūmi). That life in Bhārata is more difficult but more meaningful puts the understanding of dharma's being in the world into clearly spatial terms. This is because the Purāṇic geography, and therefore ethnography, of the world was more about hypothesizing a collective "us" than it was about generating a carefully observed description of the world beyond the edges of Bhārata. The best articulation of this point remains that of Wilhelm Halbfass, who argued that dharma is "the main concept of traditional Hindu xenology, as the standard used to demarcate the Aryan from the mleccha."¹³ He goes on to say that

[i]t is *dharmā* which distinguishes the castes from one another and draws a line between the "Aryan" and the "non-Aryan"; *dharmā* is the principle behind the hierarchical ordering of society (at whose peak stands the Brahmin), the concentric arrangement around a center, the increasing distancing or "alienation," which implies that those who "have less dharma," the *dharmabīna*, are "farther away." . . . He who is born as an Aryan, and in particular as a Brahmin, has thus achieved a "dharmic" potential which is essentially inaccessible to others . . . The "non-Aryans" are not only – not even primarily – distinguished from the "Aryans" because they factually fail to "hold *dharmā* in honor," but rather because they have no right or mandate to honor it. Similarly they cannot violate it in the same manner as Aryans can, for they stand outside the sphere of dharmically relevant action.¹⁴

If Aryans had a special claim to be fit for the demands of dharma, they therefore also had a special claim of access to the Sanskrit language. In approximately the same period that the Purāṇas were being composed, Brahmin ideologues of the old Vedic tradition developed an argument that instruction in dharma, as in all "sciences," could be communicated only in Sanskrit.¹⁵ Sanskrit was relevant in this sense only for Aryans. Since Aryans belonged to one place in the world, according to the dharma-centred view, Sanskrit too had a spatial logic. There was a delimited zone, that is, within which Sanskrit could be fully meaningful. As Sheldon Pollock puts it, a boundary was posited by the Sanskrit cosmopolis for the domain of its own culture and power. It was only within this domain that Sanskrit had its meaning and purpose (Pollock 2003: 102–21). In turn the principal Sanskrit literature of the period articulated the "spatial imaginary." The delineation of a bounded cultural space comprising effectively the whole world that matters is found frequently in the narratives of the great Sanskrit epics – the Mahābhārata and the Rāmāyaṇa – and in the Purāṇas, in the form of accounts of campaigns of

universal conquest, of wanderings in exile, and of comprehensive tours of pilgrimage (Pollock 2006: 223–58). The narrative space thus delineated coincides with the Bhārata that is featured in the “theoretical” Purāṇic geographies, with the land of the Aryans (Āryāvarta) at its centre.

Regions, peoples, substances

The second point is that, even with the strong dichotomy that it maintains between home and elsewhere, and between Aryans and non-Aryans, Purāṇic geography nevertheless divides the earth into regions that have distinctive qualities and features. These are arranged, as we have seen, into an orderly scheme along linear and concentric gradients. The people, furthermore, have a close relationship with the land that they inhabit. In the simplest terms, people are where they live. As is the land, so will the people be.

In its theoretical literature dharma is conceptualized as a substance, as Paul Hacker has shown. The texts assert that there is quantifiably more or less of it in different ages and in different places. People change, in “moral, ritual, legal, and customary” terms due to their proximity to particular, embodied states of this substantial dharma (Hacker 2006: 487–91). In turn, the behavior of people can alter the quality of the land where they live, over many generations. A person who correctly follows the dharmas appropriate to him becomes permeated with dharma, and can in conjunction with others rectify and purify a region through his contact with it, or he can bring about the reverse effect through falling away from proper conduct (ācāra).

The model for this relationship of place and people is Āryāvarta, the home ground of the Aryan, and the central and most highly valued region of Bhārata. There is general agreement among the textual authorities that the central region serves as the source for knowing what dharmic behavior is, for any Aryan living anywhere. To be more specific, it is the behavior of the śiṣṭas, the properly educated, living in the central region, that is the positive empirical source for the knowledge of proper behavior.¹⁶

The delineation of the geographical limits of this center therefore occupies the attention of the authors of treatises on dharma. One of the most authoritative, the Manusmṛti or treatise of the lawgiver Manu, compiled in the first centuries CE (Olivelle 2005a), offers a progression of ways of mapping the central region, in spaces of expanding size, where Āryāvarta is the most inclusive, extending from the Himālayas in the north to the Vindhya mountains in the south, and from what is now called the Arabian Sea in the west to the Bay of Bengal in the east.¹⁷ Manu also defines it as an ecological zone, for he says that it consists of the entire space in which the black antelope (kṛṣṇamṛga) roams.¹⁸ This antelope (*Antelope cervicapra*) was associated with Aryan culture from very early on, almost totemistically so. Already in the Vedas it is said that the skin of the animal should be kept in contact with the person of a “twice-born” Aryan during ritual performances.

Thus Āryāvarta is the region where the “twice-born” should live. The land furthers the observance of good behavior, as does contact with the śiṣṭas. In turn the sanctity of the residents over many generations has purified the region.

A question of origins

The third point is that the dharma-centered way of seeing the world had a history. The dharmic imagination was not India’s perennial structural principle or civilizational essence. It was a development in a cultural moment, even if it long outlived that moment.

The Purāṇic cosmology-geography appeared as a complete and unified vision that was widely and (nearly) uniformly repeated in a great deal of Sanskrit literature of the first half of the first millennium. It is not entirely clear where it came from, however. It did not develop gradually from what went before. There are antecedents for some parts of it in the older, Vedic literature, but not for the systematic conception of a world-system of dharma, nor for the sustained level of detail, in names of places and peoples, or in quantified measurement.

To date, there has not been much scholarly study of this problem of beginnings.¹⁹ Those beginnings must be linked to the history of the articulation of the dharma ideal itself, which underwent a transformation in the last two centuries BCE. Even the usage of the term *dharmā* in Sanskrit texts in its standard moral-cosmological sense appears only at that time. Olivelle (2004, 2005b) argues that this usage was developed in response to the support that was accorded to the Buddhist teachings by the emperor Aśoka in the middle of the third century BCE. In response to the “heterodox” challenge, older, more disparate Brahminical traditions of practice and belief were systematized and articulated as a vision of moral and political order, with newly ascribed textual and metaphysical foundations.

The development of the cosmology and geography of dharma is related to developments in the Buddhist and Jaina religious movements. In the textual traditions of both there are cosmologies and geographies that are counterparts to the dharmic version, though informed by different ideas, as will emerge below. From what little can be determined about their age, their full versions, with ring continents and multiple heavens, must have emerged in the same period that the Purāṇic version did, and in conversation with them.

Thus the dharma-centred cosmology should not be seen as an essentially Indian worldview or “mindset.” It was produced in response to competing models, and was one choice among several. The Purāṇic cosmological texts were made to assert a particular (and in principle Vedic) vision of the natural order of things, and to establish it in a particular space.

The earthly purpose of the texts was to articulate for rulers the order that they were to protect but which they were not free to revise. This order offered a particular way of reconciling one and many, according to a set of distinctive principles: royal power constrained by an impersonal principle of lawfulness; the division

of the goods of life between social groups; and their mutual interdependence in a hierarchy constituted by features of human character that were conditioned by inherent essences and potentials for action. The king was to foster the beneficial relationship between the virtues that the best sort of people embodied and the essences that his land contained.²⁰

Geographical reality

Thus the Purāṇas present a vast and detailed geography, of an enormous earth filled with continents and peoples, some located millions of kilometers away from Bhārata. Of course, it is difficult to coordinate this account with the geographical knowledge known to us from other sources, either past or present. Moreover there is not much description of the peoples on the borders of Bhārata, of “foreigners” or strangers, in anthropologically useful terms; little attempt is made to understand or explain their behavior, customs, speech, or culture.

Often we must conclude that the places and peoples described, especially those on the outer continents, are imaginary. Or rather, they are largely imaginary, but not entirely so. The purposes of the dharma-centered description have outweighed other sorts of geographical concerns, but have not erased them. We do find the coincidence of the names of places or of peoples with something known from another historical source. Sometimes they are positioned more or less where we would expect them to be, other times not. Thus there is mention of Śakas (Scythians), Daradas (Dards), Hūnas (Huns), Cīnas (Mongols), Pārasīkas (Persians), Pahlavas and so on, although sometimes they are placed to the south of Bhārata, in other cases on the northern mountain boundaries.²¹ In a similar way, the lists of the mountain ranges of Bhārata and the rivers that flow from them put mountains confirmed by geographical knowledge next to mountains known only from literature, and some are not placed quite where one expects them to be (Kirkfeld 1920: 61–70). As we have seen, the generation of what we would consider to be practical, geographical knowledge was not a function of the Purāṇic geographies.

The problem of absence

It is true that in a geography today we do not expect to see the degree of imaginative activity, in the projection of an ideological scheme, that we encounter in the Purāṇic texts. However, this need not lead us to conclude that pre-modern Indians had no geography. In that event the problem of absence would arise, which in turn would require an explanation; and such a requirement has distracted Indologists from more interesting questions.

That the study of the Purāṇas could be useful for writing the history of India has only been realized gradually. The work of Smith, Pargiter and others in the early twentieth century developed a way to make use of the Purāṇic records as

sources for historiography,²² and more recent serious historians such as Sircar used them in attempting to reconstruct the human geography of early India, although they had to use them against themselves.²³

In the earliest days of modern scholarship, however, there were many who distrusted the Purāṇas: for the value of their content, for the reliability of what they said, and for why they said it. S. C. Datta in 1855 characterized the Purāṇas as having “woven out a system of mythology which has, perhaps, nowhere been surpassed either in extent, richness, or obscenity.” He went on to claim that “of all false religions, that of the Purans is perhaps the most monstrous in its absurdities.”²⁴ The fiasco of Francis Wilford’s geographical investigations certainly did not help.

The early criticism of the Purāṇas was often that they had been written in bad faith, by a corrupt or power-hungry priesthood; Brahmins became the specters of an anti-clericalism imported from northern Europe. V. V. Iyer, for example, suggested in the 1920s that “some of the major Puranas appear to have been re-written with the set purpose of promoting ignorance and superstition: of enslaving the minds of the people: of preventing them from thinking for themselves” (Iyer 1922–3: 703–4). Yet in these criticisms there was modernism and reformism at work. There was every expectation that Indians were capable of better.²⁵ On that view, it was enough to say that what was absent in the past could be supplied in the present.

On the other hand, the characterization of India as a place without geography called up a culturalist explanation, namely that the Purāṇic account – with all its fanciful, imaginary components (the “seas of treacle and seas of butter” in the famous words of Macaulay) – was the outgrowth of a languid, world-denying philosophy, or of a cultural introversion, or of fanciful, pre-rational thought. For all his understanding and sensitivity, even Halbfass drifts in the direction of positing the absence of geography, and then explaining it as due to a cultural introversion that is essential to Indic ideation.²⁶

Part 2. Alternatives

From reading the Purāṇic literature alone, one would never get the sense of how much trade, exchange of ideas, and contact there had been with regions in all directions from the central Aryan heartland, across oceans and over mountains, from the second century BCE onwards. But what is articulated in the Purāṇas does not exhaust the geographical and ethnographic knowledge that circulated in pre-modern India. Against the authoritative Brahminical sort of material that has been discussed one must juxtapose other forms of knowledge – in Sanskrit and in other languages, both cosmopolitan and vernacular, some developed in the second millennium CE. This material organized spatial consciousness in various ways other than the schematic and cosmological – by routes, by landmarks, or by measured area – and it was developed for various purposes, especially for travel.

To date, this material has been neither compiled nor systematically studied. Generally speaking, it has been left out of discussions of the “problem of absence” of geography-writing in India, in part because it does not collectively constitute a genre or discipline of knowledge. What is especially noteworthy for its omission is the geographical knowledge developed in India by residents who wrote in Persian or Arabic or Urdu, and who happened to be Muslims. It has been a failing of Indology in the past to make the Sanskrit world of ideas overwhelmingly representative of pre-modern India, because Sanskrit was a culturally dominant language in the first millennium and the medium for many flourishing knowledge systems. In order to move away from a blinkered sort of civilizational essentialism, and simply in order to be more comprehensive, there are half a dozen points that can and should be made even at this stage of our knowledge.

Adversarial worldviews

As we have seen, the Purāṇic dharma-centered view of the world was not the only cosmology available in the first millennium. The main competitors were the Buddhists. Both they and the Jainas had fully articulated world-systems, which included extensive geographies. These were developed more or less at the same time as the Brahminical one, and in conversation with it, and were intended to subvert or invert certain Brahminical doctrines, especially those of a substantial, essential and hereditary dharma. The Buddhists offered instead a world based on causal contingency and social convention. The clearest differences in the Buddhist world-system are found in the descriptions of places away from the earth, where there are thousands of heavens, even beyond counting, and the earthly plane is left unsupported by anything but the wind. The known world is decentered as well, and made an island floating on the sea far to the south of Meru. The ring continents are replaced by ring walls, all of which lie between Meru and Jambūdvīpa.²⁷

Correct locations

But there were other modes of apprehending reality than the imaginative or meditative, even in Sanskrit, and even in the first millennium. For their calendrical science, Brahmin astronomers posited a spherical earth of a correct size.²⁸ In order to establish longitude and latitude reliably, they made Meru the north pole and Laṅkā the theoretical intersection point of the equator with the prime meridian, which ran through the city of Ujjain. They set down mathematically demonstrable distances between the equator and Ujjain and between Ujjain and the Himalayas. They developed mathematical geography and generated tables that provided the latitudes and longitudes of towns and cities around India – often expressed as gnomon shadows, and as time differences or distances to the prime meridian (Pingree 1996).

Lines not areas

Another spatial “texture” that one encounters widely is one of routes and sites. Before the modern period a much larger proportion of the population of the Indian subcontinent was on the move, at least at certain times of year: pilgrims, traders, herders, spies, messengers, laborers, military men for hire during the non-cultivating season, thieves, opportunists, ascetics, and other wanderers.²⁹ For people on the move, the geographical knowledge of interest was that of routes rather than of boundaries or of longitudes and latitudes.

For pilgrims, there were descriptions of routes to faraway sites of continent-wide importance. Some descriptions of this type are to be found already in the Sanskrit epics. Pilgrimage material grew in the Purāṇas. It developed into one of the most productive features of the later layers of that genre. What were built up especially were glorifications of particular sites (sthala-māhātmyas), which prescribed many days of veneration to be carried out while moving over a largish area. In each of these texts there were descriptions of numerous temples and of their mutual positions, and of the distances between them, measured often by the number of nights of travel required.³⁰

The layers of the Purāṇas that were added later tended to accumulate much more literature focused on regions. For example, the Sahyādrīkhaṇḍa, a text that is said to belong to the old Skanda Purāṇa, was circulated separately, and was mostly a work of the fourteenth century and later. It contains descriptions of the towns, rivers, and peoples of the Konkan, on the west coast of India (from what is now Bombay to Goa), as well as temples, kingdoms, and local history. The material is quite detailed, if also tendentious. In the Sahyādrīkhaṇḍa, as in other similar material, it is quite clear that the authors communicated “real-world” geographical knowledge; they knew just where places were, how far and in which direction, and what sort of people lived there (Gerson da Cunha 1877; Deshpande forthcoming).

Regional and vernacular

Indeed in the second millennium in South Asia there was a growing interest in developing an aesthetics of the regional, for which the vernacular languages came to the forefront of literary attention. Even literary work in Sanskrit changed and became more concerned with evoking an aesthetics of place (Pollock 1998; 2006: 283–436). This regional sense was captured, among other ways, in new sorts of texts. Especially noteworthy are the airborne messenger texts, such as the Hamsasandēśa, composed in the fourteenth century. In this poem a goose flying south from central India is instructed to take a message to Laṅkā. The goose is told that it will look down on a distinctly regional picture, on the kingdoms of South India – those of the Pallavas, the Colas, and the Pāṇḍyas, on the landscapes as depicted in old Tamil poetry, and on the great Vaiṣṇava temples of the south. The goose will also see a broad spectrum of southern society: peasant women, pearl fishers, thieves, yogis, warriors, and gods.³¹

A similar sort of airborne text, more carefully observed, more realistic and satirical, is the *Viśvaguṇādarśacampū*, a poem that is a “Mirror of All of the Qualities,” both good and bad. In this work, two semi-divine creatures, one a cynic, the other an optimist, take turns while flying overhead to offer descriptions, alternately in satirical and eulogistic modes, of the regional kingdoms and locales of the Deccan plateau and places to the south (Porcher 1972; Rao, Shulman and Subrahmanyam 1992: 1–12). The vernacular literature comprises many other works about particular places that seek to convey the feeling of a region, and in which the world-system of dharma is very far from the centre of attention.³²

States, scribes and square footage

Other forms of geographical knowledge were developed to serve the needs of states. The growth of scribal service elites in early modern India has been studied by Bayly (1996) and by Rao, Shulman and Subrahmanyam (2003). These literati were developers of continent-spanning networks of information, including geographic information, in hard-headed political terms. It was these specialists who also developed new genres of historical writing, in which practical information about places and peoples was compiled.

The scribal elites in service to rulers were the ones who developed the techniques necessary to constitute geographical knowledge in another mode, that of measured areas of land. Indian rulers who gave land usually only granted the right to collect revenue, specifying the area under cultivation where this revenue could be collected. When the political regime changed, “owners” of these rights would then seek their re-confirmation from the new rulers. In turn, state officers attempted to keep track of such grants, and to develop lists of lands and of the amounts of revenue that might be expected from them. Most of the bureaucratic infrastructure of early Indian states is lost to us, but from the past five centuries or so there are some surviving repositories of records of these transactions. From the sixteenth century onward, the Mughal state compiled information about land and revenue along with other forms of knowledge in order to produce compendious works of state geography. These were surveys of lands, peoples, places, histories, and their material possibilities, and they were in many ways the predecessors of the later British gazetteers. The *Ain-i-Akbari* or “Institutes of Akbar” by Abu’l Fazl, completed in the late sixteenth century for the Mughal emperor Akbar, is the most celebrated and comprehensive of them.

Knowledge systems in Arabic and Persian

There were rulers of kingdoms in South Asia who were Muslims (at least officially) from the tenth century, and rulers of large states from the twelfth. The intellectuals who served these rulers – some immigrants to India, others Muslims by conversion – brought to the courts the knowledge systems communicated in Arabic

and Persian, which included political theory and statecraft, literature and literary theory, philology, history, and geography. Many of the Arabic knowledge systems had forms of geographical knowledge, including world histories, travelogues, and books of marvels (*‘ajāib*). Adam Silverstein’s contribution to the present volume explains this knowledge. Here it need only be observed that India was a topic of substantial interest in these genres of writing, and that some of the most influential Arabic geographical texts were composed in South Asia, broadly conceived.

The Arabic and Persian works usually refer to the region as *Hind*. It should be noted that this is a geographical conception not coterminous with Āryāvarta or Bhārata as described above, or for that matter with “India” or “South Asia.” *Hind* can refer either to a smaller area, comprising only Panjab and parts of the northern plains, or on the other hand to a larger one, comprising much of what borders the Indian Ocean, that is, “the Indies” more or less.

The most thorough and influential of the works about *Hind* is by Al-Bīrūnī, produced in the eleventh century in the court of Mahmūd in Ghāznī in what is now Afghanistan.³³ The *Kitāb al Hind*, as it is usually called, is among other things a geography of knowledge, and provides especially detailed studies of the Sanskrit exact sciences. Al-Bīrūnī also describes Indian religions as revealed by the *Purāṇas*, and sometimes renders judgments not dissimilar to those articulated by the early European scholars of those texts.

Delhi became a center of Islamic learning and science after the sack of Baghdad in 1258, when scholars from central and western Asia came to India fleeing the Mongols. The court of Ala-ud-din Khalji and then of the Tughluqs sponsored authors of histories, travelogues, and texts of wonders in Arabic and Persian.

Conclusion

The work of the geographers writing in Arabic and Persian casts in greater relief the accomplishment of the authors of the Sanskrit *Purāṇas*. The conceptualization of peoples and their spatial arrangements that is represented there required considerable intellectual and cultural effort. “India” as we have long thought about it in Indian studies, conceived as a unified and discrete area of culture, did not exist prior to this effort.

The northwest of India, including what is now Pakistan and the Panjab, extending all the way to where Delhi is today, has a history of close connection with the area farther north and west, with what is now Afghanistan, regions of eastern Iran, and Central Asia. Since the first millennium BCE there have been kingdoms and empires that extended over this area and introduced tendencies to cultural unification. In a similar way, from at least the beginning of the first millennium CE the peoples living on the coast of the Indian subcontinent were in active contact, for trade and exchange, with other coastal cities and states, on the Arabian sea and in the Indian Ocean to the east.

It was the “spatial imaginary” of the dharma-centered view of the world that summoned Bhārata and its residents the Aryans into being, well before modern nationalists would seek to re-deploy this cultural material for new ends. The history of writing geography in South Asia must therefore include more than data from the ancient sources. It must also take into account the uses and purposes of the production of geographic and ethnographic knowledge. Francis Wilford may have been wrong in his method and assumptions, but he was right to think that India was in contact with other parts of the world even in the ancient period, and his example teaches us not to exclude our own situation as students when exploring the subject today.

Acknowledgments

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Notes

- 1 The pandit, whom Wilford did not name except to accuse, was called Vidyānanda and was employed in the Benares Sanskrit College. For bibliography on this affair, see Rocher 1986: 49–51; Leask 2000; Dodson 2007: 57–8.
- 2 The former of Wilford’s interesting findings – about Egypt and its settlement by Indians – lives on through Internet sites maintained by Indian chauvinists, and as a published historical source that shows the incomparable antiquity of India, and its world-historical importance as the source of all civilizations in the world. For reasons not explained, the other finding – about England as a source of India’s civilization – is not mentioned in the same way.
- 3 Speke got his start as an explorer during his days of service in the Indian Army, just as his companion explorer and rival, Richard F. Burton (1821–90) had done. For Speke’s career, see Bridges 2004; for Burton’s career, Thompson 2004.
- 4 Note that we only know from Wilford that the pandit was to blame.
- 5 Speke 1863: 13. However, a later edition (1864) of Speke’s work omitted this reference to Wilford.
- 6 Kirfel 1920 remains the most reliable and thorough account of the Purāṇic cosmology and geography; I depend on his work in what follows. Although there are significant variations in the Purāṇic accounts, it is not feasible to describe these here. I focus on Kirfel’s first group of Purāṇic texts, which are by far the most numerous and mostly the oldest of his sources.
- 7 All dates in what follows are CE.
- 8 Śvetā Dvīpā, the island that Wilford thought might be England, is in at least one old Purāṇic account located in the ocean of milk (Kirfel 1920: 121).
- 9 On the problems entailed by these vast sizes for astronomers and geometers alike, see Plofker, this vol.

- 10 In order, Kimpuruṣa 10,000; Harivarṣa 11,000; Ilāvṛta 13,000; Bhadrāsva (the subcontinent to the east) 10,000; Ketumāla (the subcontinent to the west) 10,000; Rāmyaka 11,500; Hiraṇmaya 12,500; Uttarakuru 14,500. Observe that the numbers vary in different Purāṇas (as noted by Kirfel), but that the relation between the numbers in the varying accounts remains largely the same.
- 11 For a survey of the modern scholarly *aporia* in coping with *dharma* as a term or concept, see Halbfass 1988: 311–14.
- 12 Halbfass (1988: 310–13) is the most reliable on this point. Another useful essay is Hacker 2006, as are the essays collected in the special issue on dharma of the *Journal of Indian Philosophy* 32 (2004).
- 13 Halbfass 1988: 311. The term *ārya* means “pure” or “noble”; it refers to those “who speak Sanskrit and follow the Vedic norms of the ‘order of castes and stages of life’ (varṇāśramadharmā),” and who live in Bhārata, especially the central region, on which more below. The term *mlecchā* refers to “the foreigner, the outsider who is not part of the ritual, religious, social and linguistic community of the Aryans.” Halbfass 1988: 175.
- 14 Halbfass 1988: 331; for the complete version of the argument, see 172–96.
- 15 On Kumāriḷa Bhaṭṭa’s argument and its xenological dimension, see Halbfass 1988: 183–85. See also Pollock 2006: 55–6; 2007.
- 16 Manusmṛti 2.17–24. On dharma as “radically empirical” and the role of the śiṣṭas, see Hacker 2006: 485–6.
- 17 Manusmṛti 2.17–24. The three smaller zones, given in order of increasing size, are: (1) Brahmāvarta or “land of the Veda,” between the Sarasvatī and the Dṛṣadvatī rivers, i.e., the central part of the janapada of Kurukṣetra; (2) the Brahmarṣideśa or “land of Vedic sages,” comprising the four contiguous janapadas of Kurukṣetra, Pañcāla (further down the Ganges-Yamunā rivers), Matsya and Śūrasena (both to the south of the Yamunā river); (3) the Madhyadeśa or “middle region” between the Himālaya in the north and the Vindhya mountains in the south, and between the Sarasvatī river in the west and Prayāga or modern Allahabad in the east.
- 18 Manusmṛti 2.23. In this verse Manu also says that everywhere beyond that space is the “land of barbarians (mlecchā).” Indeed *āvarta*, the second term of the compound *ārya-āvarta*, literally means something like “turning” or “vortex,” and here must mean a place within which to roam.
- 19 It is perhaps worth noting that the source need not necessarily be an indigenous substrate culture, since the ancient Mesopotamian cosmologies included multiple heavenly worlds; the ancient Iranian cosmologies had seas of both salt and sweet water; and the early Greek cosmologies involved circular continents.
- 20 A promising attempt at reconstructing one particular earthly use of dharmic geography has been offered in a recent study of the Viṣṇudharmottara Purāṇa (Inden 2000). Inden argues that this text was the product of a “complex” or collective author working in the later seventh and eighth centuries in a close interaction with the kings of Kashmir, especially Lalitāditya (c. 725–60). He proposes that in the Viṣṇudharmottara Purāṇa the Purāṇic world cosmology and geography have been reworked, together with other material from theistic and ritual movements, in order to establish Kashmir as the middle kingdom of the world, a new Āryāvarta, and to assert imperial sway over a large swathe of Bhārata. The Viṣṇudharmottara also explains carefully how to put this repositioning into practice through temple construction and royal ritual which features geographical and cosmological symbolism.

- 21 The Mahābhārata puts the Cīnas, Hūnas, Daradas, and Kāsmīras in the south, for example. For a compilation of lists, see Kirfel 1920: 70–80.
- 22 Rocher 1986: 117–23 for a more detailed survey and bibliography. Admittedly, there is a tendency in this approach to mine the texts for historical facts in the manner cautioned against above.
- 23 Sircar 1971. Further bibliography in Rocher 1986: 131.
- 24 *Calcutta Review* 24:48 (1855) 190, 223, cited in Rocher 1986: 8.
- 25 Rocher 1986: 9 also cites Goldstücker 1859–63: “When, by priestcraft and ignorance, a nation has lost itself so far as to look upon writings like these as divinely inspired, there is but one conclusion to be drawn: it has arrived at the turning-point of its destinies.”
- 26 Halbfass 1988: 196: “The lack of xenological interest and initiative in traditional Hinduism is obviously connected with its lack of historical interest and motivation. The historical literature of other countries is often linked with an affirmation and documentation of the own identity vis-à-vis foreign powers and cultures. As we have seen this plays hardly any role in traditional Hindu self-understanding . . . [W]e may say that in its history and through periods of great upheaval Indian thought has become increasing traditionalist, introverted, “static.” In its own way, this apparent withdrawal from the challenges of history and the foreign world, this xenological passivity and growing introversion may be as significant for the hermeneutical situation of the encounter and ‘dialogue’ with Europe as the Western restlessness and aggressiveness.”
- 27 Kloetzli 1983. See also Schubring 1935; Kirfel 1920: 178–339.
- 28 For the differences between the astronomers’ works and the Purāṇas, see Plofker, this vol.
- 29 Although today we might think of villages as India’s timeless and changeless past, in fact the settling of most of the population on the land, the “peasantization” of India, only came about under the British; under them, too, much more wild land and open plains were brought into cultivation.
- 30 One of the most widely read of these sthala-māhātmyas was the pilgrimage text called the Kāśīkhaṇḍa. For discussion and bibliography, see Minkowski 2002.
- 31 Bronner and Shulman 2006. As Bronner and Shuman point out, the Haṃsasandeśa is very much aware of the earlier poem by Kālidāsa, the Meghadūta, in which a cloud is to bear a message northward over Āryāvarta, and in which the dharma-centered vision of India organizes the poetic landscape.
- 32 For such works, see Bronner and Shulman 2006. Among other treatments of geographical writing in pre-modern India, note especially the extensive and comprehensive work of Schwartzberg 1992; also Digby 1973, Gole 1989.
- 33 The full title of the work is Kitāb fī Taḥqīq mā li-l-Hind min Maqālatin Maqbūlatin fī ‘l-Aql aw Mardhūla, the “Verification of the Doctrines Concerning India that are Accepted by Reason or Rejected.” The author’s full name is Abū ‘l-Rayḥān Muḥammad ibn-Ahmad al-Bīrūnī. A revised edition of the text was published in 1958 in Hyderabad. The standard translation is still Sachau 1910.

References

- Bayly, C. 1996. *Empire and Information: Intelligence Gathering and Social Communication in India, 1780–1870*. Cambridge.
- Bridges, Roy. 2004. “Speke, John Hanning (1827–1864).” *Oxford Dictionary of National Biography*, 51: 784–5. Oxford.

- Bronner, Y., and D. Shulman. 2006. "A Cloud Turned Goose: Sanskrit in the Vernacular Millennium." *Indian Economic and Social History Review* 43: 1–30.
- Deshpande, Madhav M. Forthcoming. "Pañca Gauḍa and Pañca Drāviḍa: Contested Borders of a Traditional Classification."
- Digby, Simon. 1973. "The Bhugola of Kshema Karna: A Dated Sixteenth Century Piece of Indian Metalware." *Art and Archaeology Research Papers* 4: 10–31.
- Dodson, Michael S. 2007. *Orientalism, Empire, and National Culture*. Cambridge.
- Gerson da Cunha, J. 1877. *The Sahyādrī Khaṇḍa of the Skanda-Purāṇa*. Bombay.
- Goldstücker, T. 1859–63. *Inspired Writings of Hinduism*. Calcutta.
- Gole, Susan. 1989. *Indian Maps and Plans: From Earliest Times to the Advent of European Surveys*. New Delhi.
- Hacker, Paul. 2006. "Dharma in Hinduism." Trans. Donald E. Davis. *Journal of Indian Philosophy* 34: 479–96. First published in German in 1965.
- Halbfass, Wilhelm. 1988. *India and Europe: An Essay in Understanding*. Albany.
- Inden, Ronald. 2000. "Imperial Purāṇas: Kashmir as Vaiṣṇava Center of the World." In R. Inden, D. Ali, and J. Walters (eds.), *Querying the Medieval: Texts and the History of Practices in South Asia*, 29–98. Chicago.
- Iyer, V. Venkatachalla. 1922–3. "The Puranas." *Quarterly Journal of the Mythic Society* 13: 702–13.
- Kaviraj, Sudipta. 2005. "On the Enchantment of the State: Indian Thought on the Role of the State in the Narrative of Modernity." *Archive of European Sociology* 46: 263–96.
- Kirfel, W. 1920. *Die Kosmographie der Inder*. Bonn and Leipzig.
- Kloetzli, R. 1983. *Buddhist Cosmology: From Single System to Pure Land*. Delhi.
- Leask, Nigel. 2000. "Francis Wilford and Hindu Geography." In A. Gilroy (ed.), *Romantic Geographies: Discourses of Travel 1775–1844*, 204–22. Manchester.
- Minkowski, C. 2002. "Nīlakaṇṭha Caturdhara's *Mantrakāśīkhaṇḍa*." *Journal of the American Oriental Society* 122.2: 329–44.
- Olivelle, Patrick. 2004. "The Semantic History of Dharma: The Middle and Late Vedic Periods." *Journal of Indian Philosophy* 32: 491–511.
- Olivelle, Patrick. 2005a. *Manu's Code of Law: A Critical Edition and Translation of the Mānavadharmasāstra*. Oxford.
- Olivelle, Patrick. 2005b. "Power of Words: The Ascetic Appropriation and the Semantic Evolution of Dharma." In P. Olivelle (ed.), *Language, Texts, and Society: Explorations in Ancient Indian Culture and Religion*, 121–35. Florence.
- Pingree, David. 1996. "Sanskrit Geographical Tables." *Indian Journal of History of Science* 31.2: 173–220.
- Pollock, S. 1998. "The Cosmopolitan Vernacular." *Journal of Asian Studies* 57: 6–37.
- Pollock, S. 2003. "Sanskrit Literary Culture from the Inside Out." In S. Pollock (ed.), *Literary Cultures in History: Reconstructions from South Asia*, 39–130. Berkeley.
- Pollock, S. 2006. *The Language of the Gods in the World of Men: Sanskrit, Culture, and Power in Premodern India*. Berkeley.
- Pollock, S. 2007. "The Languages of Science in Early Modern India." In Karin Preisendanz (ed.), *Expanding and Merging Horizons: Contributions to South Asian and Cross-Cultural Studies in Commemoration of Wilhelm Halbfass*, 203–21. Vienna.
- Porcher, M.-C. 1972. *La Viśvagunādarśacampū: Un poème satirique sanskrit*. Pondichéry.
- Rao, V. N., D. Shulman, and S. Subrahmanyam. 1992. *Symbols of Substance: Court and State in Nayaka Period Tamilnadu*. Delhi.
- Rao, V. N., D. Shulman, and S. Subrahmanyam. 2003. *Textures of Time: Writing History in South India 1600–1800*. New York.
- Rocher, Ludo. 1986. *The Purāṇas*. Wiesbaden.
- Sachau, E. 1910. *Alberuni's India*. London.
- Schubring, W. 1935. *Die Lehre der Jainas, nach den alten Quellen dargestellt*. Berlin.

- Schwartzberg, Joseph E. 1992. "South Asian Cartography." In J. B. Harley and D. Woodward (eds.), *The History of Cartography*, II. 1: *Cartography in the Traditional Islamic and South Asian Societies*, 295–509. Chicago.
- Sircar, D. C. 1971. *Studies in the Geography of Ancient and Medieval India*. 2nd edn. Delhi.
- Speke, J. H. 1863. *Journal of the Discovery of the Source of the Nile*. Edinburgh and London.
- Thompson, Jason 2004. "Burton, Sir Richard Francis (1821–1890)." *Oxford Dictionary of National Biography* 9: 34–40. Oxford.
- Wilford, Francis. 1799. "On Egypt and Other Countries Adjacent to the Ca'li River, or Nile of Ethiopia." *Asiatick Researches* 3: 295–468.
- Wilford, Francis. 1805, 1809, 1811. "An Essay on the Sacred Isles in the West." *Asiatick Researches* 8: 245–367; 9: 32–243; 11: 11–152.

Humans, Demons, Gods, and Their Worlds: The Sacred and Scientific Cosmologies of India

KIM PLOFKER

Introduction: Two Indian Views of the Cosmos

India's Sanskrit texts, extending over a period from about the fifth to about the eighteenth century CE, present two basic models of the physical universe. One is formulated chiefly in the sacred works known as the Purāṇas or "ancient ones" (and, less explicitly, in earlier sacred texts as well), which contain cosmogonic accounts, myths, and historical legends of the activities of gods, humans, and other beings from the creation of the universe to the period of historical time. In this system, the cosmos is an egg-shaped form enclosing the flat disk of the earth, in whose center stands the massive sacred mountain called Meru.¹ The other model is described in the medieval and early modern Sanskrit astronomy texts called *siddhāntas* (roughly, "treatises"), and is similar to the geocentric system of Ptolemaic astronomy: a small spherical earth sits in the center of a large celestial sphere, within which the heavenly bodies move in cyclic, geometrically predictable patterns composed of various combinations of circles.

Differences between flat-earth and round-earth cosmologies in general have by now been trivialized in popular perception to a simple contest between knowledge and ignorance: naive intuition and/or credulous scriptural literalism on the one hand against scientific sophistication and rationalism on the other. Indeed, "flat-earther" as a term of intellectual contempt has been extended to mean an adherent of any ridiculously reactionary and outdated hypothesis, cosmological or otherwise. Although I use the labels "sacred" and "scientific" as convenient descriptors for the two Indian models mentioned above, they are not intended as an endorsement of this simplistic dichotomy. The coexistence of Purāṇic and siddhāntic world views is interesting not because it represents a stark "warfare of science with theology" in Indian thought, but because it attests to a much more

complex and subtle interaction between beliefs about scriptural authority, quantification, and the roles of various beings in the universe, much of which is still far from fully understood.

The Evolution of Indian Cosmological Concepts

Imagining the universe in the Vedic scriptures

The earliest sources we have for Indian ideas of the cosmos are the hymns of the Vedic texts. Their dates cannot be fixed with certainty even within a range of several centuries, but they apparently represent a time when speakers of Old Indo-Aryan or Vedic Sanskrit had become established in the northwest of the Indian subcontinent; deductions from linguistic and archaeological evidence situate this period more or less in the late second millennium BCE. In the Vedic hymns, the cosmos as known to human inhabitants is tripartite, divided into the canonical three worlds or *lokas*. The world of earth (*bhūrloka*) and the world of heaven (*svarloka*), originally conjoined as the cosmic monad, were forced apart by divine power and kept separate by the “mid-space,” the intermediate region or atmosphere (*bhūvarloka* or *antarikṣa*) containing air and light.²

The three Vedic worlds of earth, space, and heaven are characterized by the beings, or manifestations of beings, assigned to them. Earth is the dwelling-place of humans, for example, and heaven that of the gods; but the gods can also be present in different ways in the different worlds. This is the case for the Sun-god, Sūrya, who moves in the sky as the visible sun, appears on earth as the divine sacrificial fire Agni taking the offerings to the gods, and also travels through mid-space in the form of lightning. Likewise, the divine elixir Soma is simultaneously a ritual beverage for humans on earth and the Moon-god in heaven, a cup which wanes and waxes as its liquid is drunk and replenished. Demons or hostile beings of various sorts also inhabit all three realms and interfere with the cosmic deeds of divinities and the humans who invoke them, for example, by hiding or eating the sun to produce an eclipse.

Given the strong focus of the Vedic texts on praise and supplication of the deities, it is not surprising that the structure of the cosmos in these hymns is generally described in terms of divine actions rather than of physical mechanisms. The dawn-goddess pushes aside her sister Night, the sun drives his chariot from east to west across the sky, the moon shrinks as the gods drink its nectar, and so forth. Occasionally a mechanical image is invoked, as when the paired days and nights of the year are said to stand on the twelve spokes of a turning wheel (Rigveda 1.164.11), or the sacred hymns are called the weaving shuttles constructing the world of the sacrifice (Rigveda 10.130). But the volition of the deities is the fundamental agent determining the patterns of the universe and preserving the existence of its creatures. Demonic beings who fight with the gods and attack humans threaten this cosmic order; humans are required to uphold it by following the prescribed sequences

of ritual invocation and sacrifice to the gods. The cosmos as a physical structure is not portrayed separately from the animating forces of its inhabitants.

The cosmos as pictured in ancient astronomy

Many of the rituals prescribed by the Vedas were associated with particular astronomical events such as new moons, equinoxes and solstices, and so forth. This required the sacrificial priests to devise and maintain a basic liturgical calendar to keep track of the cycles of the sun and moon. The Vedic texts themselves contain few details about the development of this early form of astronomy, other than scattered references to the names of seasons and months. The earliest textual source for the actual computational algorithms used to regulate the ritual calendar – that is, the first known exemplar of Indian mathematical astronomy – is the *Jyotiṣavedāṅga* or “Astronomical/calendric limb of the Vedas” (Dvivedī 1908). The *Jyotiṣavedāṅga*, which may have been influenced also by Babylonian calendric techniques, dates probably from around the middle of the first millennium BCE (although various earlier dates have also been proposed on the basis of differing astronomical interpretations of the calendar schemes described in the text).³

As the calendar is cyclic, following the recurring patterns of days, months, seasons, and so forth, it emphasizes the periodic reappearances of celestial events: conjunctions and oppositions of the sun and moon, entrances of the moon or sun into a certain constellation, etc. The actions of the celestial bodies thus appear much more routine and impersonal than in the hymns of the Vedic texts, as when it is stated that “The moon is conjoined with a constellation [for] one [day] plus seven [parts], the sun [for] thirteen days and five ninths” (*Jyotiṣavedāṅga* 18). The emphasis here is on the periodicity and predictability of the cosmic motions, rather than on the divine beings whose actions are their ultimate cause.

But the *Jyotiṣavedāṅga* does not interpret these regular temporal cycles in the light of any explicit inanimate model of cosmic motion, such as circular planetary orbits. The cycles of time described by these calendric algorithms are modeled numerically but not geometrically. Thus there is nothing in the text to tell us whether or how Indian astronomers of this period hypothesized specific physical mechanisms to account for the periodic patterns that they described mathematically.

The cosmos in Greek philosophical thought at about the same time, on the other hand, had begun to be viewed very much as a physical structure, and a heavily geometrized one at that.⁴ The varied cosmological ideas of the presocratic philosophers gave rise to the fundamental image depicted, for instance, by Plato in the *Timaeus*: a spherical and self-contained universe revolving upon itself, containing circles within it that revolved at different inclinations and different speeds, and bore the celestial bodies whose periodic turnings determined the passage of time. The standard physical model of the cosmos described in Aristotle’s *De caelo* amplified these concepts into a complex arrangement of nested spheres rotating about a central spherical earth, constrained by their essential physical and mathematical

nature to enact the unvarying celestial cycles observed by humans. From the spherical earth out to the most distant sphere bounding the whole universe, their geometric relationships were held to be the formal cause of their perceived motions.

Astronomy and history/mythology: The divergence of worldviews

Philosophers around the start of the common era combined the geometric models of periodic celestial motions with the Aristotelian physics of elements and their qualities, as well as with the originally Mesopotamian practice of inferring various types of good and bad fortune for individuals from the relative positions of the planets in the heavens.⁵ The result was the Hellenistic system of predictive astrology whose diverse forms spread throughout so much of the ancient and medieval world. The Indo-Greek kingdoms that succeeded Alexander's conquests in northern and western India played an important part in this transmission. Starting in about the second century CE, some "Yavana" (the Sanskritized form of "Ionian") or Indo-Greek rulers oversaw the conversion of this highly alluring science into Sanskrit versions.⁶

Hellenistic techniques for foretelling the future evidently bore along with them the fundamental model of the cosmos as a spherical earth and spherical heaven interlaced with various regular circular paths. This basic model appears to have been assimilated into the existing cosmological theories (whatever they may have been) that Indian astronomers associated with their calendric computations. The hybrid that emerged in classical Sanskrit mathematical astronomy and astrology around the middle of the first millennium CE was in many ways very similar to the Hellenistic universe: it depended on the geometry of nested spheres and circles to supply the physical structure for its celestial phenomena. Indian astronomy was never as dogmatic and inflexible about demanding perfect consistency among physical structure, geometric form, and computational practice as some Greek (and later Islamic) astronomers tried to be, but it did recognize them as fundamentally linked.

The universe depicted in the vast collections of mythology, legend, and history in the Purāṇas is a very different place (see also Minkowski, this vol.). It represents the earth as a flat circular disk resting in the middle of the *brahmāṇḍa* or "cosmic egg" surrounded by the primal elements. Above the disk of the earth are stacked the layers of the various heavens; below the earth are corresponding layers of the various *pātālas* or underworlds, and beneath those in turn successive *narakas* or hells. All the dimensions involved are immense: for example, the diameter of the earth's disk is said to extend for five hundred million of the units called *yojanas*, which would be approximately on the order of five billion kilometers. The great mountain Meru in the middle of the earth's disk reaches to the polestar in the heavens, and the other stars and planets wheel around it, appearing to rise or set as they are revealed or hidden by its massive form.

All the locations in this vast expanse are teeming with beings of elaborately diverse sorts. For instance, the gods reside on the top of Mount Meru and in different levels of the heavens; the surface of the earth is populated by a bewildering assortment of human races and other mortal creatures; the underworlds contain magnificent cities inhabited by demons and spirits; the *narakas* hold the spirits of dead evildoers (including astrologers), who expiate under torture their crimes against *dharmā*, the sacred cosmic/social order (Minkowski, this vol.). As in the Vedic hymns, many of these beings are the cosmic actors whose volition is responsible for the phenomena that humans observe. The divine serpent Śeṣa dwelling beneath the *pātālas*, for example, is said to support them and the upper worlds upon his head, while the planetary deities drive their chariots about Meru, with the chariots bound by cords of wind (the *pravaha* or “carrying” wind) to the pole-star. The sun’s brilliant rays replenish the nectar in the moon above it, which nourishes the gods and the *pitṛs* (divine beings including the spirits of humans whose descendants have performed the proper sacrifices for them). Again as in the ancient scriptures, the drinking and refilling of the moon’s contents makes it appear to vary in shape and brightness through its monthly phases. Rāhu, the immortal head of a decapitated demon, pursues the sun and moon in the heavens and occasionally devours one of them, causing an eclipse.

The geometric cosmos imagined by medieval Indian astronomers, on the other hand, seldom relies on deliberate actions by its inhabitants to effect its celestial cycles. Indeed, it might be said that for practical purposes it almost does not have any inhabitants: rather, it has components, whose properties account for the variation we see in the heavens. The daily disappearance and reappearance of objects in the sky is due to their revolution about the spherical form of the earth, which maintains its place at the center of the world with no support from below. The moon appears to change shape due to the changing illumination falling on its spherical surface from the sun (which is above it, rather than below it as in the Purāṇas) as they alter their relative positions in their orbits. Most of this structure is minuscule compared to its Purāṇic counterpart: the spherical earth is only about 5000 *yojanas* in circumference, while the orbit of the constellations is less than 55 million *yojanas* across, about a tenth of the size of the Purāṇic disk of the earth.

This geometrized universe is so impersonal and inanimate that it can be represented by a miniature model constructed of bamboo or metal and clay. Several astronomical treatises contain detailed (although not entirely realistic) directions for building such a model with concentric rings to represent orbits and reference circles, somewhat like the armillary spheres of the western astronomical tradition. The ninth-century commentator Prthūdakasvāmin writing on the seventh-century treatise *Brāhmasphuṭasiddhānta* of Brahmagupta, for example, describes the process in part as follows (Ikeyama 2002: 2. 162–4):

One should make three circles having any measurement with light woods of the same length or rods of bamboo . . . For Mercury and so forth the cage of the sphere of each is to be made in proportion to the measure of its hypotenuse (geocentric

distance) in *yojanas*. These are outside of the cage of the moon – (that) of Mercury, then (that) of Venus, and so on up to the eighth, the cage of the constellations . . . Then the sphere-shaped earth is to be represented by mud or something else on the iron rod in the middle of all the spheres.

Brahmagupta's contemporary Bhāskara, describing a similarly constructed model of the universe, concludes that "With a sphere constructed in this way, everything in the *śāstra* (science) is explained" (*Bhāṣya* on *Āryabhaṭīya* Gola, introduction). In other words, what determines the nature of the astronomer's universe is simply the mathematical relationships between its physical components, mechanical and abstract enough to be interpreted through the humble devices of clay balls and bamboo rings.

Negotiating the Astronomical Cosmos: Interactions between Sacred and Scientific Models

There is probably nothing surprising about the fact that the worldview of Indian treatises on mathematical astronomy and the worldview of Indian sacred mythology differ in many of their features. We find it natural that the universe as seen by astronomers should be a depopulated mechanical construct for computational prediction, while the universe in sacred narratives should be an exuberantly staged pageant crowded with mythic deeds of deities. What is unexpected, at least from the viewpoint of the historiography of western science, is the extent to which Indian astronomers chose to engage and negotiate with the worldview of the Purāṇas.⁷ After all, Archimedes and Ptolemy do not feel compelled to rebut Homer's or Hesiod's description of the earth, underworld, and heaven while explaining their astronomical theories. The authors of several major Sanskrit *siddhāntas* or astronomical treatises, on the other hand, evidently expected their readers to balk or wonder at some aspects of their cosmological model, so they devoted parts of their texts to arguments intended to justify them. The above-mentioned Brahmagupta, for example, contests the Purāṇic assumption that the moon is higher than the sun, on the grounds that the mathematical techniques for correctly predicting the monthly phases depend on a spatial model with the moon below the sun:

If the moon were above the sun, how would the power of waxing and waning, etc., be produced from calculation of the [longitude of the] moon? The near half [would be] always bright. In the same way that the half seen by the sun of a pot standing in sunlight is bright, and the unseen half dark, so is [the illumination] of the moon [if it is] beneath the sun. (*Brāhmasphuṭasiddhānta* 7.1–2)

His contemporary Bhāskara points out that this model also requires the moon to be spherical rather than disk-shaped, since otherwise its illumination by the sun will not produce the observed changes in its phases: "In reality, [the celestial

bodies] are sphere-shaped; otherwise, the decrease and increase in brightness of the moon, in a disk shaped like a circular mirror, [would] not agree [with calculation]” (*Bhāṣya* on *Āryabhaṭīya* Gola, introduction).

In the process of this critique, astronomers challenged some of the traditional Purāṇic roles of superhuman beings in the cosmos. As noted above, they claimed that the changes in the moon’s illumination were caused by the varying reflection of the sun’s light from its spherical surface, rather than the consumption of its contents by the gods and *pitṛs*. They also denied the role of the divine serpent Śeṣa in supporting the earth from underneath, concerning which the following argument by Bhāskara is typical of the astronomers’ reasoning:

“The sphere of the earth [made of] earth, water, fire, and air, in the middle of the cage of the constellations [formed of] circles, surrounded by the [planetary] orbits, in the center of the heavens, is everywhere circular.” The earth is not at all above [the center], and not below, hence it is not falling . . . Now others think [that] the earth is supported by [the serpent] Śeṣa or [something] else: that is not rational . . . Now if they [i.e., the supporting beings, can] stay fixed by their own power, why cannot this power be assumed for the earth? (*Bhāṣya* on *Āryabhaṭīya* Gola.6)

Thus the cosmic agency of a divine being is explicitly rejected in favor of an impersonal physical property of the earth itself. Indeed, certain sacred myths about the cosmos were often forcefully scorned as “false knowledge” manifested by “those who are ignorant of the globe of the earth,” as Pṛthūdakasvāmin puts it. (Ikeyama 2002: 2. 159–60)

But the attitude of Indian astronomers towards the Purāṇic worldview was by no means as uncompromisingly negative as the above excerpts suggest. In fact, on numerous points of cosmological structure, astronomers themselves frequently described the universe in terms of Purāṇic concepts. An example is Bhāskara’s explanation of the daily westward movement of the constellations in the sky, couched in an impeccably Purāṇic image of celestial wheels and the cosmic wind: “The constellations, bound to the wheel of stars, proceed to the western direction because of the *pravaha* wind of that wheel of stars” (*Bhāṣya* on *Āryabhaṭīya* Gītikā.3). Mount Meru was commonly regarded as situated at the earth’s north pole, with the gods still housed on its summit and the demons called Daityas at the south pole, with the *pitṛs* in the moon. Brahmagupta, like several other authors, uses this notion to illustrate the relationship between different time-units: “The gods and Daityas see the sun, having once risen, for half a solar year, [and] the ancestors in the moon [see it] for half a lunar month” (*Brāhmasphuṭasiddhānta* 21.8; Ikeyama 2002: 2. 183–4). The anonymous *Sūryasiddhānta* of about the eighth century even postulates a special kind of superhuman celestial being to provide a physical explanation (again using the concept of cosmic wind) for planetary motions:

Incarnations of time called the apogees and nodes, invisible in form, standing in the zodiac, are the cause of the motion of the planets. [The planets] bound by cords of wind to them are dragged by them with their right and left hands, eastward and westward towards themselves. (*Sūryasiddhānta* 2.1–2)

These assimilations of Purāṇic cosmology into astronomy appear to have culminated in the development of the *avirodha* or “non-contradiction” genre of astronomical writings starting in about the sixteenth century.⁸ But this sort of confrontation and assimilation of competing cosmological ideas seems to have been an almost entirely unilateral approach on the part of authors writing on astronomy. The mythic narratives of the Purāṇas do not indicate a corresponding interest in engaging with the cosmological models of spherical astronomy.⁹

Concluding Questions: The Role and Nature of Siddhāntic Cosmology

The crucial question, to which Sanskrit texts so far have yielded no definitive answer, is how and why the authors of Indian texts on mathematical astronomy developed such a complex and apparently inconsistent relationship with the cosmological ideas of sacred scriptures. Many of those ideas flatly contradicted the geometrized universe presented in astronomy as physically realistic and mathematically reliable. But evidently the Purāṇic sources could not be merely ignored by astronomers as irrelevant to the scientific worldview. Nor were they rejected entirely as a valid source of information about the universe, although certain claims in them (concerning, for instance, the flatness of the earth or the position of the moon) were confidently refuted. In fact, astronomers not infrequently boasted that their works maintained agreement with *smṛti* (that is, scriptural authority), even as they denounced particular Purāṇic claims as erroneous. What produced this somewhat tangled relationship between siddhāntic and Purāṇic worldviews, and exactly how did they coexist in practice?

The likely answers to these questions embrace many different social and intellectual factors. First and foremost, it should be borne in mind that astronomers writing in Sanskrit were almost exclusively Brāhmaṇas, members of the group recognized in Hindu society as bearing the highest status and responsible for the exercise of priestly functions as well as the maintenance of scholarly learning in general. The sacred cosmology that pervaded so much of non-astronomical Sanskrit literature would probably have been familiar to Brāhmaṇa students, even those from astronomer or astrologer castes, long before they embarked on the formal study of spherical astronomy. This sacred cosmology extended as well into the ritual practice of devout Hindus, such as the rite for honoring the spirits of ancestors so that they could enter the heavenly realms and join the *pitṛs* in drinking the nectar of the moon. What becomes of the *pitṛs* in a world where the moon’s waning, like a shadow on one side of a round-bellied pot, is merely the consequence of its changing solar illumination and has nothing to do with providing nourishment for the celestial spirits? According to Brahmagupta, the *pitṛs* go to the moon anyway, although it is no longer clear what they do there. It seems probable that the importance of such cosmological notions in Brāhmaṇa life encouraged the retention in astronomy of such parts of the Purāṇic worldview as could be preserved.

Another factor to consider is the place of mathematical knowledge in Indian epistemology. While western philosophers and scientists frequently portrayed mathematical reasoning (particularly the deductions of classical geometry) as a uniquely certain form of human knowledge and even in some ways on a par with divine truth, mathematics in the Indian intellectual tradition was not similarly privileged. Mathematical knowledge was true insofar as it was correctly derived via the *pramāṇas* or valid ways of knowing recognized by Sanskrit philosophy, but it was not somehow more deeply true than other forms of knowledge so derived. In particular, it did not outrank sacred scripture, which also was validated by a *pramāṇa*, namely the *pramāṇa* of *śabda* or authoritative verbal source. Geometric inference about physical facts such as the roundness of the earth thus would not necessarily trump scriptural testimony.

At the heart of these issues lies the mystery of how Indian astronomers personally imagined and conceptualized the cosmos. Did they indeed regard their cage-like circular models of wood and clay as fundamentally accurate miniatures of the real universe? If so, what did they think the non-human inhabitants of this revolving machinery did within it, other than passively watch its revolutions? Did they still believe that the gods and the *pitṛs* drank the moon each month, even if they did not accept that as the physical cause of its shrinking crescent? Where did they imagine the cosmic serpent Śeṣa to be, if he was not in fact supporting the world on his head? Did learned astronomers privately dismiss depictions of the Purāṇic cosmos as fairy tales, or – as is suggested by some hypotheses advanced by later *avirodha* writers – did they imagine ways in which both cosmic models could somehow be true simultaneously?

Few if any Indian astronomical authors before the mid-second millennium have left any writings on non-astronomical subjects. Nor did they embark in their astronomical writings upon detailed discussions of issues like the above. Only by this sort of comparison of different Sanskrit texts and their social contexts can we begin to sketch out exactly what constituted the astronomers' picture of the physical reality of the universe, or even to know whether the question "Which picture of the physical reality of the universe is true?" is one that they would have considered ultimately answerable.

Notes

- 1 The physical universe in Buddhist and Jaina doctrine is similar in structure to that of the Hindu Purāṇas, although with some significant differences: for instance, Jaina cosmology posits two suns, two moons and two identical sets of constellations. Astronomical treatises disputing Purāṇic cosmological ideas in the ways discussed below frequently refer to similar Jaina concepts as well; consequently, the term "Purāṇic" is used here as shorthand to refer to all these related sacred cosmologies.
- 2 See, e.g., the descriptions of the Vedic creation myths and the cosmic roles of the Vedic deities in Kramrisch 1959, 1962.

- 3 The issues in the dating of the *Jyotiṣavedāṅga* and the arguments for its reliance on Babylonian sources are analyzed in Pingree 1973.
- 4 On the development of the standard Hellenistic cosmology, see Heath 1932 and van der Waerden 1988.
- 5 The word “planet” here implies the meaning it held for pre-modern astronomers; it embraces the sun and moon as well as the five planets visible to the naked eye, Mercury, Venus, Mars, Jupiter, and Saturn.
- 6 See Pingree 1978 for a detailed description of early Graeco-Indian astrology and its development.
- 7 More detailed discussions of the conflicts between the two cosmological models and attempts to reconcile them can be found, e.g., in Pingree 1990; Minkowski 2001, 2004, and Plofker 2005.
- 8 For a fuller discussion of the *avirodha* literature, see Minkowski 2001, 2004.
- 9 The one exception that I am aware of is furnished by the (partial) preservation of what may be the oldest surviving Sanskrit *siddhānta*, the *Paitāmahasiddhānta* of about the early fifth century CE, within the *Viṣṇu-dharmottarapurāṇa*, an *uttarapurāṇa* or supplement to the main Purāṇic scriptures. The *Paitāmahasiddhānta* in the *Viṣṇu-dharmottarapurāṇa* is presented in typical Purāṇic fashion as a dialogue between a sage and a deity, but it includes many of the detailed parameters and algorithms of siddhāntic mathematical astronomy; see Pingree 1967–8. The ingeniously revisionist thesis of Kloetzli 1985 takes a much more radical approach: it interprets the Purāṇic flat-disk cosmology as a stereometric astrolabe projection of a spherical celestial model, implying that even the Purāṇas themselves fundamentally shared the mathematized siddhāntic worldview. (I am indebted to Toke Knudsen for drawing this latter source to my attention, and to him and Christopher Minkowski for sharing with me their discussions of contemporary debates concerning Purāṇic and siddhāntic cosmic models.)

References

- Dvivedī, Sudhākara. 1901–2. *Brāhmasphuṭasiddhānta* (*The Paṇḍit* NS 23–24). Benares.
- Dvivedī, Sudhākara. 1908. *Yājusa-Jyautiṣa and Āra-Jyautiṣa*. Benares.
- Heath, Thomas L. 1932. *Greek Astronomy*. London.
- Ikeyama, Setsuro. 2002. *The Brāhmasphuṭasiddhānta Chapter 21 with the Commentary of Prthūdakasvāmin*. 2 vols. PhD thesis, Brown University.
- Kloetzli, W. Randolph. 1985. “Maps of Time – Mythologies of Descent: Scientific Instruments and the Purāṇic Cosmograph.” *History of Religions* 25.2: 116–47.
- Kramrisch, Stella. 1959. “The Rg Vedic Myth of the Craftsmen (The R̥bhus).” *Artibus Asiae* 22.1–2: 113–20.
- Kramrisch, Stella. 1962. “The Triple Structure of Creation in the R̥g Veda.” *History of Religions* 2.1: 140–75; 2.2: 256–85.
- Minkowski, Christopher Z. 2001. “The Paṇḍit as Public Intellectual: The Controversy over *virodha* or Inconsistency in the Astronomical Sciences.” In A. Michaels (ed.), *The Paṇḍit: Traditional Sanskrit Scholarship in India*, 79–96. New Delhi.
- Minkowski, Christopher Z. 2004. “Competing Cosmologies in Early Modern Indian Astronomy.” In C. Burnett, J. P. Hogendijk, K. Plofker, and M. Yano (eds.), *Studies in the History of the Exact Sciences in Honour of David Pingree*, 349–85. Leiden.
- Pāṇḍeya, Śrīcandra. 1991. *The Sūryasiddhānta*. Varanasi.

- Pingree, David. 1967–8. “The Paitāmahasiddhānta of the Viṣṇu-dharmottarapurāṇa.” *Brahmavidyā* 31.2: 472–510.
- Pingree, David. 1973. “The Mesopotamian Origin of Early Indian Mathematical Astronomy.” *Journal for the History of Astronomy* 4: 1–12.
- Pingree, David. 1978. *The Yavanajātaka of Sphujidhvaja*. 2 vols. Cambridge, MA.
- Pingree, David. 1990. “The Purāṇas and Jyotiḥśāstra: Astronomy.” *Journal of the American Oriental Society* 110.2: 274–80.
- Plofker, Kim. 2005. “Derivation and Revelation: The Legitimacy of Mathematical Models in Indian Cosmology.” In T. Koetsier and L. Bergmans (eds.), *Mathematics and the Divine: A Historical Study*, 61–76. Amsterdam.
- Shukla, K. S. 1976. *The Āryabhaṭīya of Āryabhaṭa with the Commentary of Bhāskara I and Someśvara*. New Delhi.
- Van der Waerden, B. L. 1988. *Die Astronomie der Griechen. Eine Einführung*. Darmstadt.

Structured Perceptions of Real and Imagined Landscapes in Early China

HSIN-MEI AGNES HSU

Introduction

This chapter focuses on the heuristic potential of specific pictorial representations of geography created during the time from the Warring States period (479–221 BCE) to the end of the Han dynasty (206/202 BCE – 220 CE), including maps used for civil and military purposes, as well as tomb paintings depicting real and imagined landscapes. Formal analyses of the excavated objects indicate a level of artistic interest in representing different forms of landscape; however, when they are studied in the context of the cultures that produced the maps, it becomes apparent that in the creative process artistic intention was secondary to functionality. Further, a contextual interpretation of the material evidence set within the contemporary historical and philosophical frameworks elucidates the notion of domain and the structured perceptions of the exterritorial “other” in the Early Chinese mind.

Graphic representations of landscape in the form of maps reflect a set of structured human perceptions specific to a culture and a period in time. When a landscape is viewed solely as a natural phenomenon, it is devoid of all kinds of preconceptions associated with knowledge and emotions; but when it is perceived and defined as a domain by its human possessor, a landscape adopts ideological significance. Therefore, it can be said that the meanings of a map are processed as symbols and embedded intrinsically in a representational format. The relationship between symbol and object – in particular, the ideological purposes of landscape as represented in maps – has been explored in depth by scholars across the disciplines. Alfred Korzybski, widely recognized as the father of general semantics, offers an observation on this philosophical quandary: “A map is not the territory it represents, but, if correct, it has a similar structure to the territory, which accounts

for its usefulness” (1933: 747–61). In other words, maps as representations are simply messages that manifest meanings only when deciphered.

The issue of domain has remained largely unexplored in the artistic tradition of Early China, even though numerous references to maps and mapmaking exist in extant texts from this period. It is only recently that pictorial depictions of domain from this period have come to light through archaeological discoveries. These excavated materials were created before the formal origin of the Chinese landscape painting tradition in the Northern and Southern dynasties (220–589 CE); for this reason, previous attempts to study them from an anachronistic perspective have proven unsatisfactory – for while every domain is a landscape, not every landscape is a domain.

The Fangmatan Maps of Qin

Maps are the most powerful material evidence of human dominance over a landscape, real or imagined. The earliest known representation of domain in China is a collection of seven maps dated to the Warring States period (Hsu 1993: 90–100). The maps were discovered in 1986 in a tomb at Fangmatan, in Tianshui city, Gansu province. When the maps were created, this region was part of the Qin kingdom. The Qin government was built on a strict Legalist model and rose to unsurpassed martial might on the foundation of a highly efficient administrative system and a formidable military meritocracy.¹ In 221 BCE, the king of Qin, later known universally as the First Emperor of China, vanquished all other contenders to create the first unified empire in Chinese history. The maps found at Fangmatan are therefore powerful material evidence of the Qin’s methodical approach to statecraft in the pre-imperial period.

The Fangmatan maps were drawn in black ink on four pieces of pine wood that are roughly the same size, measuring 1.1 cm in thickness, 26.7 cm in length, and 15 to 18.1 cm in width (Hsu 1993: 91). When discovered, they had been immersed in water for an undetermined amount of time because the tomb was found waterlogged. After a lengthy process of conservation and restoration, the maps were finally assembled and studied by a team of Chinese scholars led by the renowned cartographic historian Cao Wanru. Further inquiry was carried out by Mei-Ling Hsu, a leading Chinese-American geographer and cartographer, who subsequently published the first major English language study on the maps. Based on the 66 names that had been deciphered on the map, Hsu supported Cao’s earlier conjecture that, when viewed collectively, the maps depict the physical geography of the ancient administrative area of the Gui County in the Qin Kingdom.

The entire mapped area is about 107 by 68 km. It comprises three river systems: (a) the Xihan Shui (Xihan river) flowing westward; (b) the Yongning He (Yongning river), flowing southward, which has two major tributaries, Huamiao He (Huamiao river) and Gaoqiao He (Gaoqiao river); and (c) two short rivers flowing northward

into the Wei He (Wei river). Both Xihan Shui and Yongning He are tributaries of the Jianling Jiang (Jianling river) in Sichuan province. Two drainage divides, the Maiji Shan and Bozhong Shan, separate the three river systems. Note that the divides are correctly shown as mountain ranges rather than single mountains, which are shown with a triangular symbol in many early maps. Rivers and the divides are located fairly accurately. (Cao 1989: 78–85; Hsu 1993: 91–2)

A more recent study released by the Gansu Provincial Archaeological Research Institute shows that an additional 16 place names on the maps have been identified. This study further confirms Hsu's earlier speculation that the maps yield important information about the economic situation in the ancient Gui County (Xinhua News Agency, April 30, 2002).

A significant and unique aspect of the Qin maps is that in three of them, Maps 3, 4, and 6, there are notes indicating the kinds and locations of timber to be found in the forest (or wood cutting areas). On Maps 3 and 4, a total of eight notes state the distances in mileage to the timber sites. These had to be some of the earliest, if not the earliest, economic maps in the world. (Hsu 1993: 93)

From a purely cartographic perspective, the Fangmatan maps are valuable as evidence of the earliest known attempt to show a measured landscape through the use of symbols and words. The consistency of usage substantiates the theory of a cartographic tradition in the formative period of Chinese history. Certain map features, for example, that “river names usually are placed in the order following the direction of stream flow” (*ibid.*), would become part of the standard cartographic practice in subsequent periods, best exemplified by the so-called Mawangdui maps created almost 300 years later.

The Mawangdui Maps of Western Han

The discovery in 1973 of a set of maps from Tomb Number Three at Mawangdui, near the Hunan provincial capital of Changsha, propelled the study of cartography to a new height.² Scholars generally agree that they are a topographic map (Figure 4.1) and a military garrison map. The topographic map is a square, measuring 96 cm on each side (Hsu 1978: 47); the military map is a rectangle, measuring 78 cm by 98 cm (Hsu 1978: 52). Paleographic evidence found *in situ* indicates that the maps were produced before 168 BCE, placing their production date within the early Western Han (202 BCE – 9 CE).

Cartographic significance

For two reasons, the Mawangdui maps are objects of great art historical importance. First, in stark contrast to the Fangmatan maps, the Mawangdui maps are

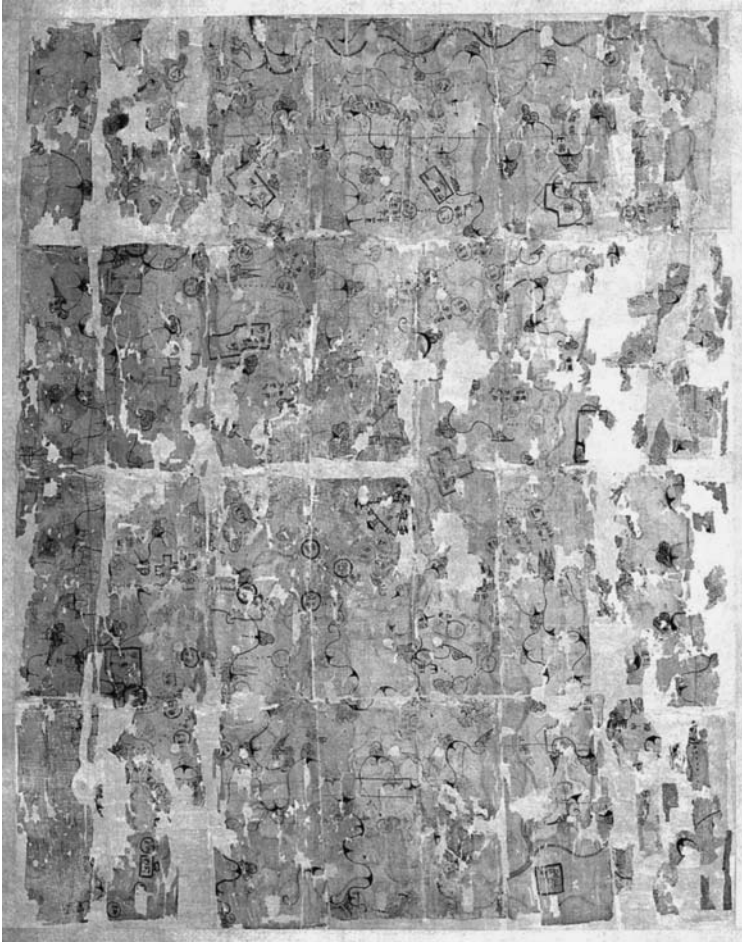


Figure 4.1 Military garrison map, excavated from Mawangdui Tomb Number Three, Changshan, Hunan province. Polychrome on silk. Image used with the permission of Hunan Provincial Museum

complex, polychromatic paintings on silk. Silk was a far more expensive material than pine wooden planks, for sericulture was a highly complicated process in antiquity. Finely manufactured silk was prized for its soft texture, light weight, and translucency. The use of silk as canvas indicates the exclusivity of the object and the high status of the intended owner, for this luxury material was reserved for elite consumption at the time. Secondly, the Mawangdui maps are powerful evidence of the existence and use of a symbolic language. In her 1978 study of the maps, Hsu noted that the consistency of the symbols challenges the traditional paradigm that the Early Chinese placed more value on words than symbols; she further postulated “the heavy reliance on notes is a later tradition” (Hsu 1978: 54). This cartographic feature, evident in both sets of the Fangmatan maps and the Mawangdui

maps, signifies the transmission of certain mapmaking conventions from the Warring States period to the early Western Han. For example, the Fangmatan maps and the Mawangdui topographic map share a common emphasis on the depiction of major water bodies and their respective drainage systems. There is no doubt, however, that the Mawangdui maps were created using a more sophisticated symbolic language. “All symbols, including those for mountains, are designed to be read from directly above, suggesting a high degree of abstraction and consistency. This is not observed even on some modern maps. On most early maps, Chinese and others, mountains are best shown by some pictorial/perspective signs to be viewed obliquely” (Hsu 1978: 54–5).

The topographic map

Despite their common focus on the hydrology of the respective regions, further scrutiny of the Mawangdui topographic map proves it to be a far more complex and comprehensive two-dimensional graphic representation of geography. Further, the Mawangdui map also illustrates a tertiary dimension that is best described as ritual. To any viewer, the most prominent symbol on the map is the Mountain of the Nine Mysterious Peaks. According to Hsu, “The crude contour-like symbol portrays the mountain itself; the large symbol adjacent to this mountain might represent the nine peaks of the mountain; or it may represent the nine stone slabs in front of the temple” (Hsu 1978: 51).

Hsu’s reference to the so-called “temple” is based on the interpretation of a pair of Chinese characters denoting “Emperor Shun,” which many scholars had surmised to indicate that a temple dedicated to him was located on the mountain (*ibid.*). The prominence of the symbol on the map strongly suggests some ideological significance, but the message is ambiguous. All map features in the Fangmatan maps and the Mawangdui maps depict regions of the real world, with the notable exception of this particular annotated symbol. Emperor Shun is a figure who exists only in antediluvian Chinese mythology; legend believes that he was buried somewhere in the Mountain of Nine Mysterious Peaks. Like Mount Olympus, the Nine Mysterious Peaks is not a real geographical location, but an imagined landscape. The presence of the symbol therefore suggests a ritual dimension to the topographic map that is not seen in the other excavated maps.

GIS application and interpretation of the military garrison map

The military garrison map is a close-up of the primary garrisons within the topographic map. The two maps contained corresponding points at several villages and prefecture cities, but the orientation of the military map is related more directly to the military features within it than to the orientation of the topographic map.

The military garrison map depicts 99 civil installations, such as villages and prefecture cities, and 25 military facilities, including headquarters, garrisons, armories, watchtowers, roads, and a reservoir. The bulk of the military facilities are located inside a clearly demarcated perimeter and within close proximity to the military headquarters. Watchtowers are shown concentrated in the south and the east, which are the only two directions annotated on the map. Mountains and bodies of water are clearly marked and congruous with the topography shown in the corresponding area on the topographic map.

Previous work on the Mawangdui military map has focused on restoration concerns and the calibrating of its Cartesian qualities; thus, interpretation of the map's symbolic language from an emic perspective has been largely ignored. Because the map features an inherent symbolic language, the military map, when considered in conjunction with the topographic map, is an excellent test subject for a spatial analysis based on GIS (Geographic Information System).³ From a purely theoretical standpoint, GIS as a form of graphic communication provides a semiotic approach that links and reconciles the diverse disciplines such as pure cartographic science and visual art, and thus contributes to a spatial analysis in which signification is organized in pictorial media of a cyber-geographic world. Through a semiotic-based GIS analysis, it becomes possible to achieve a better understanding of the art historical, cultural, and historical significance of the maps beyond their cartographic values.

Data resulting from the initial GIS analysis supplement the historical accounts of a military conflict between the Han imperial government and a tributary kingdom called Nanyue, which was situated at the southernmost boundary of Han territories in the region that is roughly modern Guangzhou. Although the king of Nanyue was an ethnic Chinese, he ruled over a native population that is traditionally regarded by the Han Chinese as "barbarians." Both *Shiji* (*Records of the Grand Historian*) and *Hanshu* (*History of the Former Han*) document that the conflict took place shortly after the king of Nanyue rebelled in the spring of 183 BCE, under the pretext that the new Han ruler had violated a long-standing export agreement on iron goods. Consequently, the king of Nanyue invaded Changsha, the southernmost principality of the Han empire. The Han court responded with a military expedition to Changsha, but the arrival of the imperial army was significantly delayed due to unfamiliarity with the region's geography. Furthermore, a sudden change of regime in the capital compelled the Han to accept a temporary truce with the Nanyue (*Shiji* 97, 2698). Apparently, the two sides maintained the status quo until 108 BCE, when the Han forces under Emperor Wu launched an unorthodox attack on the Nanyue kingdom via a navigable route to its capital Panyu. Consequently, nine new military commanderies were established there and placed under the Han's direct control (*Shiji* 113, 2967–9).

When the military map was first discovered, scholars speculated, based on cursory considerations of the cartographic features, that it represents a defensive military posture. This conjecture, however, remained unproven until now. In the most basic interpretation of the raw data in the GIS, the key map features are all

depicted within a clearly demarcated perimeter in the Changsha territory, strongly suggesting that the military map was made after the stalemate of 183 BCE. The Han military leaders at Changsha could not have foreseen the long duration of this situation and their priority was to devise an immediate defensive strategy. In this context, the Mawangdui military map can be treated as an ethnographic document that signifies the thoughts and perceptions of the Han military leaders at a specific point in time.

Further GIS analysis has yielded unexpected results. The embedded message in the complex system of symbols adds a temporal dimension to the map, representing three phases of tactical planning. This interpretation was only made possible because GIS provided a means to evaluate the map's semiotic value in conjunction with the annotations. The initial phase shows pre-conflict tactical planning with an emphasis on former military and administrative installations and data of population movement, suggesting an attempt to anticipate the enemy's offensive strategy (Figure 4.2) The next phase illustrates the aftermath of the attack. The analysis indicates, based on data of depopulation, that the enemy did not take the attack route as anticipated by the Han. The enemy, instead, took a bifurcated approach along the main body of water, which indicates their thorough knowledge of the hydrology of the region (Figure 4.3).⁴ The final phase depicts the Han's immediate defensive strategy in response to the invasion; key map

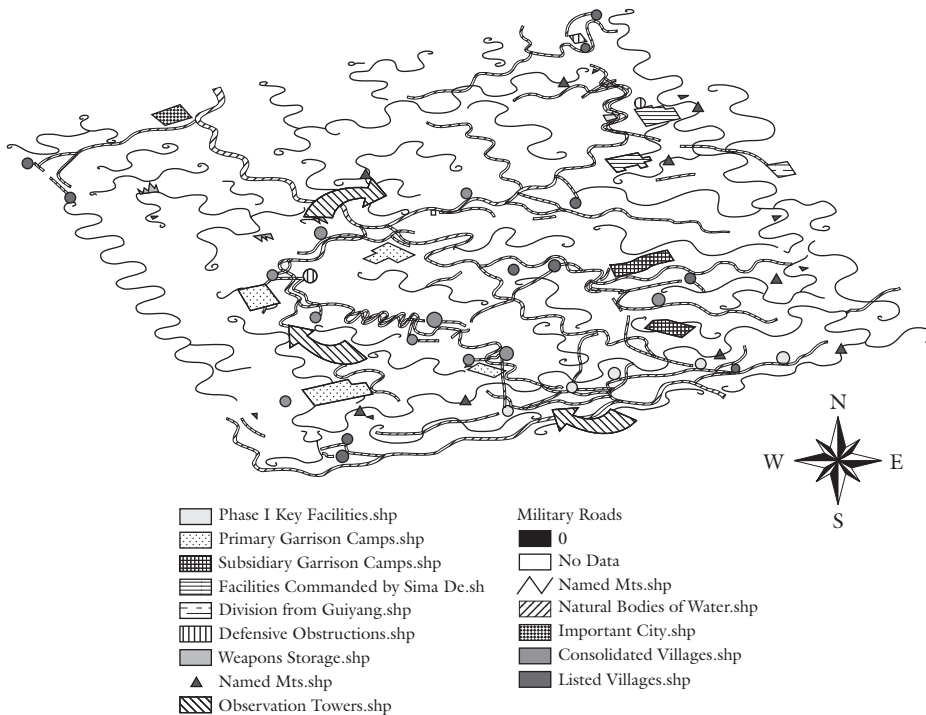


Figure 4.2 Phase I Pre-conflict tactical features. Image © Hsin-Mei Agnes Hsu

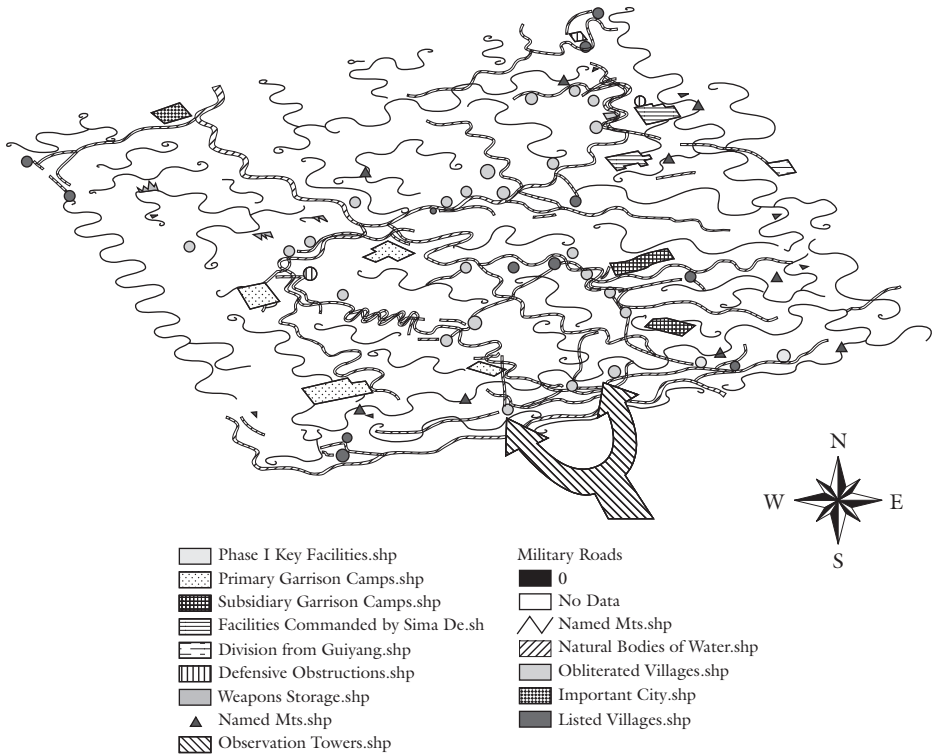


Figure 4.3 Phase II Actual invasion route. Image © Hsin-Mei Agnes Hsu

features are the perimeter and a new military headquarter that includes a fortified gate, a double-walled protective passageway, and a reservoir (Figure 4.4).

Another question that GIS analysis helps to answer is why only notations signifying east and south appear on the military map. When interpreted from the perspective of the military leaders at Changsha and in the context of their defensive posture, it is clear that these notations define the vulnerable zones of their domain. I should clarify here that in this study GIS was utilized as a highly effective tool for the sole purpose of decoding the symbolic language of the ancient Chinese mapmakers. It was necessary to do so only because we, as modern researchers, simply do not understand the ancient language that was used in the mapmaking. In other words, the ancient mapmakers and map users would not have required GIS or comparable forms of translation and interpretation aids, for they must have possessed a shared understanding of the symbolic language.⁵

A critical issue that remains to be addressed is the notion of domain. The military map was created for practical usage in a military context, and its primary purpose was to demarcate the Han-controlled territory in Changsha, as indicated symbolically by the defensive perimeter. The perimeter serves as both a physical and a metaphorical marker distinguishing the Han “self” from the exterritorial “other.” In other words, in the Han mind the perimeter is a visual symbol that

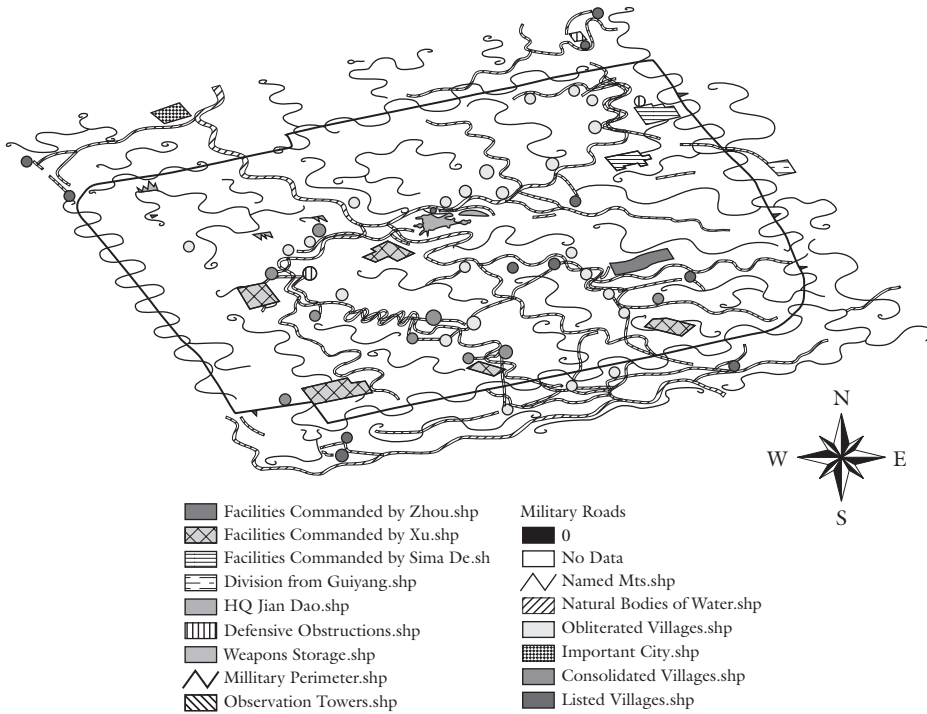


Figure 4.4 Phase III Future defensive planning. Image © Hsin-Mei Agnes Hsu

signifies the separation between the civilized world and the landscapes of untamed peoples.

Maps as evidence of domain

In Early China, the concept of domain extended beyond the living world and real space. One must remember that the Mawangdui maps were not found in the ruins of an ancient rampart but inside a spacious tomb furnished with all the trappings of an aristocratic household. The military map, for example, was folded neatly into twenty-eight layers, wrapped in a silk covering, and placed in a particular compartment inside a lacquered wooden box. The box was designed with a matching lid so that, when closed, the contents were properly protected. The box was then wrapped with another layer of silk covering. Finally, it was brought into the tomb and placed there ceremoniously, as part of a carefully selected assemblage of accoutrements, to accompany the tomb owner in the afterlife. At the moment of entombment, the military map ceased to possess real-world, practical values, because it was never again intended to be viewed or used by a living person. As a grave good, the map became part of the tomb owner’s postmortem reality, serving purely ritual purposes. The tomb is the encapsulation of a time, a space, and

a person's life. Time stops at the moment of entombment, and the map becomes a metaphor for a space that is preserved in perpetuity. From the perspective of the tomb owner, the landscape depicted in the map shall remain, eternally, his domain.

The tomb owner is commonly believed to be the son of the Marquis of Dai; the Marquis himself occupies Tomb Number Two at Mawangdui. In addition to the maps, the son was buried with a library of ancient books including texts on military strategy, and a collection of 38 funerary artifacts that were made to simulate real weapons. More importantly, a military official's cap was also discovered among the accoutrements. The fact that the occupant of the tomb chose or had chosen for him to be buried with these accoutrements shows that he must have been a high-ranking military officer in the regional government; the maps must have been a valuable administrative and military necessity in his lifetime.

The Anping Map of Eastern Han

The practice of including representations of imagined domain as funerary accoutrements continued into the subsequent period. A few tombs dated to the late Eastern Han dynasty have yielded material evidence of this practice; a notable example was found at Anping County, in modern central Hebei province.

The Anping tomb is an impressive subterranean structure built with the intention to replicate a grand estate of multiple chambers. The interior walls were decorated with a large number of polychromatic murals, painted in mineral-based colors over dry plaster using an organic bind mixture; this technique commonly known as dry fresco was also practiced by ancient Roman artists. An inscription found in situ dates the tomb to 176 CE toward the end of the Eastern Han dynasty (26–220 CE).

The painting in question was found on the western part of the northern wall in an ancillary chamber. At first glance, it is a large-scale mural showing a partial view of an architectural compound. (Figure 4.5). The baseline of the painting is set at 20 cm above ground; the painting itself is 230 cm long and 135 cm wide, and occupies an area that is roughly two-thirds of the entire northern wall. Scholars have determined that the compound is depicted to have a southern exposure "in light of China's architectural tradition of 'sitting in the north and facing the south,' the upper part of the painting should be the north" (Hebeisheng Wenwu Yanjiusuo 1990: 28). Therefore, the painting shows the southern, northern, and eastern parts of the compound; the western part is depicted only partially. As for the method of representation, it has been suggested that the artist had intentionally used the partial-view technique to demonstrate the compound's expanse (*ibid.*). Further, the use of the axonometric perspective enhances the effect – the object is so immense that it could not be represented in its entirety.

Geometric shapes drawn in black ink dominate the painting. Clean outlines of these shapes are formed by straight and even lines, which were drawn using rulers and T-squares. The artist used varying degrees of thick and thin lines to create

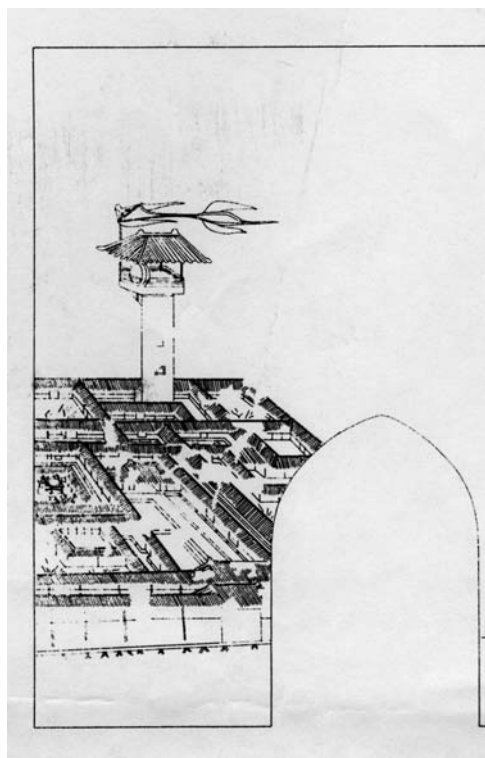


Figure 4.5 Line drawing of compound found in the tomb at Anping, Lüjiazhuang, Hebei province. Polychrome on dry plaster, *fresco e secco*

depth and volume. Doors, windows, and roofs are all painted in black. Corridors and some ridgepoles are painted in a grayish green color. Other ridgepoles are painted in an earthen brown close to the painting's background color and thus almost invisible to the naked eye after two millennia of natural deterioration. Red paint is used sparingly, only in two areas, the drum and the pennant. This visual aide effectively articulates the prominence of the two features and their iconographic significance for the composition as a whole.

A modern line drawing of the painting shows that buildings of various sizes, all arranged in the enclosure style (*sibeyuan*), form the perimeter of the compound. What is not clearly shown in the line drawing but definitely visible in the actual painting is an outer layer of walls; for this reason the layout of the compound resembles the Chinese character *hui*, which is best described as one small square enclosed inside a large square. The interior of the compound is further divided into smaller units of enclosed quadrangles, which seem to comprise a series of common spaces and residential areas connected by meandering pathways and covered corridors. The only entrance to the compound is a set of double gates situated in the center of the southern perimeter. The outer gate is covered with a roof that has overhanging eaves (*xuanshanding*), and the tip at either end of

the ridgepole flares out like an owl's tail (*zhimei*). Contemporary records indicate that this type of roofed gate was called *wu* (*ibid.*). The inner gate is structurally similar to the outer one. The roofs of both gates seem to be taller than the roofs of all the other buildings in the compound.

The inner gate opens into a large courtyard. At its northern end is situated a spacious hall oriented east-west; its roof is stylized in the same manner as those of the double gates. In context of the overall layout, this hall is the nucleus of the compound, and contemporary writers describe this type of structure as the formal audience hall (*tang*; *ibid.*). Two covered parallel corridors flank the courtyard and the audience hall; they would have provided sheltered passage between the entrance in the southernmost part of the compound and its inner sanctum.

Art Historical significance

In his study on Chinese vernacular architecture Ronald Knapp has observed that the origin of the enclosure style can be traced back to Early China and that it was already a common architectural element by the Eastern Han times.

The overall composition of the *sibeyuan*, a residential quadrangle, involves an orientation toward the south, clear axuality and balanced side-to-side symmetry. In both figures, the central courtyard and associated open spaces are generous portions of the overall dwelling, representing as much as 40 percent of the total area. Indeed, the principal courtyard is often larger than any of the structures which together make up the house. These structures surrounding the courtyard are single-story units with narrow verandas, providing a covered circuit for movement about the complex. Symmetrical placement of trees, walkways, and gateways complements the balanced proportions of the *sibeyuan* itself. Seclusion is ensured by the surrounding walls and gates. Yet from any position in the courtyard of these northern dwelling complexes, the sky appears to reach to distant horizons unobstructed either by the dwelling itself or by neighboring buildings. Larger *sibeyuan* complexes, created by the addition of more rooms and courtyards, maintain the overall links between the encompassed earth and expanding sky. (Knapp 1989: 38)

The compound in the Anping painting is made up of *sibeyuan* enclosures of various sizes. The main courtyard is in fact larger than the houses, including the central audience hall. Movement on foot within the compound is easy along the undulating but well-organized covered pathways. The layout is complex, and the infrastructure conveys a sense of symmetry.

Two buildings stand out: a tower on the northern perimeter of the compound and a freestanding structure inside a courtyard in the western part of the compound. The latter is a small building with a southern exposure. It sits on a platform and steps provide access to an elevated area. It is covered with a roof and the ridgepole has owl-tail shaped tips. Some have suggested that the structure thus depicted a pavilion (Hebeisheng Wenwu Yanjiusuo 1990: 28).

The tower consists of a pillar-like platform and an open-air hall on the top. The height of the platform can be determined by the three windows placed at an even distance. Combined with the one-story hall on top, the tower is an impressive five-story structure. The one-story hall on the top has a *wu*-style roof, painted in black; the ridgepole and its owl-tail shaped tips are all painted in earthen brown. Rising above the roof of the tower is a short black pole, to which a pennant in the shape of a long bird-tail, painted in red, is affixed. There is railing all around and inside the hall is a large drum. The drum was once painted in red as traces of the color are still visible. Some scholars have referred to this edifice as a watchtower (*wanglou*; *ibid.*), although it is not inaccurate to call it a drum tower (*gulou*).

In her study on Chinese imperial city planning, Nancy Steinhardt explains the architectural forms of the watchtower and drum tower and their functions:

Another feature of Chinese imperial city outer walls was the defensive projection, which took the form of a lookout tower or a protective battlement. Lookout towers were built at the four corners of a city and atop city gates, where troops could be quartered. (Steinhardt 1990: 7)

The last structure planned inside the walls of the Chinese imperial city was the freestanding tower. One and often two types of the multistoried structures stood on the main north-south axis of imperial Beijing and certain earlier Chinese capitals. The towers housed either a bell or a drum, and their functions were those of urban timekeeping devices. The bell or drum was sounded at regular intervals during the day and night. (*Ibid.* 16–18)

In the Anping painting, the tower's strategic location on the northern perimeter, impressive height, and crenellations confirm that its primary functions were for observation and defense. The large drum in the watchtower served various functions, primarily that of marking time. It was also used to sound the alarm when internal emergencies occurred, or when the security of the compound was threatened by an invasion. However, a tower with such a range of functions hardly matches the architectural reality described by Steinhardt. A logical explanation for this discrepancy is that the Anping painting does not portray a typical Eastern Han city, but rather a frontier homestead built to resemble a city. In other words, the Anping painting depicts a rural architecture infused with urban features.

The distinction between urban and rural Chinese architecture has been a topic of much debate, most notably between Frederick Mote and William Skinner in the late 1970s. Skinner contested Mote's proposition that "Chinese urban structures were indistinguishable from rural structures" (Mote 1977: 115–16), and argued that Chinese urban structures were noticeably different from rural structures in pre-modern times. "On the more prosaic level of architectural forms, Chinese cities did have their distinctive edifices: the drum tower and bell tower, the great examination hall, and the elaborate towers at the corners and gates of the city wall" (Skinner 1977: 16–17). In a recent publication on urban-planning in pre-modern

China, Xu Yinong reexamined Skinner's theory and approached the study of urban architecture from the standpoint that city walls had always been the fundamental feature of pre-modern city planning (Xu 2000: 175).

I have insisted that, in terms of architectural form and style, buildings in a traditional Chinese city can hardly be differentiated from buildings in its surrounding countryside. Structures that appear to be distinctively "urban," such as the city gate towers, the corner towers, the drum tower, and bell tower, were in fact a combination of one or two-story halls with the city walls or high raised, wall-like platforms on which the halls stood. The architectural form and style of these halls were not at all distinguishable from those on the ground; it was the city wall and wall-like platforms that rendered these particular "urban structures," in many cases (but not always), distinct from rural buildings. (Ibid. 243)

There is evidence to suggest that the homestead in the Anping mural is located in a rural area, likely somewhere far away from the capital on the northern border of the Han empire. The absence of any form of vegetation, water wells, and a moat indicates that the homestead is situated in a barren region of the Chinese territories. The most convincing piece of evidence, however, is the compound's layout. In a recent study on urban planning in the Han dynasty, Zhou Changshan asserts that Han cities in the northern border area were almost always built in the *hui* configuration with only one entrance in the center of the southern perimeter. Excavation of the ruins of an ancient city at Huhahaotetatu in Inner Mongolia (an area that was under Han control) confirms this observation (Zhou 2001: 61). Zhou explains that this architectural configuration reflects the terrain of the northern region and the defensive nature of these cities. The absence of a moat, which was already a common defensive feature of cities in the Central Plain region, is indicative of the aridity of the northern border areas. Furthermore, because the cities of the border area were built as defensive fortresses against nomadic invaders from the north, any openings along the northern perimeter would have been strategically vulnerable (ibid. 43).

The Chinese perspective

A key feature of the Anping painting is the artist's use of axonometric perspective, more commonly known as the parallel perspective. In modern engineering and computer graphic terminology, it is called the "Chinese perspective" because of the widespread belief that the modern practice had developed from the Chinese scroll painting tradition (Krikke 2000: 7–11). The axonometric perspective differs from the linear perspective based on Euclidian optics in that it has no explicit vanishing points, and in many cases, no explicit source of light. In a painting drawn from the axonometric perspective, objects farther away from the viewer are not smaller than those that are closer to the viewer. Thus, if information of the scale and properties of the projection in an axonometric drawing is provided, one can

determine the size of any object in the drawing; this is also the reason that modern graphic artists often use axonometric perspective drawings. The horizon in an axonometric drawing is set above the painting; this, as Joseph Needham explains, gives “many Chinese pictures the character of bird’s-eye views” (Needham 1971: 112).

Everything is seen as if from a height. The style is already present in the oldest Chinese landscape pictures still existing (1st century). Might this not be one reason why the word *tu* has always retained an ambiguity, being applied equally to maps and charts and to drawings and paintings? A curious consequence of this Chinese style has been pointed out by Wells (1935). In the European scene, the spectator feels that he has the scene thoroughly under control. “He looks into it, it is all *before* him, and even if it is seen from a great height, it is seen, so to speak, from the top of a solid cliff.” With the Chinese style the ground surface starts from the distance and slips past under the spectator’s feet to a goal infinitely beyond, i.e. below and perhaps behind him. (Needham 1971: 113)

Although Needham refers to a much later example (a line drawing of a landscape-architectural painting from Dunhuang; Needham 1971: 113, fig. 776) to illustrate this point, he clearly believes that use of the axonometric perspective can be traced back to as early as the Han times. “Parallel perspective can be found already in the drawing of the scenes carved in relief in the stone tomb shrines of the Han period (Chu Wei, Wu Liang, etc.). Diagonal lines strike off from the front line of the picture, with figures or buildings along them” (ibid. 114). Architectural plans shown in bas-relief and intaglio from the Han period – particularly those found in the Shandong province, such as the Wu Liang shrine and the Yinan tomb – have been examined in detailed studies by Wu Hung (1989) and Lydia Thompson (1998).

Apart from the Anping example, architectural murals have also been excavated from two large brick tombs with evident Eastern Han characteristics. Six were found in a tomb at Helinge’er, in modern Inner Mongolia; three of these have been studied in depth by Anneliese Bulling (1977–8: 83). In her meticulous account of the pictorial details of the Helinge’er murals published in the late 1970s, she observes: “Houses are drawn in different perspectives, some showing only the roofs as if seen from above, others showing a building as seen from the front” (ibid.). Further studies of two of the murals, the Ningcheng and Fanyangcheng cityscapes, confirm that they, too, were drawn in an axonometric perspective. Steinhardt’s descriptions of the two cityscapes elucidate their art historical importance:

As on the silk map from Mawangdui, walls are represented in the murals by thick lines. But close examination shows a difference from the silk map: the outer walls are fortified. Inside the walls stand multilevel buildings, and gate towers join the fortified wall faces. Moats surround the walls of some of the cities painted in the Helinge’er tomb. Inscriptions identify subjects as *cheng*, and provide names for specific buildings inside them. Walls and architecture are shown both from the top and the side, depending on which view is more instructive. Other cities’ walls painted on the

Inner Mongolian tomb walls are more complex. One, Fanyangcheng, offers both a bird's-eye view of city walls and a version of three-quarters perspective that remains a common format for the rest of the history of premodern East Asian painting of architecture. (Steinhardt 2000: 427–8)

Positioned on the northern wall of the corridor that connects the antechamber and the central chamber, the Ningcheng architectural mural would have been the first of the six that a mourner encountered (Neimenggu Wenwu Gongzuodui and Neimenggu Bowuguan 1974: 11). Thus this one is no doubt the most important of the six, leading Bulling to speculate: “This was the place where the Master of the Tomb was stationed at the time when he had reached his highest position as a Hu Wu-huan hsiao-wei, Colonel Protector of the Wu-huan” (Bulling 1977–78: 83). The Ningcheng cityscape was further examined by Wen Fong in a recent study.

A series of courtyard scenes created by parallelograms presents a bird's-eye view of enclosed spaces filled with rows of figures and buildings. Parallelograms also form the edges of a floor mat and the sides of a building to position the figures in space.

As with the diagonal lines of the gabled-roof motif of the Helingol wall painting, overlapping triangular mountain motifs are used to form parallelograms to suggest spatial recession in landscape representation. Over the years, I have used three diagrams to show how, between the eighth and the fourteenth century, the visual structure of Chinese landscape painting changed as painters mastered the representation of space. (Fong 2003: 273)

While these studies are integral to our formal analysis of the Anping painting, it is critical to recognize that the Helinge'er and Anping paintings are actually dissimilar; sizeable representation of architecture is all they have in common. The most obvious and important difference is the human element. In the Anping mural, the city is empty and devoid of human presence. In contrast, all six Helinge'er paintings portray the hustling and bustling of city life. As Steinhardt (2000: 428) comments, “Indeed, one observes more varied activity on the painted wall than in the main intersection of Ningcheng today!”

In the history of Western art, the parallel perspective was not the preferred method among artists, but it was an “alternative to the optical ‘deceptions’ of pictorial perspective” for achieving “precision in technical illustration” (Kemp 1990: 233). The most notable works in this field of study were produced by Johann Heinrich Lambert, a Prussian military scientist, and Reverend William Farish, an English mathematician and engineer. Lambert was initially known for his work on military cartography, which led him to become a pioneer in the study of non-Euclidian concepts (*ibid.* 222). His study on parallel projection resulted in the insight that it “became increasingly used to convey information,” so that it was called the “military perspective” (*ibid.* 233). Farish also championed the value of descriptive geometry in precision drawings, but he called it “isometrical perspective.”⁶

The use of axonometric perspective by Han Chinese artists is the reason that most architectural paintings from this period have been described as cities seen from an aerial view, or bird's-eye view. Jopling's illustration of an eighteenth-century European farmstead is not unlike the Anping mural of a homestead, produced in second-century China. The panoramic view is the expected effect and result of axonometry; the artistic intention was to create in postmortem reality a representation of the landscape that the occupant of the tomb had envisioned as his domain.

A look at the development of the axonometric perspective (and its many aliases) in Western art suggests that this visual device was not widely used for artistic enhancement but, because it shows descriptive geometry in precise terms, for military cartography and making engineering or architectural blueprints. This may have been the case in Early China as well. Extant records indicate that the concept of military maps predates the Han dynasty, and the discovery of the Mawangdui topographic and military maps has proven that the concept was put into practice before 168 BCE (Hsu 1978: 52–5). The complete lack of human presence in the Anping mural signifies that the artistic intention is to illustrate architectural and geographical details, while the painstakingly measured and meticulously executed lines reflect a high level of technical draftsmanship. Could it be possible, then, to view the Anping mural as a form of cartography? Could the mural have been the creation of a skilled mapmaker? In a recent study on ancient Chinese maps, a team composed of distinguished cartographers and historical geographers led by Cao Wanru included the Anping architectural painting as a rare example of Eastern Han cartography (Cao et al. 1990). This categorization is possible because the concept of a map (*tu*) in Early China was ambiguous and widely inclusive, and the Anping painting as a picture of geography can be interpreted in this context. As Needham explains,

Many geographical symbols of great antiquity are embedded in the Chinese language. The character for river (*chuan*) is an ancient graph of flowing water, the character for mountain (*shan*) was once an actual drawing of a mountain with three peaks, and that for fields (*tien*) shows enclosed and divided spaces. Political boundaries are seen in the character for country (*guo*) where the frontier encloses the symbols for “mouths” and “dagger-axes”, the eaters and the defenders. Bone and bronze forms of the character which came to mean “map” (*tu*) actually show a map. Unfortunately, this word acquired a general signification covering any kind of diagram or drawing, so that in cases where a book disappeared at an early time it is not possible to be sure whether the *tu* which it was said to have had were really maps. In any case it would not be far off the mark to guess that the picto-graphic character of Chinese encouraged the idea of mapping. (Needham 1959: 497–8)

Map as evidence of domain in the afterlife

It can be argued that the cultural-sociological significance of the Anping painting is best understood in a cartographical context. J. B. Harley's interpretation of mapmaking is particularly useful here:

Just as “the historian” paints the landscape of the past in the colors of the present, so the surveyor, whether consciously or otherwise, replicates not just the “environment” in some abstract sense but equally the territorial imperatives of a particular political system. Whether a map is produced under the banner of cartographic science – as most official maps have been – or whether it is an overt propaganda exercise, it cannot escape involvement in the processes by which power is deployed. Some of the practical implications of maps may also fall into the category of what Foucault has defined as acts of “surveillance,” notably those connected with warfare, political propaganda, boundary making, or the preservation of law and order. (Harley 1988: 279)

In this context, the Anping painting, or rather map, is regarded as an ethnographic text that represents a form of knowledge and power. It can be further argued that the Anping painting is an illustrated grave writ (*digi*). Grave writs have been found at numerous Eastern Han burials; each grave writ is a symbolic contract between the deceased and the bureaucrats of the Underworld concerning the ownership of the land that the tomb occupies (Seidel 1987: 21–57). Instead of a conventional grave writ, the owner of the Anping tomb commissioned an illustrated version of his vast domain. It cannot escape a viewer that the painting shows only parts of the compound; the partial view is a clever mechanism to imply its immense size.

Bulling has argued that, in the case of the Helinge'er tomb, the six paintings of cities are representations of “the various mo-fu – military administrative quarters – in which the Master of the Tomb had served during his lifetime” (Bulling 1977–8: 79–103). It is possible to apply the same argument to the Anping painting. A closer look at some of the representational differences between the Helinge'er and Anping paintings, however, strongly suggests that the latter was created to show the extents of the world according to the deceased. Lloyd Brown explains:

The maps and globes of Strabo's “ancients” fall into two general groups: representations of the whole world and maps of local areas. Which came first is a question, because on the earliest maps a representation of the home town might just as well be considered a map of the world, for that is exactly what it was to the person who made it – his world – a flat surface whose center could be marked with an X at the point of observation and whose limits were the circular horizon as it appeared from where he was standing. The circular horizon and the circular world expanded in direct proportion to man's mobility, and he probably speculated on how far he would have to travel before the horizon, the jumping-off place, could be reached. (Brown 1980: 33)

My explanation of the function and purpose of the Anping mural is based on the arrangement of the pictorial program in the tomb. An image of the tomb owner is depicted on the wall directly across from the mural of the homestead. The man is shown seated on a dais under a canopy, attended by servants. He is three times

larger than all other human figures depicted in this tomb and the only one shown frontally. His eyes are wide open and unusually large. His right hand is positioned in a way to suggest that he is gesturing. The style in which he is portrayed, his seated position, ensemble, and accoutrements, are signs of his moral character and his status as the tomb owner (Spiro 1990: 14). Although there are a few earlier images of deceased persons in Chinese art, this painting is the earliest known example of idealized portraiture that would develop into the standard form of portraiture in Chinese art before the introduction of photography. In this painting, the tomb owner's gesture and pose are particularly significant when interpreted in context of the pictorial program. The fact that the homestead is drawn from an axonometric perspective gives a sense that the tomb owner is looking down at it from a vantage point far above. Hence it can be inferred that the tomb owner is shown directing the viewer's attention to the mural of the homestead; without doubt, the theme of the pictorial program is domain.

It is logical to speculate that the Anping painting represents the earthly domain that the tomb owner once possessed. But an interpretation of the painting from an emic perspective, based on the funerary context and relevant material evidence, attests to its spiritual function as a map of a domain in postmortem reality. This notion of "stopping time and space" is also evident in the case of the Mawangdui maps. In both instances, the archaeological context provides a ritual dimension to the objects beyond their real-world, practical cartographic values, illustrating that in the Early Chinese mind the structured perceptions of territorial possession and extraterritoriality apply to real geography as well as to imagined landscapes.

Notes

- 1 Legalism (*fajia*) was a school of philosophy that emerged during the Eastern Zhou (770–256 BCE). It is commonly regarded as a political philosophy with a strong emphasis on the rule of law. For a detailed explanation and analysis of Legalism, see Schwartz 1985: 321–49.
- 2 Although three maps were discovered, only the topographic and military garrison maps are examined in this study. The third map is a considerably cruder schematic drawing showing some dwellings along what can be inferred as a road.
- 3 For an introductory explanation of GIS, see the United States Department of the Interior's Geological Survey website at http://erg.usgs.gov/isb/pubs/gis_poster/. "A GIS is a computer system capable of capturing, storing, analyzing, and displaying geographically referenced information; that is, data identified according to location. Practitioners also define a GIS as including the procedures, operating personnel, and spatial data that go into the system."
- 4 Although it is impossible to prove the validity of this conjecture, both *Shiji* and *Hanshu* record that the Nanyue were known to be a marine power and that the Han were able to conquer them only after discovering navigable routes that led directly to the Nanyue capital. Further, among the funerary artifacts found in the second Nanyue king's tomb, a large bronze vessel in the distinctive southern style bears a depiction of a war ship.

- 5 For a detailed study of the results of the GIS analysis of the Mawangdui maps, see Hsu and Martin-Montgomery 2007: 1–15.
- 6 Ibid. An illustration of Farish's ideas can be found in Jopling 1833.

References

- Brown, L. A. 1980. *The Story of Maps*. New York.
- Bulling, A. G. 1977–8. “The Eastern Han Tomb at Ho-lin-ko-erh (Holingol).” *Archives of Asian Art* 31: 79–103.
- Cao, W. 1989. “Some Questions on the Map Unearthed from a Qin Tomb in Fangmatan, Tianshui City.” *Wenwu* 12: 78–85.
- Cao, W., X. Zheng, and S. Huang. (eds.). 1990. *Zhongguo gudai ditu ji: Zhongguo-Yuan* (Ancient Chinese maps from the Warring States period to the Yuan dynasty). Beijing.
- Fong, W. 2003. “Why Chinese Painting is History.” *Art Bulletin* 85.2: 258–80.
- Harley, J. B. 1988. “Maps, Knowledge, and Power.” In Denis Cosgrove and Stephen Daniels (eds.), *The Iconography of Landscape: Essays on the Symbolic Representation, Design, and Use of Past Environment*, 277–311. Cambridge.
- Hebeisheng Wenwu Yanjiusuo. 1990. *Anping Dong Han bishua mu* (Anping Eastern Han painted tomb). Beijing.
- Hsu, H.-M., and A. Martin-Montgomery. 2007. “An Emic Perspective on the Mapmaker's Art in Western Han China.” *Journal of the Royal Asiatic Society* ser. 3, 17, pt. 4: 1–15.
- Hsu, M.-L. 1978. “The Han Maps and Early Chinese Cartography.” *Annals of the Association of American Geographers* 68.1: 45–60.
- Hsu, M.-L. 1993. “The Qin Maps: A Clue to Later Chinese Cartographic Development.” *Imago Mundi* 45: 90–100.
- Jopling, J. 1833. *The Practice of Isometrical Perspective*. London.
- Kemp, M. 1990. *The Science of Art: Optical Themes in Western Art from Brunelleschi to Seurat*. New Haven.
- Knapp, R. 1989. *China's Vernacular Architecture*. Honolulu.
- Korzybski, A. 1933. *Science and Sanity: An Introduction to Non-Aristotelian Systems and General Semantics*. New York.
- Krikke, J. 2000. “Axonometry: A Matter of Perspective.” *IEEE Computer Graphics and Applications* 20.4: 7–11.
- Mote, F. 1977. “The Transformation of Nanking, 1350–1400.” In W. Skinner (ed.), *The City in Late Imperial China*, 101–53, Stanford.
- Needham, J. 1959. *Science and Civilization in China*, III. Cambridge.
- Needham, J. 1971. *Science and Civilization in China*, IV. Cambridge.
- Neimenggu Wenwu Gongzuodui and Neimenggu Bowuguan. 1974. “Helinge'er faxian yizuo zhongyao de Dong Han bishua mu” (An important Eastern Han painted tomb at Helinge'er). *Kaogu* (Archaeology) 1: 8–23.
- Schwartz, B. 1985. *The World of Thought in Ancient China*. Cambridge, MA.
- Seidel, A. K. 1987. “Traces of Han Religions in Funeral Texts Found in Tombs.” In Akizuki Kan'ei (ed.), *Dōkyō to shūkyō bunka*, 21–57. Tokyo.
- Skinner, W. 1977. “Introduction: Urban Development in Imperial China.” In W. Skinner (ed.), *The City in Late Imperial China*, 3–31, Stanford.
- Spiro, A. 1990. *Contemplating the Ancients: Aesthetic and Social Issues in Early Chinese Portraiture*. Berkeley.
- Steinhardt, N. 1990. *Chinese Imperial City Planning*. Honolulu.
- Steinhardt, N. 2000. “Representations of Chinese Walled Cities in the Pictorial and Graphic Arts.” In J. D. Tracy (ed.), *City Walls: The Urban Enceinte in Global Perspective*, 419–60. Cambridge.

- Thompson, L. 1998. *The Yi'nan Tomb: Narrative and Ritual in Pictorial Art of the Eastern Han*. PhD dissertation, New York University.
- Wells, W. H. 1935. *Perspective in Early Chinese Painting*. London.
- Wu, H. 1989. *The Wu Liang Shrine: The Ideology of Early Chinese Pictorial Art*. Stanford.
- Xinhua News Agency. April 30, 2002. "Over 2,200-Year-Old Map Discovered in Northwestern China" (English online version).
- Xu, Y. 2000. *The Chinese City in Space and Time: The Development of Urban Form in Suzhou*. Honolulu.
- Zhou, C. 2001. *Handai chengshi yanjiu* (A study of Han cities). Beijing.

Nonary Cosmography in Ancient China

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The “geography” or “cartography” that I propose to discuss in this chapter is not so much representational or descriptive as it is operational and prescriptive. It is concerned mainly with the ordering of various types of space, ranging from the agrarian to the cosmographical, according to the pattern of the square divided into nine equal squares or the 3×3 nonary grid, one of the great world-ordering discoveries or inventions attributed to the ancient sages. This ordering falls between the cracks of modern academic disciplines and branches of learning, such as geography, cartography, and even cosmography. If it is the latter at all, it is best thought of as an applied, or perhaps performative, cosmography. Its study tells us little about the early history of maps and mapmaking in China (because its patterns may be too schematic to be called “maps”), and not even much about early Chinese worldviews (because its designs rarely aim to encompass the whole world, as did the medieval European *mappaemundi*). Among modern disciplines, the closest analog of this space-ordering activity is perhaps architecture or, better, landscape architecture, except that homologous templates are applied to the various orders or dimensions of space. All of this activity may fall outside the purview of present-day academic disciplines, which typically exclude applied or performative cosmography.

Perhaps even more disturbing is the consideration that some of the questions that modern historians of ancient Chinese geography, ethnography, and cartography may ask of their sources – such as “How did the ancient Chinese conceptualize the world?” or “How did the ancient Chinese distinguish between themselves and outsiders?” – are often not the *main* concern of ancient Chinese space-ordering texts. To address such questions directly, and to answer them satisfactorily, often requires reading between the lines of the relevant classical texts. The consequences of addressing the ancient sources by way of questions that primarily interest modern

(or perhaps postmodern) scholars are sometimes not fully appreciated. Such questions may, for example, lead scholars to skim (or to milk) the classics for their alleged droplets of “real significance.” This approach may leave out in the cold large parts of ancient space-ordering texts that do not address questions most often asked by modern scholars.

In this area, a question more in accord with the mentalities of the ancient Chinese applied cosmographers has to do not so much with the representation of space, as with its construction in various dimensions in order to best achieve the goals of (Confucian) statecraft, especially benevolent government, which begins with demarcating boundaries. The subject may not be one that would interest many modern scholars. The general solution to the problem embodied in the nonary square – even when it is dressed up in the numerological mysticism of magic squares and the “nine palaces” – might well inspire ridicule upon first sight. But even if the geometry of the grid seems rather simple, not to say simplistic, its historical unfolding through both ancient and imperial Chinese history is a more complex and perhaps interesting matter. It did not emerge full-blown from the undershell of the Lo-River turtle – the purported source of the nonary grid – and of the “Greek cross” (in Chinese called “*ya*-shape”) that may have been its prototype. Moreover, the grid was easily expandable; it could be reproduced endlessly to generate a city and even an empire, as de Tocqueville pointed out (Lewis 2006: 256).

By far the simplest and most widely known manifestation of nonary cosmography in ancient China is the well-field system, described most sympathetically in the *Mengzi* (Mencius) as the ideal agrarian regime that provides for the livelihood of the cultivators, the revenue of the state, and the peace and prosperity of the realm as a whole. However, squarish antecedents of the 3×3 grid go back to the dawn of Chinese cultural history. According to K. C. Chang (1977: 291), Shang dynasty (*c.* 1500–*c.* 1045 BCE) “domiciles, palaces, temples, and tombs were invariably square or oblong, governed in orientation by the four cardinal directions and dominated in design by a persistent attempt at symmetry.” David Keightley points out (2000: 81) that, although in “political terms, the domain of the Shang state and its allies was . . . honeycombed with non-Shang or enemy groups, . . . in cosmological terms the Shang conceived of a square world [or one shaped like a Greek cross], oriented to the cardinal points.” In other words, Shang cosmography was far more schematic than was the “actual” political geography of the time.

Having been established as early as the Shang era, the squarishness of the cosmos became a fixture in Chinese cosmography culminating in the Han era, when the first explicit statement of the squareness of the earth appears in the *Zhoubei suanjing* (“The Mathematical Classic of the Gnomon of the Zhou [Dynasty],” *c.* 2nd century BCE; Major 1993: 32). By that period, the square was so firmly anchored in Chinese cosmography that it came to be regarded not only as the form in which the world was cast, but as constitutive of space in general. In the words of the imaginative French sinologist, Marcel Granet (1950: 90), Han cosmologists believed that “every surface . . . is in itself square.” According to Granet’s interpretation of a passage from the *Shanhaijing* (“Classic of Mountains and Seas”),

even the area illuminated by a torch was measured as a square. The square, in short, was everywhere (at least on the terrestrial plane), as was the quincunx (lozenge or diamond) in the fevered imagination of Sir Thomas Browne, who saw “Quincunxes in Heaven above, Quincunxes in Earth below, and Quincunxes in the water beneath the earth” (Henderson 1994: 203).

Just why the figure of the square dominated applied Chinese cosmography as thoroughly as the circle did the more theoretical cosmography of the ancient Greeks is a matter of speculation. Keightley’s view seems to me the most plausible (2000: 81–2): “The relative monotony of the North China alluvial plain may help explain the cultic attention that the Shang paid to directions, the one sure indicator in a landscape that . . . lacked prominent topographical features. Such a topography would have encouraged the construction of a geometric plan . . . to provide shape and meaning.” Sarah Allan, on the other hand, proposes that the undershell of a turtle – a square with four smaller corner squares removed – provided the model for the Shang cosmos (1991: 75). But whatever the origin of the squarish cosmos in ancient China, it was not as celebrated as its circular counterpart in ancient Greece. To the best of my knowledge, no classical Chinese philosopher ever composed a paean to the square as Aristotle did to the circle in *De Caelo*, calling it a “perfect thing” (Ross 1927: 126; see also Jowett 1937: 2. 511 for Plato).

However, the world-ordering squares that figure so prominently in classical Chinese texts are further articulated in the form of the 3×3 grid (or the design of the Greek cross with the corner squares added). As already mentioned, this grid shows up most simply and famously in later versions of the well-field system. According to the great twelfth-century Neo-Confucian philosopher, Zhu Xi, all other applications of the 3×3 grid arise from this well-field schema (*Liji Jishuo* 1984: 3.35b–36a). So here is perhaps the best place to begin our survey of applied nonary cosmography in ancient China.

The name “well-field” refers to the fact that the ideal shape of the boundaries for dividing and allocating agricultural land in this utopian schema resembles the Chinese character for “well” (*jing*), a rough approximation of the 3×3 grid minus the perimeter lines. But if several modern commentators on the early history of the well-field are correct, the arrangement originally had no particular geometrical form. Wu Ch’i-ch’ang, for example, concluded from his study of the schema that its units “were lacking in definite boundaries and units of calculation for land” (Wu 1966: 67). According to Hsu Cho-yun, the well-field arrangement at first was not a mensural scheme at all, but “something like a manorial system, under which the peasant was merely a manorial dependent” (Hsu 1971: 112). Wolfram Eberhard also presents a non-mensural (and perhaps even non-nony) picture of the original system (1965: 34–6). He speculates that the nine units that appear in the classical (geometrized) version of the system were in ancient times only scattered clearings made by the inhabitants of fortress communities at the beginning of spring when they ventured out of their winter retreats.

Whatever the primeval character of the well-field arrangement may have been, the earliest notices of the system in ancient China – those that appear in the

classical *Zhouli* (“Rites of Zhou”) and *Mengzi* – represent the nine fields as regularly shaped and spaced (*Zhouli* 42.1b; *Mengzi* 3.1:3), with each of the eight peripheral squares allotted to a family of cultivators. Paul Wheatley (1971: 176) suggests that this geometrical reformation of the well-field (the early stages of which are reflected in the classics) was completed by what Bernhard Karlgren has called the “systematizing [syncretizing] editors” seeking to satisfy the demands of regularity, as well as perhaps linking up with other current nonary schemas. If the generally accepted dates for the *Zhouli* and *Mengzi* are correct, this geometrical schematization probably began in the Warring States period. It would then have been consummated in the Han period in such works as the *Gongyang* and *Guliang* commentaries to Confucius’ *Spring and Autumn Annals*, resulting in what Nylan has called “the most symmetrical story ever told” (2001: 195).

With this reification accomplished, classical commentators and political reformers of later ages repeatedly proposed actually measuring and allocating the land of the realm according to the geometrical version of the well-field arrangement. Following the *Mengzi*, the more utopian among them generally argued that the central square of each nonary set, the “public field” (*gongtian*), be cultivated in common for the benefit of the state. Even where a full-blown well-field system was unattainable, the grid was used in China as early as the fourth century BCE to allocate taxation and rewards. It was basic to all spatial administration of the time (Lewis 2006: 246). Although attempts to “restore” the pristine well-field system were seldom, if ever, successful for long in China, they left a more permanent imprint on Japan, where the checkerboard pattern of the well-field system imposed during the Taika reform of the seventh century can still be detected over a wide area (Hall 1970: 54). But perhaps the oddest vestige of well-fields in Japan or anywhere else is in the “nine-squared plots in public parks which had once been gardens of the daimyo,” where they invoked the Confucian ideal of benevolent rule (de Bary 1985: 32). Probably the best known of this type is the “miniature well-field incorporated into a few square feet of the garden at the Zen temple of Tofukuji in Kyoto” (ibid.). Hence this grand utopian schema that inspired such vigorous polemical battles between reformers and conservatives over more than two millennia eventually found a friendly reception, and perhaps even a permanent home, in the realm of Zen aesthetics.

In China, as late as the seventeenth century, the Neo-Confucian scholar Lu Shiyi (1611–72) harbored the more daring idea of reimposing a well-fieldian physiographical grid on the landscape as a whole, as had supposedly been done under the Three Dynasties of high antiquity (traditional dates 2183–256 BCE). In contrast to the lackluster designs of latter-day cartographers, whose lines of latitude and longitude existed only on paper, the bold-faced cartographers of high antiquity managed to impose a rectilinear mold on the face of the earth. They thus accomplished the unification of the cartographical and physiographical orders, even to the extent that topographical features, especially ditches and other barriers, conformed to parallels and meridians on the map. But from the end of the Three Dynasties and the fall from high antiquity, Lu lamented, actual boundaries

increasingly failed to conform to the lines of the cartographical grid, as rivers, fields, and hills with rounded edges and borders began to appear. In later times, such irregularities proliferated to the point that the oblique and the curvilinear became the rule. Even worse, odd units of land appeared in the irregular interstices between geographical features. Even so, perhaps circumstances would arise to make possible the gradual reimposition of the ancient grid and the elimination of the insidious irregularities that had come to deface the surface of the earth, thus paving the way for the reunion of the cartographical and the physiographical orders (Lu 1975: 191–6).

Lu's contemporary, the famous scholar Gu Yanwu, argued that an additional, more practical advantage of the ancient ditched well-fields was that they furnished physical barriers against the depredations of barbarian cavalry invading from the steppe. Thus, by making long walls and great armies unnecessary, such well-fields facilitated the maintenance of local autonomy in ancient China. The Great Wall, Gu contended, had to be constructed only after the old agrarian regime with its built-in impediments to cavalry attack had vanished (Gu 1970: 31.908).

However, at least one aspect of the ancient well-field system, its rectilinear boundaries, found only a few defenders among scholars of late imperial China, Lu and Ku notwithstanding. One of the most likely reasons for this latter-day revolt against rectilinearity was the growing popularity of *fengshui* ("wind and water"), an art concerned primarily with the siting of such structures as buildings and graves in auspicious locations so as to benefit the living and pacify the dead. In contrast to Han cosmographers, *fengshui* practitioners developed a distaste for straight lines and rectilinear forms. They much preferred that meandering, undulating, and even tortuous lines should inform the areas around the structures they were siting (Skinner 1982: 25). They regarded flat landscapes of the kind that were ideal for the situation of the well-fields as "old, tired, [and] worn-down" (ibid. 37).

A second nonary schema, also apparently geometrized by commentators of the late classical era, was the pattern of the *jiuzhou*, the "nine provinces" or regions of the realm. These two schemas, the well-fields and the nine-provinces, were sometimes associated rhetorically with one another. For example, the great eighteenth-century historian, Zhang Xuecheng, remarked that at a certain historical juncture in the evolution of the Dao ("Way, Path") there must arise "ideas about setting up a sovereign, establishing teachers, marking off fields, and dividing up the country into provinces, along with the notions of the well-field, feudal investiture and schools" (1970: 2.1–2, relying heavily on translation by Q. Edward Wang (2006)). In other words, both the well-fields and the nine-provinces ranked among the great civilizing inventions or institutions that arose naturally and inevitably out of the historical development of the Dao, having the same order of importance as sovereigns and teachers.

The *locus classicus* of the *jiuzhou* is the "Yugong" ("Tribute of Yu") chapter of the *Documents Classic*, a text dating from the Warring States era which narrates the exploits of the mythical emperor Yu the Great. It presents the boundaries of the original provinces of China, said to have been surveyed by Yu, as very uneven, marked by such sinuous and meandering physical features as mountains and rivers.

A later interpretation of the *zhou* as the “habitable places [or islands] in the midst of the waters” that were supposed to have once flooded China (Lu Longqi 1965: B.46–7), also implies that its boundaries (or shores) were not staked out according to any cosmographical model. There is, in fact, little indication in any pre-Han source of the *jiuzhou* having been conceived along geometrical lines.¹

Even before the nine provinces were geometrized in the form of either the 3×3 grid or the nine concentric squares, the late-Zhou philosopher, Zou Yan (c. 305–240 BCE), built a numerological cosmography on the basis of the classical *jiuzhou*. Zou held that these nine regions which comprised China – the Middle Country – occupied only one-ninth of the Red Continent, which in turn constituted one-ninth of the total land area of the world (Sima 1972: 2344). Although no contemporary source indicates that Zou conceived any of these units on geometrical lines, Schuyler Cammann has speculated that Zou may have known of the magic square of 81 cells (the “Giant Lo-shu”) “and that he was inspired thereby to suggest his eighty-one divisions of the world” (1961: 67).

Later constructions of the *jiuzhou* through the late Zhou and early Han eras, particularly those in the *Zhouli*, the *Lushi chunqiu*, and finally the *Huainanzi*, “tend to become successively schematic and tabular in approach,” according to John Major (1993, 137). Thus, while the *Zhouli* still “locates the nine provinces partly by reference to natural benchmarks, . . . *Huainanzi* 4 is completely schematic.” The “Wangzhi” (“Royal Institutions”) chapter of the canonical *Liji* (“Record of Rites,” c. first century BCE) virtually completes the geometrical schematization of the *jiuzhou* in saying that “within the four seas, there are nine regions, each a thousand *li* square” (*Liji Jishuo* 1984: 3.3b). But in the process of schematization, the implied “map” of the *Yugong* has become so geometrized as to be divorced “almost completely from the area it is describing” (Major 1993: 140). As Major puts it, “the ‘map’ is simply the base [nonary] grid pattern” (ibid.). Viewed from the standpoint of the history of cartography, this might seem to be a step backward. From the cosmological standpoint, however, it helped to integrate “geography” into the greater nonary cosmography then under construction, as well as to furnish a universal grid for the delimitation of administrative boundaries on scales ranging from the local district to the universal empire.

However fanciful the geometrized version of the *jiuzhou* might appear to be, reformers in Chinese and Japanese history occasionally proposed reconstituting the boundaries of administrative districts, as well as of agricultural fields, along regular rectilinear lines. Even as late as 1871 in Japan, the new Meiji government attempted “to rationalize local administration by dividing the entire country into large squares of uniform size called *ku*” (Hall 1970: 276). Almost three decades later, the prominent Confucian reformer, Kang Youwei (1858–1927) proposed the eventual establishment of a similar administrative scheme in China, with the boundaries of his proposed districts being “fixed arbitrarily on the basis of square degrees of longitude and latitude” (de Bary and Watson 1960: 2. 66). Although the Japanese experiment was quickly abandoned and Kang’s proposal was never implemented, the appearance of such proposals by prominent statesmen as recently as the late nineteenth century indicates the degree to which the political geometry

(or applied cosmography) formulated in late classical and Han China continued to be regarded as a source of solutions for boundary issues. By contrast, analogous ideas proposed by philosophers in Western antiquity, such as Plato's dictum that 5,040 constituted the ideal number of citizens per unit in the just society (Jowett 1937: 2. 511–12), were rarely if ever taken seriously by those in power, much less actually implemented.

Chinese scholars in later imperial times, however, virtually reversed the geometrization of the classical nine-provinces schema achieved by scholars of the Warring States and Han eras, whose primary concern was to integrate this schema into the emerging nonary cosmography. This restoration of the *jiuzhou* to the realm of physical and economic geography in late imperial times was prefigured in the twelfth century by the great neo-Confucian philosopher, Zhu Xi, who argued that interpretations of the nine provinces in terms of political geometry were inventions of later commentators, and that the ancient states and regions were bounded by mountains and rivers. Zhu remarked that “the system of marking off the borders of states [by straight lines] was only a method of calculation laid down by Han scholars. The reality was not like this. In establishing a state, it is necessary to proceed according to the terrain. There is no pattern that can be simply marked off into squares” (*Rijiang Liji Jiayi* 1979: 13.9a).

Even though scholars of late imperial China mostly rejected the geometrized versions of the nine-provinces schema, they did not regard it simply as a politically neutral map or matter-of-fact description of the physical geography of the empire. Rather, they retained some of its prescriptive and operational qualities, or at least did not abandon the ancient tendency “of attaching political power to maps themselves” (Yee 1994: 77). This is perhaps most apparent in the works of the great seventeenth-century scholar Gu Yanwu, who famously lamented that erroneous interpretations of the bounds of the ancient *jiuzhou* were responsible for one of the greatest ecological, demographic and political disasters of later imperial Chinese history, the progressive impoverishment, depopulation, and loss of the once flourishing Northwest. Later commentators' exclusion of this region from the classical *jiuzhou*, according to Gu, had facilitated the transfer of the center of cosmic gravity (*tiandi zhi qi*) from the Northwest to the Southeast, leaving the former high and dry (Gu 1970: 626–7). To recover this area, Gu proposes not only extensive reclamation projects but also a change in geographical nomenclature. Even as late as the late Qing and early republican era, prominent reformers and scholars such as Tan Sitong (1865–98) and Gu Jiegang continued to lament the decline of the Northwest and the narrow limits that the classical nine-provinces conception had allegedly set on China's territorial expansion (Qian Mu 1968: 2.668; Gu 1970: 117–18).²

The well-fields and nine-provinces by no means exhaust the list of nonary cosmograms in late classical China. Moreover, even apart from these additional cosmograms, late classical texts enumerated numerous geographical and anatomical features by “nine,” including the nine rivers, nine branches of the Yellow River (“Yugong”), nine marshes, nine mountains, nine passes of the mountains, nine fields of the heavens (*Lushi chunqiu* and *Huainanzi*), nine latitudinal and nine

meridional avenues of the capital (*Zhouli*), nine orifices, nine viscera, and nine divisions of the human body (*Huangdi neijing suwen*), and even the nine wells of the realm of the dead (Eberhard 1993: 207). Such a plethora of nines arises from the fact that “The number ‘nine’ had from ancient times been used to suggest an undefined large number” (Lewis 1999: 648). Here is not the place to cover the further manifestations of nonary numerology or even cosmography in late-classical China, particularly the astrological (embodied in the *fenyue* system which correlates the fields of the heavens with the regions of the earth), the architectural (the *mingtang* or “hall of light”), and the classical city plan (as well as such artifacts as TLV mirrors and divining boards that are apparently based on the “nine palaces” schema). Space is also lacking here to discuss the magic square numerologies attached to the “nine palaces” formation (as discussed by such scholars as John Major and Marc Kalinowski), based in part on Mawangdui texts (the “Xingde”) which contain the earliest extant example of a “nine palaces” diagram. As Mark Lewis points out, much of the appeal of the grid arose from the development of magic square cosmograms (2006: 251).

However, as a way of showing the wide ramifications of this type of diagram (and of the Greek cross from which it may have originated), I close by comparing the astrological nine-palace diagram from Mawangdui (representing the outer cosmos) with a structurally similar map of the moral mind (the inner cosmos), composed almost 2,000 years later by the seventeenth-century Neo-Confucian philosopher Yan Yuan. Insofar as the philosophers of the Neo-Confucian school of moral mind taught that patterns and principles (*li*) of the universe are all fully formed within the inexhaustible moral mind (*xin*), what could be more appropriate than to outline the contours of this moral mind employing the same cartographical framework and conventions used to outline the various macrocosms of the outer world, ranging from the agrarian to the astrological? Moreover, to take the story back another thousand years, to the earliest era of Chinese history, the Shang, where this survey of nonary cosmography began, the shapes of the cross-sections of royal Shang tombs appear to approximate the form of the cruciform or Greek cross (called the *ya*-shape in Chinese), which also features in the nine-palace diagram from Mawangdui (2nd century BCE) and in the map of the moral mind by Yan Yuan (seventeenth century CE). Inasmuch as correct orientation toward the four quarters is very important in situating both the *ya*-shaped figures and the later nonary cosmograms, there is no cause to be unduly surprised at what Derk Bodde called “the exquisite Chinese awareness of absolute orientation” (Bodde 1991: 108, 119).³

Notes

- 1 The “Yugong” also “describes a second scheme of geographic subdivision,” a series of five concentric squares called the “five dependencies” (*wufu*) in which the degree of barbarism appears to increase with the square of the distance from the center (Yee 1994: 76). In this schema, the “royal domain” is in the center, next the “princes’ zone,” next

the “pacification zone,” next the “zone of compacts,” and last the “wild zone” (ibid). Later, during the Han, the *jiuzhou* was likewise reinterpreted as a series of nine concentric squares with a similar progression from civilization to barbarism proceeding from inner to outer.

- 2 This idea that the classical *jiuzhou* were inadequate to encompass the whole of China, of course, reflects that great territorial expansion of China under the “barbarian” rule of the Manchus. Chinese patriots of the Song era would have been very happy to see the reunification of the nine provinces under Chinese rule, as the following poem by Lu You brings out:

Near death, I realize that the myriad affairs of this life are vain;
 Yet I'm sad that I have not lived to see China's nine provinces reunited.
 When the royal armies strike northward [to recover] the Central Plain,
 At the family altar do not forget to tell thy sire.
 (*Jinsi yuanzhi wanshi kong; dan bei pujian jiuzhou tong.*
Wangshi beiding zhongyuan ri; jiaji wu wang gao nai weng.)

- 3 Observe that the character “ya” refers not only to the shape of the cruciform, but also (in modern Chinese) to the continent of Asia: “Yazhou.” Thus here, maybe, is an Asiatic mode of mensuration, superseding the much maligned Asiatic mode of production. In other words, Asia is the continent or subcontinent (*zhou*) where territories are marked off by “ya’s” and their derivatives, with the corners painted in, which forms a 3 × 3 grid.

References

- Allan, Sarah. 1991. *The Shape of the Turtle: Myth, Art, and Cosmos in Early China*. Albany.
- Bodde, Derk. 1991. *Chinese Thought, Science, and Society: The Intellectual and Social Background of Science and Technology in Pre-Modern China*. Honolulu.
- Cammann, Schuyler. 1961. “The Magic Square of Three in Old Chinese Philosophy and Religion.” *History of Religions* 1: 37–80.
- Chang, Kwang-chih. 1977. *The Archaeology of Ancient China*, rev. edn. New Haven.
- de Bary, William Theodore. 1985. “Introduction.” In de Bary and JaHyun Kim Haboush (eds.), *The Rise of Neo-Confucianism in Korea*, 1–58. New York.
- de Bary, William Theodore, and Burton Watson (eds.). 1960. *Sources of Chinese Tradition*, II. New York.
- Eberhard, Wolfram. 1965. *Conquerors and Rulers: Social Forces in Medieval China*, 2nd rev. edn. Leiden.
- Eberhard, Wolfram. 1993. *A Dictionary of Chinese Symbols: Hidden Symbols in Chinese Life and Thought*. Trans. G. L. Campbell. London.
- Granet, Marcel. 1950. *La pensée chinoise*. Paris.
- Gu Yanwu. 1970. *Yuanchaoben Rizhilu* (The Original Manuscript Version of the Record of Daily Knowledge). Taipei.
- Hall, John W. 1970. *Japan from Prehistory to Modern Times*. New York.
- Henderson, John B. 1984. *The Development and Decline of Chinese Cosmology*. New York.
- Hsu, Cho-yun. 1971. *Ancient China in Transition: An Analysis of Social Mobility, 722–222 BC*. Stanford.
- Jowett, Benjamin (trans.). 1937. *Plato, Laws*. In *The Dialogues of Plato*, II. New York.
- Keightley, David N. 2000. *The Ancestral Landscape: Time, Space, and Community in Late Shang China (ca. 1200–1045 BC)*. Berkeley.

- Lewis, Mark Edward. 1999. "Warring States: Political History." In Michael Loewe and Edward L. Shaughnessy (eds.), *The Cambridge History of Ancient China: From the Origins of Civilization to 221 BC*, 587–650. Cambridge.
- Lewis, Mark Edward. 2006. *The Construction of Space in Early China*. Albany.
- Liji Jishuo* ("Collected Explanations of the Record of Rites"). 1984. In Chen Hao (ed.), *Sishu Wujing Song-Yuan Ren Zhu* ("The Four Books and Five Classics with Song and Yuan Commentaries"). Beijing.
- Lu Longqi. 1965. *Sanyutang Riji* ("Diary from Three-Fish Hall"). Taipei.
- Lu Shiyi. 1975. *Sibian Lu Jiyao* ("Epitome of the Record of Thinking and Sifting"). Comp. Zhang Boxing. In *Kunzhi Ji Deng Sanzhong* ("The Record of Hard Study [of Lo Qinshun] with two other works of the same sort"). Taipei.
- Major, John S. 1993. *Heaven and Earth in Early Han Thought: Chapters Three, Four, and Five of the Huainanzi*. Albany.
- Mengzi Zhao Zhu*. ("Mencius with Zhao's Commentary"). 1982. Annotation Zhao Qi. Taipei.
- Nylan, Michael. 2001. *The Five "Confucian" Classics*. New Haven.
- Qian Mu. 1968. *Zhong'Guo Jin Sanbainian Xueshu Shi* (History of Chinese Learning of the Past Three Hundred Years). Taipei.
- Rijiang Liji Jieyi* ("Daily Talks which Explain the Meaning of the Record of Rites"). 1979. In *Yingyin Sikuquanshu Zhenben, Jiuji* ("Reprints of Rare Editions from the Complete Library in Four Treasuries, series 9"). Taipei.
- Ross, W. D. (ed.). 1927. *Aristotle, Selections*. New York.
- Sima Qian. 1972. *Xinjiao Shiji Sanjia Zhu* ("Newly Collated Records of the Historian with Commentaries by Three Scholars"). Taipei.
- Skinner, Stephen. 1982. *The Living Earth Manual of Feng-Shui: Chinese Geomancy*. London.
- Wang, Q. Edward. 2006. "Time, History, and Dao: Zhang Xuecheng and Martin Heidegger." In Chun-chieh Huang and John B. Henderson (eds.), *Notions of Time in Chinese Historical Thinking*, 131–53. Albany.
- Wheatley, Paul. 1971. *The Pivot of the Four Quarters: A Preliminary Enquiry into the Origins and Character of the Ancient Chinese City*. Chicago.
- Wu Ch'i-ch'ang (= Wu Qichang). 1966. "The Chinese Land System before the Ch'in Dynasty." In E-tu Zen Sun and John De Francis (eds.), *Chinese Social History*, 55–81. University Park.
- Yee, Cordell D. K. 1994. "Chinese Maps in Political Culture." In J. B. Harley and David Woodward (eds.), *The History of Cartography*, II. 2: *Cartography in the Traditional East and Southeast Asian Societies*, 71–95. Chicago.
- Zhang Xuecheng. 1970. *Wenshi Tongyi* ("The Comprehensive Meaning of Literature and History"). Taipei.
- Zhouli Jinzhu Jinyi* ("The Rites of Zhou with Modern Commentary and Translation"). 1972. Ed. Lin Yin. Taipei.

Knowledge of Other Cultures in China's Early Empires

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China's neolithic settlements may be dated between 8500 and 3000 BCE. The use of bronze, the certain appearance of writing, and the confirmed remains of buildings date from *c.* 1500 BCE, thereby initiating China's historical periods. Records for this early age are limited to accounts of oracular practices performed for or by the leaders of these communities, the kings of Shang (1570–1045 BCE). The arts of writing and record-keeping developed steadily in the succeeding centuries of the kings of Western Zhou (1045–771 BCE) and of a series of co-existent rulers of various parts of the land in the Spring and Autumn (*Chunqiu* 771–431 BCE) and Warring States (*Zhanguo* 431–221 BCE) periods. The emerging written accounts of China's mythology and early history told of the ways in which these kings or leaders governed and claimed to protect their lands and their peoples. While these accounts cannot be correctly described either as chronicles or archives, they include a few references to peoples or tribes who dwelt in the north and who were alien to the ways of life that prevailed in China's heartland. There is no information in these writings that would serve to identify such peoples, distinguish between different groups, or tell of the features of the lands where they had their habitat.

By comparison with the territories of the later Chinese empires, let alone that of today's People's Republic, the lands over which these leaders, including the kings of Shang and Western Zhou, exerted their powers were small. The first of the Chinese empires, named Qin, was founded in 221 BCE. It extended its government far more widely, claiming to be the sole authority entitled and able to do so, and set up administrative units that stretched from present-day Shaanxi to Shandong, from Hebei to Guangdong. In this way Qin initiated China's imperial dynasties, and it is from records of these empires that more ordered accounts, which may be termed historical, begin to emerge. It is mainly with these early empires, from 221 BCE to 220 CE, that this chapter is concerned.

The Standard Histories and Other Documents

From early imperial times onwards scholars and officials of government produced a series of 25 dynastic histories, each treating a period marked by the rise and fall of a particular imperial house. The period for which such houses lasted varied from decades to centuries, and the area they ruled from a few counties to the greater part of the sub-continent. The degree and extent of documentation about each house varies greatly. The *Shiji*, the first of these dynastic or Standard Histories, which was perhaps completed by 90 BCE, in fact set out to trace the tale of man's emergence from the earliest times; it included some statements that derived from mythology and reiterated matters that could not be corroborated. For the first part of the imperial periods – that is, Qin, and the first century of Western Han (206–c. 90 BCE) – the authors of the *Shiji* were able to call on official records and other sources that helped them compile their 130 chapters. Some of the later Standard Histories are of comparable length, and like the *Shiji* they include one or more chapters that are devoted to the peoples and leaders who lived beyond the sphere where Chinese imperial officials operated, unable to take part in the way of life and public institutions of the empire or to benefit from its cultural and material achievements.

These histories were compiled by officials of a dynasty, often with the purpose of proclaiming the glories of their masters and demonstrating the splendors of the way of life under the emperors. Their writings are therefore irretrievably sino-centered. Their historical value is reduced by the absence of any external sources that might act as a control. Neither the compilers nor their readers had a chance to read accounts written from other points of view, least of all of the foreign peoples with whom imperial officials, approved travelers, or armed forces were in contact. Meanwhile, archaeological discoveries of the last few decades have served to corroborate and amplify some of the statements of the Chinese sources, and to cast doubt upon others.

Fortunately, these discoveries include manuscripts on wood and silk, including archival documents that are mainly dated between 100 BCE and 100 CE. Understandably enough, these documents – whether they were deliberately intended as historical accounts or were composed by officials for administrative purposes – take the conditions that pertained to the interior of the empire as a norm. Thus the records left by the armed forces that manned the static garrisons in the north do not set out to describe the non-Han peoples with whom they came into contact, largely as a result of patrolling their own lines; however, they may allude to the presence of these peoples, and to the steps necessary to preclude any dangerous activities on their part. The chapters of the histories are more forthcoming. They may allude to the ways in which non-Han peoples accommodated to Chinese norms or how the institutions of the empire, if necessary, were adapted to govern them. The histories may also include some information, occasionally quite detailed, about the circumstances in which these peoples lived. Necessarily, the reliability of such

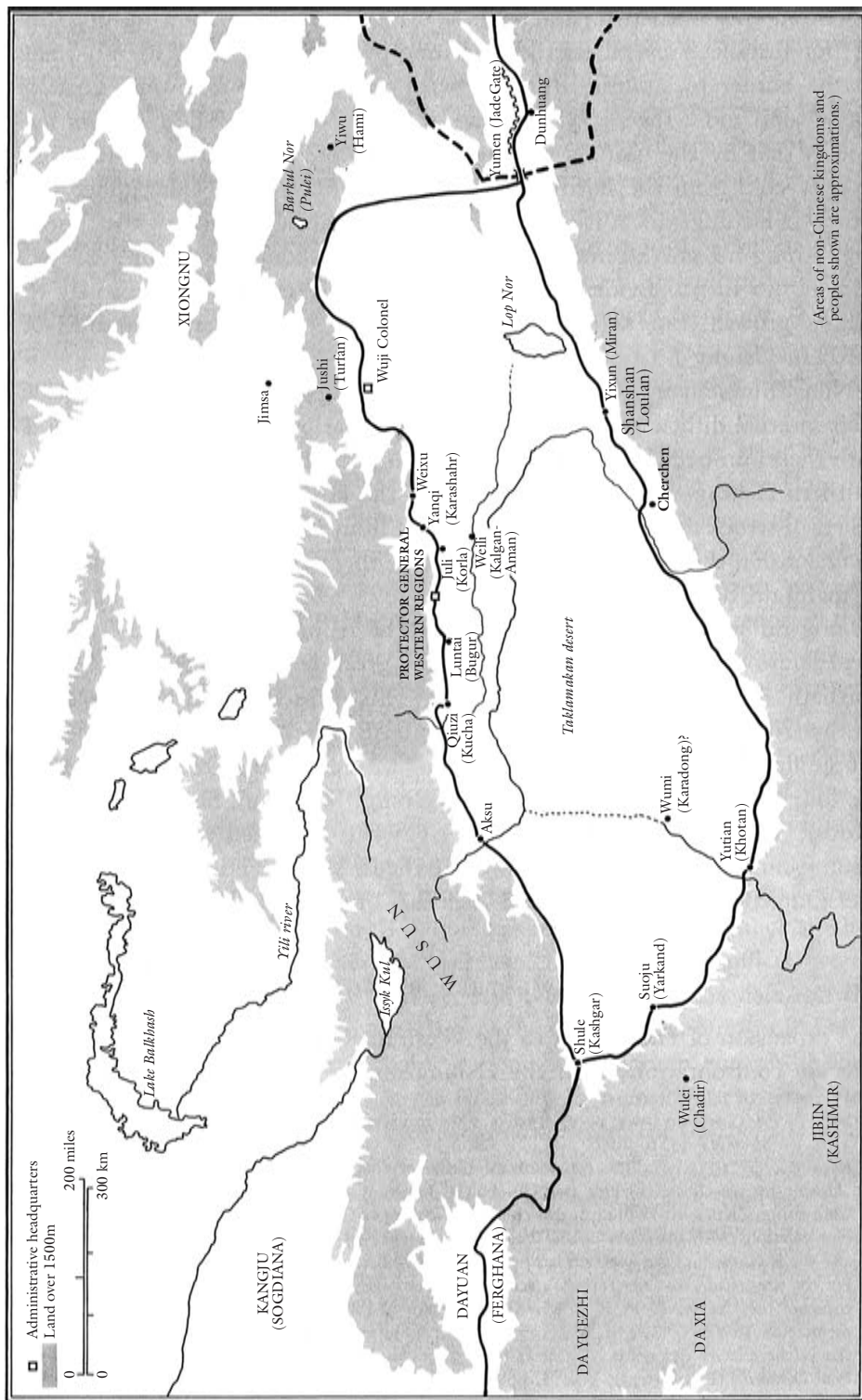


Figure 6.1 Central Asia, known in Han times as “The Western Regions”

information varied, originating as it did from a variety of sources, such as personal observation, direct contacts, or hearsay gossip.

There is one persistent danger that attends a study of the notices of non-Chinese peoples in the Standard Histories: the difficulty of knowing for certain to what period the information given there should apply. These notices tend to be highly repetitive, and it seems to be fairly clear that compilers happily copied material from the work of their predecessors and applied it to the times about which they were themselves writing. They may indeed have felt obliged to include these accounts in the history of a dynasty; they had no means with which to check their accuracy, nor perhaps the wish to do so.

When an imperial government engaged in direct negotiations with foreign groups, an understanding of their ways of life might reach Chang'an, capital city of Western Han. There, the central government included a major office under the leadership of the "Superintendent of State Visits" who was responsible for advising how to handle these matters. We also know of an office of interpreters. Regrettably, our records do not reveal anything specific about the language or languages they might have had to master, presumably for purposes of oral communication; nor do we learn of a specific incident in which they were called upon to display their skills.

Contacts with the north and with Central Asia

These are the conditions in which we read of Qin and Han officials and the military forces they commanded, coming into direct contact with peoples of the north. They soon discovered that these men and women practiced a way of life that differed profoundly from that of their own lands that were watered or flooded by the Yellow River or lay along the Yangzi River. In such homelands, the Chinese prided themselves on the settlements that they and their forebears had created. Their way of life depended on the cultivation of cereal crops, with the use of organized manpower and tamed oxen. They paid taxes to their government; in return they expected protection of their farmlands and homes. They looked to officials, housed in permanent city-dwellings, to set high cultural standards, even if they themselves could not share in them. By contrast, it seemed that the peoples of the north such as the Xiongnu (not to be identified with the Huns) led a nomadic rather than a sedentary life. Their skills included those of the horseman, to round up animal stock, hunt game, or ride into imperial territory to seize property. Some of the records left by Chinese officials tell of such encounters, but no written word survives from leaders in the north.

Disruption of this settled Chinese way of life by marauding horsemen called for the establishment of manned lines of defense. It was for this reason that in 214 BCE the first Qin Emperor ordered the systematic unification of such defensive lines (probably earthworks) as already existed. This was the origin of the first of China's "Great walls." Such precautions were by no means fully effective. On several occasions (such as 166 BCE) Xiongnu horsemen penetrated close to the

emperor's summer retreat near the capital city of Chang'an. Even earlier, imperial governments had been obliged to seek a compromise: China offered a princess as a bride to a non-Han leader, and bales of silk, hoping thereby to avoid further molestation. Tiring of such arrangements and recognizing that these could not ensure more than precarious peace, the strong Han government of 121 and 119 BCE undertook military actions to deter any enemy from wreaking harm and, if possible, to drive them farther away from Chinese territories. Over the decades, the fortunes of war varied considerably; in 51 and 49 BCE, the principal leader of the Xiongnu paid a courtesy visit to the Han emperor, during which he was treated with all the respect due to a dignitary of the highest rank.

Such an occasion allowed the imperial government to display to the foreigners the achievements of Chinese civilization and the material resources of the empire. Meanwhile, other developments had occurred as Chinese diplomatic and commercial expeditions penetrated more deeply into Central Asia. Probably in *c.* 126 BCE Zhang Qian (d. 113) returned to Chang'an after an epic journey that had taken him through Xiongnu lands, imprisonment there, and marriage to a local woman. In his extended travels, he reached distant lands (known to us as Ferghana, Sogdiana, and Bactria), and he sent some of his own envoys to seek contacts elsewhere, perhaps in northern India, Khotan, or even Arsacid Persia (called Anxi). As far as we know, Zhang Qian was the first person who delivered a descriptive report to a Chinese government of these far-away places and their inhabitants, together with an account of the internal politics and intrigues that affected their governments. The following extract from his report shows how it might have excited the hopes of commercial ventures:

[Zhang] Qian said: "When I was in Da Xia [Bactria], I noticed the bamboo staves of Qiong and the cloth of Shu [in present-day Sichuan Province]; when I asked how these had been acquired, the men of Da Xia said: 'Our merchants go and buy them in the state of Shendu [northern India]. That state lies some thousands of *li* south-east of Da Xia. Its way of life is one of attachment to the land, as it is in Da Xia, but the place is low, damp and very hot. The people ride on elephants to fight their battles, and the state borders on a large river.' According to my reckoning, Da Xia lies 12,000 *li* away from Han in the south-west; we now find that Shendu lies several thousand *li* to the south-east of Da Xia and is in possession of goods from Shu. Were an envoy to be sent to Da Xia to make his way through the Qiang,¹ he would find it dangerous going, and the Qiang people would hate it; and were he to go a little further north, he would be captured by the Xiongnu; but if he were to go by way of Shu, he would be on a direct route, and, moreover, there would be no brigands." So the Son of Heaven heard that [places] such as Da Yuan as well as Da Xia and Anxi were all large states with many rare goods. (*Han shu* [hereafter *HS*] 61, 2689)²

Information or hints of this type may have reached the ears of Chinese merchants who recognized the possibilities of trade. From perhaps 100 BCE, the imperial government was responding to such challenges. The defense lines in the north

were reinforced and extended in a westerly direction, reaching as far as Dunhuang. This was the point of departure for those embarking on the forbidding journey round the northern or the southern sides of the Taklamakan Desert, where they would depend on the goodwill of those who held the oases for essential supplies of water and food. The newly extended lines acted as a protected causeway along which outgoing caravans could proceed. The silken bales loaded on their camels' backs were destined for immediate sale to the Parthians. Unknown to the vendors, some of them would be conveyed to the world of Rome. Stern moralist critics there, such as Seneca (d. 65 CE), were to decry the use of silk by married Roman women, who knew no shame in brazenly showing off the beauties of their bodily forms.³

In this way the so-called "Silk Road" came into being. It involved maintenance of defensive forts and lines of communication as far as Dunhuang, an expensive commitment. It also necessitated negotiations with a whole host of communities with whom friendly relations were essential; this in turn could involve personal contacts between members of the imperial house and those of an alien community. A Chinese princess might find herself obliged to wed a leader or king (Kunmo) of a royal house of Wusun;⁴ the son of a leading house of Khotan might find himself living as a hostage in Chang'an. The princess would suffer a major deprivation of the creature comforts she had been led to expect as normal; one such girl sent back her sorrowful complaints:

When the princess reached the state of [Wusun] she had buildings constructed for her residence. Once or twice a year she had a meeting with the Kunmo, when a banquet was set out, and she presented the noblemen who attended the king with valuables and silk. The Kunmo was old, and [he and the princess] had no verbal communication. In her deep sorrow the princess composed a song for herself, which ran:

My family sent me off to be married on the other side of heaven;
 They sent me a long way to a strange land, to the king of Wusun.
 A domed lodging is my dwelling place, with walls made of felt;
 Meat is my food, with fermented milk as the sauce.
 I live with constant thoughts of my home, my heart is full of sorrow;
 I wish I were a golden swan, returning to my home country. (*HS* 96B, 3903)⁵

We know nothing of the word that the young man from Khotan living in Chang'an might have sent home, whether describing the city and its living conditions, with the all too obvious signs of imperial government, or wondering about the manners, authority, and command of literacy of the officials with whom he came into contact. Nor can we know what he told the people of Chang'an of the way of life in his own country.

Imperial policies created another way by which information came to Chang'an about those who lived outside the empire. By 60 BCE the character of Han ventures had changed somewhat. Advisors of the emperor and those who framed policies sought to strike reasonable and amicable terms with the leaders of

settlements in Central Asia, and to gain opportunities to plant Chinese farmers in what may be termed colonial outposts, in lands that lay beyond the control of Chinese officials. To supervise such activities, and to ensure that relations with non-Han peoples were not prejudiced, the Han government established the post of “Protector General of the Western Regions.” It was probably in his office that detailed information was collected for dispatch to the home government. Officials in Chang’an now learned basic facts, such as the names of these “states” and their seats of government, the distance from Chang’an, the size of the population, the titles of the principal officials, and the geographical relation to their neighbors. Fortunately, such basic information has been preserved in the *Han shu*, the Standard History for the Western Han Dynasty, as exemplified by the following section:

The state of Weili. The seat of the king’s government is at the town of Weili, and it is distant by 6750 *li* from Chang’an. There are 1200 households, 9600 individuals with 2000 persons able to bear arms. [There are the following officials:] the noble of Weili, the noble of Anshi, the leaders of the Left and the Right, the commandants of the Left and the Right, the masters of Zhihu [assault on the nomads] and two interpreters-in-chief. To the west it is a distance of 300 *li* to the seat of the protector general. To the south it adjoins Shanshan and Jiemo. (*HS* 96B, 3917; Hulsewé 1979: 177)

For some of the peoples or lands in the north-west, the same chapter of the *Han shu* includes considerably more than this bare information. For Quli, we have the text of a recommendation made by a senior Chinese official for establishing military colonies; he supports his case by describing the terrain and climate, the suitability for conscript servicemen to engage in agricultural work, and the means of irrigation (*HS* 96B, 3912; Hulsewé 1979: 164). Wusun, we read, had heavy rainfall and lush vegetation, but the main occupation was raising stock animals rather than agriculture. A count gave a total population of 630,000 individuals; rich persons might own up to four or five thousand horses. We hear of Wusun’s relations with the Xiongnu and others, of complexities in the leader’s family and problems in determining the succession to his position, and of matrimonial relationships in which Chinese brides were involved (*HS* 96B, 3901; Hulsewé 1979: 143). One matter that found its way into the histories may well have intrigued some of the Han dynasty’s scholars: written records in Anxi were made on pieces of leather that had been ruled horizontally (*HS* 96B, 3901; Hulsewé 1979: 116).

Readers of the same history could learn more about the natural conditions in some of these strange countries, such as Jibin, probably to be identified as an area in Kashmir:

The land of Jibin is flat and the climate is temperate. There is lucerne, with a variety of vegetation and rare trees, sandalwood, “oaks”, catalpa, bamboo and the lac tree. [The inhabitants] grow the five field crops, grapes and various sorts of fruit, and they manure their orchards and arable land. The land is low and damp, producing rice, and fresh vegetables are eaten in winter. The inhabitants are skilful

at decorative work, engraving and the art of inlay, at building residences, at weaving woollens and at patterned embroidery. They are fond of [wine] and food. There is gold, silver, copper and tin with which they make utensils, and they have markets with stalls. They use gold and silver to make coins, with the image of a mounted rider on the obverse and a human face on the reverse. The [state] produces humped cattle, water-buffalo, elephant, large dogs, monkeys, peacocks, pearls of different kinds, coral, amber and beryl. The other stock animals are the same as those of the various other states. (*HS* 96A, 3885; Hulsewé 1979: 106)

We shall return later to the way to reach Jibin.

The South

The Qin empire (221–210 BCE) is said to have extended its rule to the south as far as the present-day provinces of Guangdong and Guangxi, but there is no evidence to show how this advance affected the lives of the inhabitants of those far flung regions or by what means anything was known of their habits in the Qin capital city of Xianyang. We are on firmer ground from 111 BCE, when units of regular Han provincial administration were established in those parts, reaching all the way to the coast of Vietnam and for a time including Hainan Island. Han penetration here did not have to contend with a potentially hostile enemy. Isolated, perhaps tribal, communities lived in the hills; Chinese officials tried, but were by no means always able, to impose control, gather taxes, and suppress local insurgencies. Officials of Chang'an and later of Luoyang, capital of the Eastern Han Dynasty (25–220 CE), learned to value exotic products of the south such as rhinoceros horn, pearls, or fruit, which at times were rendered as tax. Learning from unnamed informers – perhaps from colleagues who had been posted to these regions – men at court regarded the area as uncivilized, where the local inhabitants had much to learn from Chinese visitors and instructors. It was the latter who taught the use of clothing in place of nakedness, and the practice of formal arrangements for marriage rather than unrestricted unions. Xi Guang and Ren Yan, two officials who served as governors of commanderies in Vietnam at the end of Western Han and a little later, taught the natives the ways of agriculture (*Hou Han shu* 76, 2462, and *San guo zhi* 53, 1251). With perhaps less accuracy and greater willingness to bestow praise, writers of our sources tell us that these two men set up schools and guided their pupils in the interpretation of some of China's highly respected and ancient texts.

Little is known about ocean-going exploration in early imperial times, and archaeologists have yet to identify for certain the remains of ships or ports dating to that period. A statement of the *Han shu* (*HS* 28B, 1671) refers to ships which put to sea from Xuwen and Hepu (present-day Guangxi and Guangdong). After a series of journeys lasting (respectively) five months, four months, and twenty days by sea, ten days by land, and two further months at sea, travelers would reach

Huangzhi (possibly identified as being close to Madras).⁶ According to this short passage in the histories the way of life there was similar to that of the inhabitants of Hainan; territory and population were large, and a number of rarities were brought from there to the Han court in the time of Wudi (r. 141 to 87 BCE).

Linyi was known to Chinese officials of the fifth century CE as the name of a community in Champa, ruled by its own king. By now, governing authority in China had been split between several co-existent kingdoms, usually one in the north (perhaps centered on the Yellow river) and one south of the Yangzi river. Officials of a southern kingdom had made more direct and intensive contacts with native peoples who were not assimilated to a Chinese way of life. The history of the Liang Dynasty of the south (502–56) says of Linyi that its dwelling places consisted of chambers or halls, with gates and doors all facing north (*Liang shu* 54, 785). The inhabitants wrote on leaves of trees, made into *zhi*, a term which denoted various types of paper or proto-paper. Men and women all wore clothing or decorations of threaded shells on the waist and below, and small metal earrings; those of the noble class wore sandals of hide, others walked barefoot.

Outlying Regions, West and East

Further to the north and the west, archaeological discoveries provide evidence that is not forthcoming from our texts. Representations of human beings and their way of life, including ritual and musical performances, are seen on large bronze drums found in Yunnan at a settlement that may be dated as early as 108 BCE. Comparable scenes are seen in bronze and in other discoveries from Guangdong and Guangxi; some of those from Yunnan show scenes of human sacrifice.⁷

How far these objects should be defined as “Chinese” may be open to question. Probably it may be assumed that some knowledge of the unassimilated peoples of the south and the west would have been available in neighboring regions where Chinese rule was established, such as present-day Hunan or Sichuan. Whether Chinese visitors who witnessed these performances brought back tales of wonderment or horror to Chang’an and Luoyang is unknown. Casual hearsay may have inspired some of the statements that found their way into official documents, such as a comparatively long account of the islands to the east that we now call Japan.

This document lists 30 communities in the islands, of which one named Yamatai (Yamato) was under the rule of a queen. It remarks on the habit of all persons, male and female, of tattooing their faces and their bodies; it gives details of the clothing that they wore and the types of housing. The compiler of the report includes facts about the climate, minerals and vegetation, cereal farming, skilled fisheries, and the culture of the mulberry tree; there was no practice of stock farming here. He also writes about methods of divination and marital arrangements, and of funeral and mourning habits, including the purification of all members of the mourning family (*San guo zhi* 30, 854; Tsunoda 1951: 8–20).

Silk and its Destination

As has been mentioned, silk had reached Rome by the time of Seneca; samples of Han silk were found in the foundations of temples at Palmyra. There is, however, nothing to show that these bales reached their destination by means of direct exchange between Chinese and Roman hands. In all probability, Chinese traders sold the goods to the Parthians who acted as middlemen. We have a frustratingly brief reference to the arrival in south China in 166 CE of persons, probably private traders, said to come from the king Andun (that is, Antoninus Pius or Marcus Aurelius Antoninus), but there is no reason to suppose that these were emissaries from the Roman Empire. Unconsciously, Chinese and Romans may have been taking part in a major world system of trade that had developed, while few if any of the participating parties knew much about the others. Roman coins, bullion, and iron objects found their way into India and East Asia, Chinese silks to the shores of the Mediterranean. Spices, including cinnamon, cloves, and pepper came from Indonesia or the southern parts of China, some of which would be stored in the *horrea piperataria* of Rome, built by the emperor Domitian in 92 CE (Innes Miller 1969: 25). Skilled drivers of horses and other animals managed the transport of goods across the difficult territory of the north; seamen of Africa and the Middle East took care of stores and staging posts and brought shipping capacity to the east. By the ninth century a large Arab trading community had settled at what is now called Guangzhou.

Geographical Ideas

One might well ask whether, in all the various types of reports that have survived in Chinese documents, there appears to be a sense of space, a recognition of long distances, of the effect of natural conditions on the growth of a community or on the characteristics of its culture. In general our documents do not fasten on such concepts. They are concerned with the realities and problems of imperial administration (e.g., *Han shu* 28) and with natural features of the landscape only in so far as they affect communities or subject them to disasters such as floods or droughts. Only rarely do they deal with lands that lay outside of the officials' sphere of operation.

Exceptionally, we read a vivid description of the dangerous features of a landscape, expressed in rhetorical and emotional terms. This, was incorporated into an attempt by a prominent official named Du Qin to dissuade his government from embarking on more direct relations with Jibin around 30 BCE. He wrote of the "suspended crossing" that lay athwart the Pamir Mountains and the difficulties encountered by Han envoys on their way west:

So our envoys clasp the emblems of mighty Han and starve to death in the hills and valleys. They may beg, but there is nothing for them to get, and after ten or twenty

days man and beast lie abandoned in the wastes, never to return. In addition, they pass over the ranges [known as the hills of the] Greater and Lesser Headache, and the slopes of the Red Earth and the Fever of the Body. These cause a man to suffer fever; he has no colour, his head aches and he vomits; asses and stock animals all suffer in this way. Furthermore there are the Three Pools and the Great Rock Slopes, with a path that is a foot and six or seven inches wide, but leads forward for a length of thirty *li*, overlooking a precipice whose depth is unfathomed. Travellers passing on horse or foot hold on to one another and pull each other along with ropes; and only after a journey of more than two thousand *li* do they reach the Suspended Crossing. When animals fall, before they have dropped half-way down the chasm they are shattered in pieces, and when men fall, the situation is such that they are unable to rescue one another. The danger of these precipices beggars description. (*HS* 96A, 3886–7; Hulsewé 1979: 110–11)

Such a passage is exceptional. While technical treatises on special subjects such as medicine, astronomy, or communications by water take their place in the Standard Histories of the early empires, these do not include chapters that concern landscape and its features. For imperial territories official documents may refer to natural features briefly if they affect the way of life of a particular area (e.g., the lands south of the Yangzi River), but they rarely expatiate on these in areas that lay beyond the fringe, such as the lands of the north. For example, the *Shuijing zhu* (“Classic and Notes on the Waterways”) which was compiled at a later date by Li Daoyuan (d. 527 CE) is a descriptive catalogue of China’s waterways. The book is concerned with the courses of rivers and canals and material traces of China’s past to be found along them, such as tombs of illustrious known persons. No such Chinese treatise exists for areas outside the heartland of the early Chinese empires.

The Calls of Mystery and Faith

There are other writings that were inspired by imagination rather than the needs of administration. They concern hidden recesses in the land and occult matters that lay beyond the reach of a provincial governor. The authors of a series of texts, of which parts may have originated in the sixth century BCE, describe remote mountains which were only rarely penetrated by human beings and housed the dens of strange creatures, be they human, animal, or more frequently hybrid.⁸ Living beyond the scope of human activities, these creatures possessed powers that could affect with blessings or curses the men or women who encountered them. Possibly, these fascinating accounts of strange lands originated as writings in their own right, or they were perhaps initially written as captions or notes intended to explain the depictions of a painting, or even a map.

Other texts of a mystical rather than practical nature involve a never-never land completely removed from the realities of the known world. A well known, beautifully written tale in prose by Tao Yuanming (365–427), with a dramatic date of around 280 CE, leads a fisherman, and with him the reader, into a land hidden behind a cleft in the mountain side, rich with its gifts of nature and

cultivated in tranquility by its law-abiding inhabitants. The fisherman learns that this is a refuge where fugitives have retreated to avoid the troubled times of the Qin Empire (221–210 BCE); they have lived well beyond their normal life span, knowing nothing of the passing of the Han Dynasty, let alone of its successors, the Wei (220–64) and Jin (265–315 and 316–85). These happy men and women want nothing more than to be left in peace, isolated and unmolested. But our fisherman obeys the call of duty; his adventure reaches the ears of the provincial governor. Happily, however, his search parties fail to find this haven (trans. Giles 1926: 104–50).

Mystical and religious themes appear more definitely in ideas about the realms that lie beyond the grave. For example, to some writers and artists paradise lay in the west, under the aegis of the Queen Mother of the West, enthroned in her fortress that defied access, but ready to dispense the elixir of immortality to any visitor. Others described in word or paint their ideas of a paradise in the east, situated on the Isles of the Blest in the Yellow Sea. Here at Penglai – which is held fast to the ocean bed thanks to divine intervention – white clad servants minister to the souls of incoming travelers, escorting them to the everlasting realm of the sun and the moon. Only the most intrepid succeed in finding those islands.

These accounts of unknown, strange worlds predate Buddhism's arrival in China (probably in the first century CE) or at least the time when it began to have a major impact on Chinese civilization. Adherents of this foreign faith who wished to acquire merit might take it upon themselves to travel abroad – not quite the “Holy Blissful Martyr there to seek”, but to find copies of the Sanskrit scriptures and to bring their spiritual refreshment back to China. In this way Fa Xian left an account of the 20 “Buddhist” counties that he visited in India between 399 and 416. Best known of all through literature was the journey of Xuan Zang (600–664) who set out from the Tang capital city of Chang'an in 629 to search for these canonical texts. In 646 he reported that he had compiled a “Record of the Western Regions.” His journey, and his account of the lands and peoples that he encountered, are best known from the sixteenth century epic novel *Xi you ji* (*Tale of a Journey to the West*), and brought to English readers by Arthur Waley (1942, 1952).

Reports of Later Times

A succession of kingdoms were established in the south following the formal end of the Han dynasty (220 CE), and we might well expect to hear more about contacts they made with other places. Documentation for the immediately following centuries is frustratingly scarce, but it seems that more information filtered through to China after the re-unification under the Sui (589–618) and then the Tang (618–907) emperors.

In an account that perhaps originated in Tang times we read a description of Fulin, which is probably to be identified with the Byzantine empire (*Tang huiyao* 99, 2109). Fulin adjoined Posi (Persia) and comprised 400 settlements. Many of the walls, pillars, and other parts of buildings were made of crystal or tiles. The

country was governed by 12 men. Messengers who accompanied the king on his journeys carried a bag into which members of the public could throw a written account of an incident or a grievance; upon the king's return to his palace the bags were opened and those matters that needed correction were put right. There was no permanently established king; a person with suitable moral and intellectual qualities was chosen, and in the event of natural disasters he was deposed. A blue bird such as a crane perched constantly at the king's side and would give voice in song if any of the food that was offered him was poisonous. There were over 100,000 households. One gate, some 200 feet high, was on the east side of the city, and a series of other gates on the way to the palace were decorated with gold. On one of these a metal casket was suspended, containing twelve metal balls; a life-size human figure stood next to it. At the start of each of the twelve hours, one of the balls would drop with a clang; the human figure responded with a song, thereby marking the times of the day, with next to no inaccuracy. The halls of the palace were built with pillars of a fine precious stone and with gold, ivory, and fragrant woods, but without tiles. At the height of summer a flow of water was conducted up to the roof by a mechanism so sophisticated that nobody was aware of its presence; you might hear the sound of flowing water or suddenly see something fluttering, and a cool breeze would make itself felt.

This same account writes of lambs that were born in strange circumstances in the soil, protected from marauding beasts. If their umbilical cords were purposefully severed they died; they could live only if this happened naturally when the animals were startled; then the young lambs would go out to seek water and pasture. This land produced a variety of valuable treasures but constant efforts made by Yangdi, emperor of Sui (r. 604–17), to make contact were not successful.

Information about the outside world that came to Chinese readers or listeners derived from a variety of sources, reliable or not; its scope was limited and its content could well have been frustrating. There was talk of coins that portrayed a mounted horseman and perhaps originated in Bactria, but there is no account of the agora where these coins changed hands or of a Greek city that might have flourished in those parts.⁹ There may have been tales of the acute dangers of travelling but written descriptions were perhaps confined to a few special and dramatic examples and did not dwell on the wearisome, endless trek across the sands of Central Asia. Figures mentioned give the distances between some of the outlying communities that skirted the Taklamakan Desert and the capital of Han China; they do not tell of the time it took to travel between these points. Han officials may have read about numbers of inhabitants and the strength of the armed forces of these communities; they do not seem to have possessed a written account of how the latter were armed, organized, or led. Historians name some of the rare products of the forests and coasts of the south, or mention with some surprise the pursuit of agriculture there. Even so, they do not tell us how the majority of the population lived and worked or how the presence of the sea shaped their lifestyle. The foreigners in the north and west are said to be double-faced, untrustworthy, or greedy. Not surprisingly, there is no record of what the foreign officials thought

of Chinese officials or visitors and their deceits, such as those that tricked the king of Loulan to his death in 77 BCE (*HS* 96A, 3878; Hulsewé 1979: 89). Derogatory statements in Chinese writings allege the lack of a civilized way of life beyond the reaches of the empire; an appreciation of the hardiness, endurance, and skills of the horsemen of the steppe is hard to find.

In the centuries that followed the Han Dynasty, Chinese officials and men of letters came to know more about other cultures and countries in a number of ways. From the fourth century onwards a number of states were founded in the north by leaders who rode in from the north-west or later the north-east of China's heartland. The imperial family of the Tang Dynasty had itself originated in the north-west, and during its long rule contacts with the outside world, whether peaceful or not, grew steadily more pronounced. A somewhat isolated regime, known as Xixia or Tangut (982–1227) that operated in the lands of the north-west where the authority of a Chinese government had been imposed from time to time, developed its own system of writing; so too did the leaders or people of the Liao Dynasty (916–1125) who drove into north China from the north-east.

Meanwhile travelers from the west had brought Nestorian Christianity to China by 635 CE, and Arabs brought Islam in the seventh and eighth centuries. Leaders of the Mongol court, who had made their way into China as conquerors, may well have informed their subjects of the style of life in the great beyond. It was during the Mongol (Yuan) Dynasty that we know of other visitors who doubtless conveyed news of the west to the court and whose reports on the east were to reach European eyes. These included John of Plano Carpini and William of Rubruck who arrived during the reign of Möng ke Khan (1251–9) and Marco Polo, with his father Nicolò and his uncle Maffeo (1265). But real access to knowledge of European civilization came only with the arrival of the Jesuits, such as Matteo Ricci, who made his way to the capital of the Ming Dynasty in 1598. His successors included Ferdinand Verbiest who revised the imperial calendar (1668), and Giuseppe Castiglione, who served the Kangxi Emperor (r. 1662–1722) as court painter and brought with him the idea of perspective. Other Jesuit fathers conveyed to their pupils not only the skills of teaching the lessons and scriptures of their faith but also the knowledge of western mathematics, geography, and the sciences. As presents, they gave their Chinese hosts western clocks and instruments for observing the heavenly bodies, now to be seen mounted on the remnants of the wall that protected Peking in the days of the Ming (1368–1644) and Qing Emperors (1644–1911).

Notes

- 1 Name of an unassimilated people or peoples situated south of the Taklamakan Desert and sometimes labelled "Proto-Tibetan."
- 2 Trans. here as elsewhere Hulsewé 1979: 211, with the rendering of Chinese names changed from Wade-Giles to *pinyin*.

- 3 Seneca, *De beneficiis* 7.9; see also Pliny, *Natural History* 11.75–8. For finds of silk of Chinese origin at Palmyra, see Willets 1958: 215.
- 4 Probably located in the Yili River valley, and extending up to Lake Balkash.
- 5 Hulswé 1979: 148; the text does not comment on the contradiction between the buildings that she had constructed and the domed lodging to which she was assigned.
- 6 Huangzhi is generally identified with Kāncīpura (present-day Conjeveram); see Needham 1971: 444.
- 7 See *The Chinese Bronzes of Yunnan* 1983: plates 27–35, 48–56 and perhaps 1–12.
- 8 The *Shanhai jing*, “Classic of the Mountains and the Lakes”; see Loewe 1978.
- 9 For Alexander’s advance into Bactria, see Bosworth 1994: 818–26; for the take-over of this area some time after 174 BCE, traditionally by the Yuezhi, but perhaps by the Asii and Tochari, see Narain 1989: 413, 418.

References

- Bosworth, A. Brian. 1994. “Alexander the Great Part I: The Events of the Reign.” in David M. Lewis, John Boardman, Simon Hornblower, and Martin Oswald (eds.), *The Cambridge Ancient History*, vol. 6, 791–845. Cambridge.
- The Chinese Bronzes of Yunnan*. 1983. Foreword by Jessica Rawson. London and Beijing.
- Giles, Herbert. 1926. *Gems of Chinese Literature*. London.
- Han shu*, compiled by Ban Gu (32–92) et al. Punctuated edn. Beijing. 1962.
- Hou Han shu*, compiled by Fan Ye (398–446) et al. Punctuated edn. Beijing. 1965.
- Hulswé, A. F. P. 1979. *China in Central Asia*. Leiden.
- Innes Miller, J. 1969. *The Spice Trade of the Roman Empire 29 BC to AD 641*. Oxford.
- Liang shu*, compiled by Yao Silian (d. 637). Punctuated edn. Beijing. 1973.
- Loewe, Michael. 1978. “Man and Beast: The Hybrid in Early Chinese Art and Literature.” *Numen* 25.2: 97–117.
- Narain, A. K. 1989. “The Greeks of Bactria and India.” In Alan E. Astin, Frank W. Walbank, Martin W. Frederiksen, and Robert M. Ogilvie (eds.), *The Cambridge Ancient History*, vol. 8, 388–421. Cambridge.
- Needham, Joseph. 1971. *Science and Civilisation in China*, IV. Cambridge.
- San guo zhi*, compiled by Chen Shou (233–97). Punctuated edn. Beijing. 1959.
- Tang huiyao*, compiled by Su Mian et al. (961). Reprint Shanghai. 1991.
- Tsunoda, Ryūsaku. 1951. *Japan in the Chinese Dynastic Histories*. South Pasadena.
- Waley, Arthur. 1942. *Monkey*. London.
- Waley, Arthur. 1952. *The Real Tripitaka*. London.
- Willets, William. 1958. *Chinese Art*. Harmondsworth.

The Mississippian Peoples’ Worldview

KATHLEEN DUVAL

From around 1000 CE through the 1500s, Mississippian peoples ruled most of eastern and central North America. Their towns dominated the landscape. Built upon earthen mounds that rose above the river valleys, these towns and their surrounding communities each housed thousands of people. Some of the best known Mississippian chiefdoms are Cahokia across the Mississippi River from present-day St. Louis, Moundville near Tuscaloosa, Alabama, and Spiro near the Arkansas-Oklahoma state border.¹

Is there any point in trying to reconstruct the Mississippian peoples’ worldview? We do not even know what most of them called themselves. Nineteenth-century Americans named Cahokia and Spiro for non-Indian towns near their archaeological sites, and “Moundville” obviously was not what its residents called their home when its mounds were covered with palaces, temples, workshops, and courtyards. What we cannot know about Mississippians far outstrips what we know. Still, for two reasons hypothesizing a Mississippian worldview seems worth the effort.

First, we have more evidence of what Mississippians thought of themselves and their world than we do for the vast majority of ancient North Americans. While Mississippians had no written language, their mound complexes left abundant archaeological material, and Spanish explorers with Hernando de Soto and other expeditions wrote detailed observations in the late Mississippian period. If there are any ancient North Americans whose worldviews we can approximate, the Mississippians may be our best candidates.²

Second, the Mississippian worldview is worth studying because the evidence suggests it was almost entirely opposite from the popular view of pre-colonial Native Americans. In the popular imagination, Indians lived as fairly indistinguishable hunter-gatherers in isolated bands, in harmony with one another and their

environment, and sharing the bounty of the land. Historians of American colonization have reinforced this misperception by focusing on European imposition of settlements, borders, and relationships to European metropolises, inadvertently implying that Indians had no similar human geography prior to 1492.³ In fact, Mississippian societies, while in many ways culturally similar to one another, developed strikingly distinct identities. They differentiated their towns and chiefdoms from one another and drew both geographic and metaphoric borders between them. They established connections through diplomacy and trade, and many employed violence to conquer outlying territory or defend their borders. While we know tantalizingly little about the Mississippians, they clearly organized their geography into separate towns and chiefdoms, and they described to visitors a world known, divided, and often contested.

Differentiated Identities

Archaeological evidence shows that the development of agriculture allowed and encouraged the rise of Mississippian chiefdoms. Around 2000 BCE, women in the Mississippi Valley began domesticating plants, including greens, sunflowers, gourds, and possibly tobacco. In the first centuries CE, farmers in the Mississippi Valley adopted corn (maize) and developed more intensive agriculture with water management, crop selection, fertilization, and food storage. As agricultural developments increased year-round food security, people in the Mississippi Valley began to centralize into what became the Mississippian chiefdoms.⁴

Even as chiefdoms centralized in similar ways, they developed highly differentiated identities. Regional specialization in trade encouraged differentiation. People living near mountains traded local ores such as salt and chert (flintlike rock) for knife blades and arrowheads to people who could access waterways for fish and waterfowl (Turnbaugh 1976: 23–4; B. D. Smith 1986: 30–1). Trade both lessened conflict over borders and made them more evident. If one group became known as a purveyor of quartz, for example, its geographic borders and identity became more distinct. This group became identified as the people whose lands included the quarries and who operated as quartz miners and processors. Beginning around 700 CE, a highly specialized manufacturing center developed in response to changes in agriculture. The Mill Creek region of southern Illinois became known as the source of high-quality stone hoe and spade blades. Farmers throughout the Mississippi Valley imported the blades to replace their older shell and limestone blades (Cobb 2000).

Other chiefdoms similarly differentiated themselves through production and trade. In the west after 1200 CE, Spiro became a regional trading center that dominated trade between the Great Plains and the Mississippi River. Spiro imported raw materials and manufactured such items as copper-covered cedar masks with mother-of-pearl teeth, textiles woven of animal hair and bark threads and decorated with interwoven feathers, and beads formed from stone, bone, wood, and copper.⁵ Smaller

Mississippian chiefdoms distinguished themselves through particular styles of common goods, such as the fiery red funnels of Zebree, on the St. Francis River, near the present-day border of Missouri and Arkansas (Morse and Morse 1990: 56). Specialization increased distinctiveness among communities.

When Europeans passed through, Mississippians consistently described distinctions between themselves and their neighboring chiefdoms. One man whom de Soto captured beyond the bounds of the man's chiefdom proudly identified himself: "I am an Indian of Apalache." The chronicler noted that his tone implied "that he took offense from whoever might think that he was of another people but Apalache" (Clayton, Knight and Moore 1993: 1: 267). Chiefs at war made particularly sharp distinctions. The chiefs of Casqui and Pacaha, Mississippian provinces in present-day northeastern Arkansas, each tried to persuade de Soto to fight the other. Each chief portrayed himself as "friend and brother" to de Soto and the other as a treacherous enemy (Clayton et al. 1993: 1. 114–20, 239–41, 301–3). Whatever other additional identities they held, Mississippians identified with their chiefdoms, and they distinguished themselves from others, sometimes with a striking ethnocentrism.

While chiefs were prominent in all Mississippian societies, ideas varied regarding the proper role and power of leaders. All Mississippian societies had centralized power structures, designed for managing the distribution of food within a chiefdom and conducting diplomacy, trade, and warfare with other chiefdoms. In turn, the chiefs' control of food supplies and exotic goods could enhance chiefly power. But some chiefdoms centralized authority more thoroughly than others. Some chiefs' power remained provisional and rested on kinship connections and reputations for generosity, while others gained tremendous and hereditary power.⁶ The chief of Quigaltam, a province on the lower Mississippi River, was a dominant leader. Neighboring Mississippians noted his prominence, and he was not shy to do the same. When de Soto tried to summon the Quigaltam chief to visit him in his camp, the chief replied that he "was not accustomed to visit any one." Rather, everyone else "visited and served him and obeyed him and paid him tribute, either by force or of their own volition" (Clayton et al. 1993: 1. 134).

While all Mississippian chiefs were powerful people, Mississippians recognized differences in political and social structures, and self-identified in part according to their own societies' norms. Reflecting differences in social structure, some chiefdoms practiced fairly uniform burials, while others buried their chiefs with large amounts of valued goods and even human sacrifices.⁷

In Mississippian communities, space reflected chiefly power. Built upon mounds, towns were literally higher than surrounding hamlets and farmsteads. The buildings on the mounds included the chiefs' palaces and ceremonial structures central to Mississippian life. For ceremonial occasions, subjects gathered in the dominant town or one of the subordinate towns if the province was very large. In addition to organizing and hosting important rituals, chiefs required the farmers of the province to send their surpluses to the main town for storage and re-distribution. These stores gave chiefs great power in times of need, and allowed them to use

food to reward or punish particular subjects and communities. For example, the fortified city of Cahokia included several impressive mounds, clustered around plazas. The largest mound is still over thirty meters high today, after centuries of erosion. Home to the chief's residence and other important buildings, it looked down on the central plaza, where public business and ceremonies took place. Also within the city walls were manufacturing and distribution centers, a ball court, and residences. Surrounding the city walls were more homes and businesses, and beyond them lay the farms that fed the capital. Smaller subordinate towns rose up farther away to serve as local centers for ceremonies and trade. In Cahokia's realm, as throughout the Mississippian world, the relationship between a town and its countryside reflected and enhanced chiefly authority. People defined themselves according to their chiefdom and their place within it (Fagan 2000: 451–6).

Connections

Far from being isolated, Mississippians valued connections. They developed highly ritualized diplomatic practices for building and maintaining alliances. Diplomatic ceremonies lasted several days and required speeches, exchange of goods, and in some places sharing a calumet pipe.⁸ Although some scholars have claimed that Europeans appeared so different to Indians that they did not know how to react, the accounts of European explorers who met Mississippians clearly show that they simply applied older diplomatic practices to these latest newcomers. In 1526, when Lucas Vázquez de Ayllón brought a group of Spanish settlers to the Atlantic coast, probably in present-day South Carolina, the Cofitachequi chiefdom conducted formal diplomacy with them and exchanged food for iron axes. Similarly, when de Soto passed through 13 years later, the chief, “the lady of Cofitachequi,” presented the visitors with food, blankets, skins, and a string of pearls from around her own neck.⁹

As in Europe, while occasionally a woman rose to rule a Mississippian chiefdom, Mississippians generally gendered governance and foreign relations as male. Women usually remained on the edges of formal diplomacy. Because women were responsible for food production and preparation, they may have provided the hospitality necessary for diplomacy, as Indian women throughout the continent did in later centuries. And chiefs often gave female slaves as gifts to visitors.¹⁰ Within their societies, women certainly played important roles in production and probably trade.

Mississippian chiefdoms with good diplomatic relations established permanent trade connections. Mississippian trade routes stretched for thousands of kilometers, from the Atlantic coast, south to the Gulf of Mexico, north to the Great Lakes, and out from the Arkansas and Red Rivers to the Plains and the Rocky Mountains, reaching, at the least, hundreds of thousands of people. Most trade spread through reciprocal exchanges from society to society, as local traders dealt with both exotic and indigenous goods. Some of the most common long-distance trade

objects included Great Lakes copper, Gulf Coast shells, obsidian from the West, and Appalachian mica. Allies could also trade manufactured goods, news, marriage partners, religious practices, technological innovations, and philosophical, economic, political, and diplomatic ideas. Simple desire for goods was part of the reason for trade, but control of their distribution also enhanced the power of particular leaders and towns.¹¹

Mississippians came to believe that power derived from extensive connections. A wide network of diplomatic exchange brought in powerful goods and knowledge, and could potentially raise allied armies in times of war. Self-sufficiency – material or spiritual – was anathema. Scarcity and distance increased the goods' value. Much of the jewelry and decorative objects that archaeologists have uncovered in the South is made of copper, far from the Great Lakes copper mines. In contrast, in the northern Mississippi Valley far from the sea, artifacts are more often made of shell (B. D. Smith 1986: 52). Goods conveyed spiritual as well as material and political value (see Figure 7.1).

Mississippian connections extended beyond other peoples to the natural world and worlds beyond the terrestrial one. A common Mississippian motif was the winged serpent (see Figure 7.1). In its complete form, it represented the combination of the lower world (the serpent) and the upper (the wings). In the body



Figure 7.1 Mississippian winged serpent. The University of Arkansas Museum Collections

of the winged serpent, powerful oppositional forces became a harmonious whole. Similarly, long before Christianity came to the Americas, the cross symbolized for Mississippians the four directions of the earth in harmony with one another and the upper world (Hudson 1976: 122).

Connections fed the Mississippians' inclusivist sensibilities. While Christianity, Judaism, and Islam are exclusivist religions (at least in theory), most early North American Indians were inclusivist, eager to incorporate new religious ideas and practices into those they already had. New ways could be adopted and adapted, reinvigorating older beliefs and rituals rather than threatening them. In the centuries prior to the arrival of Europeans and Africans, Mississippians had already incorporated the beliefs, practices, and goods of foreigners into their own, and incorporating some Christian meaning attached to the cross, for example, did not require rejecting older symbolism. Mississippians valued the diplomatic and trade connections that stabilized and enriched their world (Richter 2001: 14, 84).

Borders

Trade and diplomacy in no way diminished the importance of Mississippian borders. Indeed, foreign relations probably heightened the necessity of clearly defined borders. Archaeological evidence shows that each chiefdom had its centralized towns and surrounding hamlets and farms, while empty space separated chiefdoms. A chiefdom might enforce its hunting and mining rights in these regions, but the lack of settlement demonstrated a recognized border between adjacent chiefdoms. Accounts of European explorers confirm that Mississippians thought of the landscape in terms of chiefdoms. Patofans in Georgia told de Soto there was no settlement to the east, but that to the northwest was Coosa, "a well-provisioned land and of very large villages" (Clayton et al. 1993: 1. 80). In northern Florida, Indians from Cale told him that Apalache, "a very large province with maize in abundance," was "seven days' journey farther on" (ibid. 65).

Mississippians easily responded to Spanish questions regarding their surrounding landscapes and chiefdoms. Of course, they sometimes twisted the truth for their own ends. Indians captured outside Pacaha urged de Soto's men to leave their land and travel northwest to a land of "large villages," but Spaniards found there only "an uninhabited land of very great swampy lakes." The explorers may have confused the Pacahans' directions, but it seems more likely that the Pacahans were trying to get rid of their hungry and troublesome guests (Clayton et al. 1993: 1. 240).

Friendly neighbors traded across borders; enemies fought along them. Warfare was a common presence in Mississippian life. Most towns had palisades, moats, and large caches of weapons. A copper plate from Spiro (see Figure 7.2) shows a person holding a war club in one hand and a severed head in the other (Shaffer 1992: fig. 18; J. A. Brown 1996: 196). One chief described himself as always in arms because his town was on the frontier of his province and thus at the front lines of an ongoing war (Clayton et al. 1993: 1. 272). Enemies often raided one



Figure 7.2 Copper plate from Etowah, showing a figure holding a war club and severed head. Drawing based on Shaffer 1992: fig. 18

another for captives, defining enemy people as enslaveable (ibid. 60). Chiefdoms at war shunned any other kind of contact. The chiefdoms of Casqui and Pacaha had peaceful exchange relations with other peoples, but their only contact with each other was raiding for goods and slaves. Living only about 80 kilometers apart, the chiefs had never even seen each other's territory (ibid. 125, 239, 242, 303). Similarly, the long-standing state of war between sixteenth-century Cofitachequi and its neighbors meant that, as one of de Soto's chroniclers put it, "there was no road by which to go, since they had no dealings with one another because they were at war." Like many Mississippians who encountered de Soto, Cofitachequi's neighbors tried to lure him into fighting their enemy. The leaders of Ocute and Cofaqui proposed to de Soto that if he "wished to go to make war on the lady of Cofitachique," they would give him any assistance he needed (ibid. 80-1, 229-30, 273-5).

War sometimes ended with one chiefdom subsuming another, as the loser became the vassal state and the winner enhanced its regional prestige and power. For example, archaeological evidence shows that the Moundville chiefdom dominated outlying tributaries subordinate to it. Over time, Moundville became restricted to elites to such an extent that all commoners moved into the countryside and

only came into the main town for ceremonies and public business (Knight and Steponaitis 1998: 18–19). The Spanish too seemed likely vassals to some chiefs. The chief of Coosa, probably in northwestern Georgia, reportedly offered to de Soto, “if you are seeking good lands on which to settle, see fit to remain in mine and make an establishment in them.” By settling the Spanish nearby, the chief could incorporate them as a tributary state (Clayton et al. 1993: 2. 324).

On another occasion, a subordinate chief named Çamumo, who apparently was living uneasily under the rule of the central-Georgian chiefdom of Ocute, asked de Soto “to whom he had to give the tribute in the future, if he should give it to the Governor [de Soto] or to Ocute.” De Soto suspected that the vassal was either trying to lure him into helping to overthrow the chief who had incorporated his people, or was planning to report de Soto’s intentions to Ocute. Therefore, de Soto carefully responded that he “held Ocute as a brother,” and that Çamumo “should give Ocute his tribute until the Governor should command something else” (Clayton et al. 1993: 1. 272).¹² Forced relationships of subordination were contested, and Spaniards often found themselves in the middle of conflicts they did not quite understand.

One sixteenth-century chiefdom reveals how war might push Mississippians away from cosmopolitanism and to the extreme of belligerent isolation. The Tulas lived near today’s Oklahoma–Arkansas border. Unlike other Mississippians, they had no allies or trading relationships, and, while most neighboring societies trained interpreters to facilitate communication with one another, the Tula language was a mystery to outsiders. Tulas practiced a policy of frightening other societies into leaving them alone, and they established a reputation for “ferocity and inhumanity.” According to one account, neighboring peoples frightened their children with tales of the Tulas, and children in turn used the cry of “Tula!” in mock battles to scare their playmates into retreat (Clayton et al. 1993: 1. 125–6; 2. 420–1). Erecting cultural borders of language and horror, the Tulas represented a far extreme among Mississippians, most of whom valued connections of trade and diplomacy. Yet all Mississippians set geographic and metaphoric borders between themselves and other chiefdoms.

Knowledge

As Malcolm Lewis has pointed out, European explorers’ *terrae incognitae* were Indians’ *terrae cognitae* (1998a: 2, 11). Indian maps, European copies of Indian maps, and European maps that relied on Indian informants all convey priorities of Mississippian (and, later, Southeastern Indian) geographic knowledge. The main point of the maps that survive, as well as descriptions of maps given in European accounts, is relations among different chiefdoms or peoples.

Gregory Waselkov divides Southeastern Indian maps into two types. Some showed towns in relation to the paths and rivers that connected them. Others did not reflect spatial distance so much as social and political relations among towns or

peoples. In this second type, different sizes of circles indicated towns' or peoples' prominence, and distances revealed their figurative closeness. In both cases, the maps reveal that what was important to Mississippians and their descendants was relationships between towns and routes to travel by (Belyea 1998: 141–2; Waselkov 2006: 440–3).

Maps resulting from the de Soto expedition reflect the kind of spatial knowledge displayed in Waselkov's first type of Indian maps. These show, with remarkable accuracy, the sources and mouths of rivers that the expedition crossed only somewhere in the middle (Lewis 1998b: 95–8). Because Mississippians and Europeans had no common language, either spoken or written, maps and gestures assisted interpreters in conveying Mississippian knowledge of the land to European explorers. Although European understanding of these conversations was often confused, and Indians could for certain be purposely misleading, the very frequency of maps sketched in the dirt or painted on bark reveal Mississippians' use of visual as well as oral communication regarding spatial descriptions (Waselkov 2006: 435).

Engraved shells from Spiro may exemplify the second type of Indian map – those showing figurative connections. These shells display clearly distinguished circles with lines connecting them, probably diagramming towns or chiefdoms and their relationships (Lafferty 1994: 201–5) (see Figure 7.3). These shells bear a striking similarity to colonial-era Southeastern Indian maps. In 1608, Chief Powhatan apparently shared with Captain John Smith a map showing the relationships of the various subordinate towns within his chiefdom, perhaps trying to impress upon the English the relative weakness of Jamestown. On another occasion, Powhatan Indians drew a map on the ground. In the center was the campfire, and Powhatan country was right around the fire. A larger circle represented the coastline. Beyond

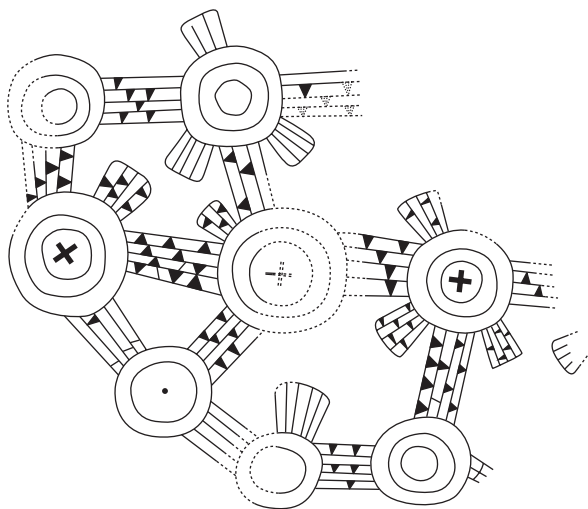


Figure 7.3 Engraved shell from Spiro. Drawing based on Phillips and Brown 1975: plate 122.3

that circle, a small pile of sticks was England, and the outer ring was the edge of the world (Lewis 1998b: 69–70; Waselkov 2006: 445, 457).

In a 1737 map, Chief Mingo Ouma painted a large circle in the center of a deerskin to represent his people, the Chickasaws. All around that circle, he drew circles of various sizes to represent other peoples and the boundaries between them. He drew black circles around friends of the Chickasaws, including the Cherokees and the Okfuskee Creeks, and drew trading paths to them. He drew red circles around Chickasaw enemies, including the Choctaws and Quapaws, and drew warpaths to them. This map (see Figure 7.4) was part of peace negotiations with the French, so Mingo Ouma represented the French at Mobile as a circle separate from the rest of the map and drew a line toward it, but “not drawn all the way to Mobile” because peace was not established yet. He noted that “even so, it is white as far as we are concerned” (“Nations Amies et Ennemies des Tchikachas” 1737; Waselkov 2006). Although disease, war, and the passage of time had made eighteenth-century Southeastern Indians different in many ways from their sixteenth-century Mississippian ancestors, Mingo Ouma still saw the North American landscape as a collection of separate peoples, some joined by commerce and diplomacy, some engaged in violent conflict, and some attempting to shift from relations of war to relations of trade.

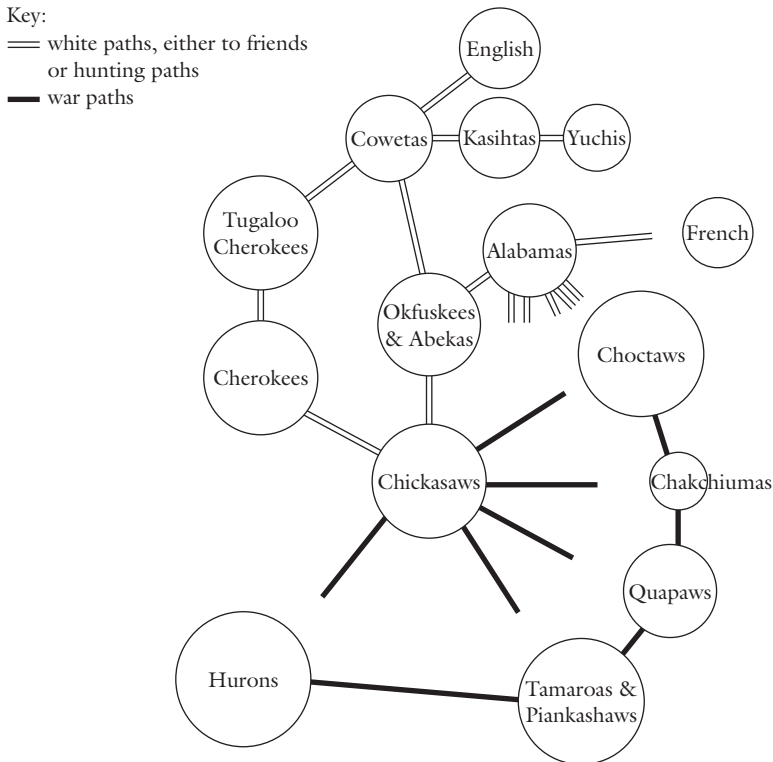


Figure 7.4 Chickasaw map, 1737. Drawing based on deerskin in the Archives Nationales, Aix-en-Provence, France. Translation of French terms by John DuVal

Mississippians valued knowledge of the world beyond their chiefdoms' borders. Like exotic goods, esoteric knowledge could enhance a chief's prestige by indicating connections to a wider world of political, spiritual, and economic power (Helms 1992). Mississippian and Southeastern maps and descriptions are as full of cultural information, such as the peoples and the routes between them, as they are of natural features (Lewis 1998b: 179). Even the natural features are marked for their instrumental importance – portages identified on rivers, saline deposits identified on mountainsides. This information provided both direct utilitarian value and the power that came from knowledge and connections.

Chiefs might gather information from traders, who conveyed knowledge from their own experience and from tales heard in other chiefdoms or from other traders. Interestingly, the people likely to have the broadest range of direct geographic knowledge were far from elite – they were slaves who had been captured from their homelands and transported along trading routes. For example, in the late 1580s, a boy was born in Tancoa, a chiefdom west of the Mississippi River. As a youth, he was captured by a chiefdom farther to the west and held there for several years. In 1601, his captors fought a battle against a group living on the eastern edge of the Great Plains, who were joined by Juan de Oñate and his Spanish expedition. In that battle, the boy became a captive of the Spanish, who christened him Miguel and carried him and several other boys and girls to Mexico City for training in Christianity and Spanish language skills. For the Spanish, Miguel displayed the geographic knowledge he had gained as a two-time captive. He drew a map with circles of different sizes to represent his birthplace and the region in which he had lived as a captive, and he described the kinds of goods available in his hometown (Hammond and Rey 1953: 873–6; Lewis 1998a: 18–19). Presumably, Mississippian chiefs also collected knowledge from captives like Miguel.

Change

Over an era spanning nearly six centuries, Mississippian spatial understandings and practices certainly did not remain static. The thirteenth-century fall of the Cahokia chiefdom provides particularly vivid insight into how changing foreign relations could alter living patterns. Cahokia had been the largest and most powerful polity on the Mississippi. There are many theories about Cahokia's fall. Perhaps its chiefs had tried to gain too much power, and either pushed their people into rebellion or provoked infighting among the towns within their sphere. Or perhaps the leaders and social structure had proved incapable of providing for the people in a time of declining food productivity. In any case, Cahokia's fall caused destabilization and population movements that diminished trade and increased warfare throughout the region.

To the south along the Mississippi River, independent chiefdoms began to feel a growing need for protection from one another. People who had lived on farms,



Figure 7.5 Mississippian head pot from Bradley, the Mississippian site that was probably Pacaha. The University of Arkansas Museum Collections

and had only gone to town to trade or participate in ceremonies began to settle within their chiefdoms' towns and to farm on the outskirts only during the day. At night, they lived within newly-fortified town walls and moats. One of these towns, Pacaha, built a moat 100-foot wide, by one visitor's estimation, which brought water from the Mississippi River to surround the town on three sides. The fourth side was protected by a palisade of tall mortared posts. Lookouts stationed on the palisade's towers had a long-distance view of any trouble coming by land or water. People who lived inside Pacaha went out through the gate during the day to work the fields and snare small game, as well as to fish and gather clay in the canals (see Figure 7.5). Traders were allowed in during the day through the town's gate, if their answers satisfied the sentries. At night, people slept within their fortifications.¹³

The "Little Ice Age" of the mid-fourteenth century only increased these trends towards centralization near the Mississippi, as crop yields shrank and the protection of food storage areas became more important. Some smaller chiefdoms combined for mutual protection, or became vassals of other chiefdoms.¹⁴ Thus, while the grandeur of the sixteenth-century chiefdoms along the Mississippi impressed

Spanish explorers, their own inhabitants may have seen their recent history as a decline. The Spaniards identified tall palisades and wide moats as signs of civilization. In reality, however, more peaceful times when families could live on their own farms had given way to an era of war in which they had to live in fortified town centers under their local chiefs' protection and authority.¹⁵

Living patterns changed in the opposite direction around Spiro, the chiefdom to Cahokia's west. Spiro at first responded to the disappearance of its Cahokia market by increasing trade with the peoples to its south in the Red River Valley, but this market was dramatically smaller than that provided by Cahokia. Gradually, as trading opportunities lessened, the weather worsened, and the Spiro elite proved unable to control either, Spiroans abandoned their mound-centered towns. In contrast to the chiefdoms centralizing on the Mississippi River, the descendants of Spiro began to adopt the patterns of their neighbors to the west, spending long periods of the year hunting on the Plains (Rogers and Smith 1995: 25, 81–93). They lived in smaller, more mobile bands than their ancestors, and may have begun to think of themselves and their homelands in more localized ways than when they had been the major Plains-Mississippian trading entrepôt.

By 1540, tens of thousands of descendants of Spiro and their upstream neighbors were living in dense but dispersed seasonal communities on the eastern edge of the Plains. Most spent the summer and fall in rural communities on river valleys beside their agricultural plots. In the winter, they headed for the Plains, where the men hunted bison and the women dressed the skins. They traded bison products, painted deer hides, and salt down the Arkansas River to the Mississippi Valley and corn to people farther west, but with nowhere near the centralization and volume of thirteenth-century Spiro.¹⁶

Beginning in the late sixteenth century, when Europeans settled alongside Mississippians, they recorded changes in living patterns, yet continuities in Mississippian lifeways also show how entrenched Mississippian worldviews were, even as their world was changing. Apalache was a prominent chiefdom in what is now the Florida panhandle. It included several large towns with farms spread throughout the surrounding countryside. In the late sixteenth century, epidemic disease threatened the Apalache chiefs' authority. Using an inclusivist approach to crisis, the chiefs invited Spanish Franciscan missionaries to settle with them. The chiefs' faltering prestige was bolstered by access to Spanish armaments and other goods, and to the perceived spiritual power of a new religion and of literacy taught only to them by the priests. Although Spanish missionaries preferred to cluster their converts in urban mission communities, Apalache chiefs insisted on leaving the majority of their people on outlying farms, and they arranged the mission buildings close to their own dwellings, around traditional Apalache-style plazas. Similarly, with conversion to Catholicism, Apalaches began burying their dead as the Spanish did: under the floor of the church, face-up, in a shroud or coffin. But they retained the mound-building period's practices of class differentiation in burials. Although Catholicism forbade grave goods, archaeologists have

found beads and crosses buried with the Apalache elite, who were placed closest to the altar. While the Spanish commoners and most of the Apalaches were buried with their heads facing east, the friars and selected elite Apalaches faced west to distinguish themselves as having a special relationship with their god.¹⁷

The Natchez people similarly applied older beliefs and practices to their interactions with Europeans. Located on the east bank of the Mississippi near present-day Natchez, Mississippi, the Natchez likely descended from the powerful Quigaltam chiefdom. As the Mississippian era ended, the Natchez had retained much of their regional power, and had incorporated some former Mississippians as subordinates. In the early 1700s, they attempted the same with the French. The Natchez chiefs allowed the French to farm their unused lands as long as they paid tribute. When the French overstepped the rights assigned to them, the Natchez attacked them violently to keep them in their place.¹⁸

One potential post-Mississippian change in geographic knowledge involves range, although the evidence is sparse. Mississippians knew a great deal about neighboring chiefdoms and those just on the other side of their neighbors. When explorers pushed them for knowledge far beyond their chiefdom, such as the Pacific Ocean or the Gulf of Mexico, most came up short. For example, when de Soto asked the chief of Guachoya, just west of the Mississippi River in present-day Arkansas, “whether he had any knowledge of the sea,” the chief replied that he “did not, nor of any settlement down the river from that place, except that there was a town of one of his principal Indians subject to him two leagues away, and on the other side three days’ journey downstream the province of Quigaltam, who was the greatest lord of that region.” Distrusting the chief, de Soto sent several of his men downstream to gather news, but they returned after a week reporting that they indeed had found no people and no news, only “canebrakes and thick woods.” Chief Powhatan’s 1608 map purposefully demonstrated to John Smith that there was no western ocean (Clayton et al. 1993: 1. 133–4; Lewis 1998b: 69–70).

The Mississippian worldview was not continental, but regional, of relationships, friendly and adversarial, among chiefdoms like their own. While goods and ideas came from farther away, they were passed through middlemen whose homes lay closer by. In contrast, eighteenth-century Southeastern Indian maps often covered thousands of square miles, and in some cases even more space than that. One Indian drew a map for the governor of South Carolina around 1723 that covered an area from Florida to Texas and from New York to Kansas (Waselkov 2006: 481).

Most surviving maps were made by the descendants of the Mississippians, whose era ended in the sixteenth century, as disease and warfare brought down most of the chiefdoms. European and Indian rivals eventually cast even the Apalaches and Natchez out of their dominant positions. Mississippian descendants changed in many ways. Most rejected their ancestors’ centralized forms of governance. Most began to rule themselves by council and to divide powers among multiple chiefs. Still, some Mississippian ways of defining societies and space continued, particularly the importance of connections and borders.

Conclusion

Contrary to assumptions that only Europeans and their descendants drew borders, Indians across the continent defined, defended, and disputed geographic and metaphoric borders long before Europeans arrived. Some lands, and all of the rights on them, fell under the exclusive sovereignty of one people, as a Mississippian chiefdom's towns and agricultural plots belonged to its people. Borderlands between chiefdoms were generally open to anyone who wanted to hunt, fish, or gather, although in years of scarcity or war, they might run into others who contested the border zone. Indians had developed recognized methods of dealing across borders, thereby establishing the networks of exchange and diplomacy that, ideally at least, increased security and well-being. For a while, Europeans and Africans would simply be new "others" to incorporate into the Mississippian world. Only in the late eighteenth century did a rival worldview begin to take precedence, a view of a united region, ruled by a centralized, Anglo-dominated republic.

Notes

- 1 Archaeologists generally consider Spiro a culturally-related mound-building society but not technically Mississippian, in part because its descendants are Caddoans, not Southeastern Indians.
- 2 For cautions about using the de Soto accounts, especially Garcilaso, see Young and Hoffman 1993; Galloway 1997. For the most recent interpretation of de Soto's route, see Dye 1993; Hudson 1993.
- 3 See, for example, Adelman and Aron 1999, and countless older works on colonial America that fail to mention Indians at all.
- 4 Morse and Morse 1983: 137, 143, 202–3; B. D. Smith 1986: 21, 35–51, 61; Hurt 1987: 1–12; Shaffer 1992: 24; Fritz 1999: 417–29; Fagan 2000: 306–8, 404–9, 438–46.
- 5 Hamilton 1952: 30–57; Rogers 1995: 93; J. A. Brown 1996: 199; Rogers et al. 2002: 245–51.
- 6 Anderson 1997: 254; Fagan 2000: 442–8; Whayne et al. 2002: 18–19.
- 7 Hamilton 1952: 30, 36, 42; Steponaitis 1986: 392; Muller 1997: 380–1; Fisher-Carroll and Mainfort 2000: 105–19; M. T. Smith 2000: 32.
- 8 Blakeslee 1981: 759–68; Clayton et al. 1993: 1. 270; I. W. Brown 2006.
- 9 Greenblatt 1991; Clayton et al. 1993: 1. 82–4, 230–1, 278–80, 308; 2. 285–88, 296–8, 306.
- 10 The de Soto accounts reported that Mississippian chiefs also gave their female relations, but the Spaniards probably misinterpreted the women's status. Clayton et al. 1993: 1. 303.
- 11 Morse and Morse 1983: 116–25, 163–66; B. D. Smith 1986: 30–1, 41; Fiedel 1992: 236–40; Shaffer 1992: 21, 42; Salisbury 1996: 437; Muller 1997: 135, 327, 366–7.
- 12 The de Soto accounts are rich (albeit sometimes confused) in details of tributary relationships. See, of many examples, Clayton et al. 1993: 1. 106.

- 13 Clayton et al. 1993: 1. 116–21, 238–41, 300–4; 2. 394–406; Morse and Morse 1996a: 1–35; Morse and Morse 1996b: 128–32; Fisher-Carroll and Mainfort 2000: 105–19.
- 14 Morse and Morse 1983: 237, 259–93; Morse 1990: 121–3; Pauketat and Emerson 1997: 22; O’Brien 2001: 48–49; Galloway 2002: 230–1.
- 15 One of the de Soto accounts credited Casqui and Pacaha with the “best towns that they had seen” in their three years of travel across the Southeast: Clayton et al. 1993: 1. 301.
- 16 Hammond and Rey 1940: 186–9, 261, 300–1, 311; Forbes 1960: 15; M. M. Wedel 1982: 119; W. R. Wedel 1983: 213; Clayton et al. 1993: 1. 123–4, 241; John 1996: 20–1, 214–15; Salisbury 1996: 448; Riley 1997: 320–43; La Vere 1998; Schambach 1999: 169–224; F. T. Smith 2000: xi, 3–9.
- 17 Scarry 1990: 180–4; McEwan 1992: 34–6, 49–51; Bushnell 1994: 96–7, 131; Hann and McEwan 1998: 21–2, 31–43, 69–74, 112–20.
- 18 Du Pratz 1758: 177–200; Rowland and Sanders 1927: 1. 63–4, 76; 3. 198; Pénicaut 1953: 28–30, 83–96, 159–82; Brain 1971: 215–22; I. W. Brown 1989: 8–28; Usner 1998: 15–32.

References

- Adelman, Jeremy, and Stephen Aron. 1999. “From Borderlands to Borders: Empires, Nation-States, and the Peoples in between in North American History.” *American Historical Review* 104: 814–41.
- Anderson, David G. 1997. “The Role of Cahokia in the Evolution of Southeastern Mississippian Society.” In Timothy R. Pauketat and Thomas E. Emerson (eds.), *Cahokia: Domination and Ideology in the Mississippian World*, 248–68. Lincoln.
- Belyea, Barbara. 1998. “Inland Journeys, Native Maps.” In G. Malcolm Lewis (ed.), *Cartographic Encounters: Perspectives on Native American Mapmaking and Map Use*, 135–55. Chicago.
- Blakeslee, Donald J. 1981. “The Origin and Spread of the Calumet Ceremony.” *American Antiquity* 46: 759–68.
- Brain, Jeffrey P. 1971. “The Natchez ‘Paradox’.” *Ethnology* 10: 215–22.
- Brown, Ian W. 1989. “Natchez Indians and the Remains of a Proud Past.” In Noel Polk (ed.), *Natchez Before 1830*, 8–28. Jackson.
- Brown, Ian W. 2006. “The Calumet Ceremony in the Southeast as Observed Archaeologically.” In Gregory A. Waselkov, Peter H. Wood, and Tom Hatley (eds.), *Powhatan’s Mantle: Indians in the Colonial Southeast*, 371–420. Lincoln.
- Brown, James A. 1996. *The Spiro Ceremonial Center: The Archaeology of Arkansas Valley Caddoan Culture in Eastern Oklahoma*. Ann Arbor.
- Bushnell, Amy Turner. 1994. *Situado and Sabana: Spain’s Support System for the Presidio and Mission Provinces of Florida*. Athens, GA.
- Clayton, Lawrence A., Vernon James Knight, Jr., and Edward C. Moore (eds.). 1993. *The De Soto Chronicles: The Expedition of Hernando de Soto to North America in 1539–1543*. 2 vols. Tuscaloosa.
- Cobb, Charles R. 2000. *From Quarry to Cornfield: The Political Economy of Mississippian Hoe Production*. Tuscaloosa.
- Du Pratz, Jean-Baptiste Le Page. 1758. *Histoire de la Louisiane, Contenant la Découverte de ce vaste Pays; sa Description géographique; un Voyage dans les Terres; l’Histoire Naturelle; les Moeurs, Coûtumes & Religion des Naturels, avec leurs Origines; deux Voyages dans le Nord du nouveau Mexique, dont un jusqu’à la Mer du Sud*. Paris.

- Dye, David H. 1993. "Reconstruction of the de Soto Expedition Route in Arkansas: The Mississippi Alluvial Plain." In Gloria A. Young and Michael P. Hoffman (eds.), *The Expedition of Hernando de Soto West of the Mississippi, 1541-1543: Proceedings of the De Soto Symposia 1988 and 1990*, 36-57. Fayetteville.
- Dye, David H., and Cheryl Anne Cox (eds.). 1990. *Towns and Temples along the Mississippi*. Tuscaloosa.
- Fagan, Brian M. 2000. *Ancient North America: The Archaeology of a Continent*. London.
- Fiedel, Stuart J. 1992. *Prehistory of the Americas*. New York.
- Fisher-Carroll, Rita, and Robert C. Mainfort, Jr. 2000. "Late Prehistoric Mortuary Behavior at Upper Nodena." *Southeastern Archaeology* 19: 105-19.
- Forbes, Jack D. 1960. *Apache, Navaho, and Spaniard*. Norman.
- Fritz, Gayle J. 1999. "Gender and the Early Cultivation of Gourds in Eastern North America." *American Antiquity* 64: 417-29.
- Galloway, Patricia (ed.). 1997. *The Hernando de Soto Expedition: History, Historiography, and "Discovery" in the Southeast*. Lincoln.
- Galloway, Patricia 2002. "Colonial Period Transformations in the Mississippi Valley: Disintegration, Alliance, Confederation, Playoff." In Robbie Ethridge and Charles Hudson (eds.), *The Transformation of the Southeastern Indians, 1540-1760*, 225-47. Jackson.
- Greenblatt, Stephen. 1991. *Marvelous Possessions: The Wonder of the New World*. Chicago.
- Hamilton, Henry W. 1952. "The Spiro Mound." *Missouri Archaeologist* 14: 17-88.
- Hammond, George, and Agapito Rey (eds. and trans.). 1940. *Narratives of the Coronado Expedition, 1540-1542*. Albuquerque.
- Hammond, George, and Agapito Rey (eds. and trans.). 1953. *Don Juan de Oñate: Colonizer of New Mexico, 1595-1628*. Albuquerque.
- Hann, John H., and Bonnie G. McEwan. 1998. *The Apalachee Indians and Mission San Luis*. Gainesville.
- Helms, Mary W. 1992. "Political Lords and Political Ideology in Southeastern Chiefdoms: Comments and Observations." In Alex W. Barker and Timothy R. Pauketat (eds.), *Lords of the Southeast: Social Inequality and the Native Elites of Southeastern North America, 185-97*. Washington DC.
- Hudson, Charles M. 1976. *The Southeastern Indians*. Knoxville.
- Hudson, Charles M. 1993. "Reconstructing the de Soto Expedition Route West of the Mississippi River: Summary and Contents." In Gloria A. Young and Michael P. Hoffman (eds.), *The Expedition of Hernando de Soto West of the Mississippi, 1541-1543: Proceedings of the De Soto Symposia 1988 and 1990*, 143-54. Fayetteville.
- Hurt, R. Douglas. 1987. *Indian Agriculture in America: Prehistory to the Present*. Lawrence.
- John, Elizabeth A. H. 1996. *Storms Brewed in Other Men's Worlds: The Confrontation of Indians, Spanish, and French in the Southwest, 1540-1795*. Norman.
- Knight, Vernon James, Jr., and Vincas P. Steponaitis. 1998. "A New History of Moundville." In Knight and Steponaitis (eds.), *Archaeology of the Moundville Chiefdom*, 1-25. Washington.
- La Vere, David. 1998. *The Caddo Chiefdoms: Caddo Economics and Politics, 700-1835*. Lincoln.
- Lafferty, Robert H. 1994. "Prehistoric Exchange in the Lower Mississippi Valley." In Timothy G. Baugh and Jonathan E. Ericson (eds.), *Prehistoric Exchange Systems in North America*, 177-213. New York.
- Lewis, G. Malcolm (ed.). 1998a. *Cartographic Encounters: Perspectives on Native American Mapmaking and Map Use*. Chicago.
- Lewis, G. Malcolm 1998b. "Maps, Mapmaking, and Map Use by Native North Americans." In David Woodward and G. Malcolm Lewis (eds.), *The History of Cartography*, II. 3: *Cartography in the Traditional African, American, Arctic, Australian, and Pacific Societies*, 51-182. Chicago.

- McEwan, Bonnie G. 1992. *Archaeology of the Apalachee Village at San Luis de Talimali*. Tallahassee.
- Morse, Dan F., and Phyllis A. Morse. 1983. *Archaeology of the Central Mississippi Valley*. New York.
- Morse, Dan F., and Phyllis A. Morse. 1996a. "Changes in Interpretation in the Archaeology of the Central Mississippi Valley Since 1983." *North American Archaeologist* 17: 1–35.
- Morse, Dan F., and Phyllis A. Morse. 1996b. "Northeast Arkansas." In Charles H. McNutt (ed.), *Prehistory of the Central Mississippi Valley*, 119–35. Tuscaloosa.
- Morse, Phyllis A. 1990. "The Parkin Site and the Parkin Phase." In David H. Dye and Cheryl Anne Cox (eds.), *Towns and Temples along the Mississippi*, 118–34. Tuscaloosa.
- Morse, Phyllis A., and Dan F. Morse. 1990. "The Zebree Site: An Emerged Early Mississippian Expression in Northeast Arkansas." In B. D. Smith (ed.), *The Mississippian Emergence*, 51–6. Washington, DC.
- Muller, Jon. 1997. *Mississippian Political Economy*. New York.
- "Nations Amies et Ennemies des Tchikachas." 1737. Series C13A, volume 22, folio 67, Archives des Colonies, Centre de Archives d'Outre-Mer, Archives Nationales, Aix-en-Provence, France.
- O'Brien, Michael J. 2001. *Mississippian Community Organization: The Powers Phase in Southeastern Missouri*. New York.
- Pauketat, Timothy R., and Thomas E. Emerson (eds.). 1997. *Cahokia: Domination and Ideology in the Mississippian World*. Lincoln.
- Pénicaud, André. 1953. *Fleur de Lys and Calumet, Being the Pénicaud Narrative of French Adventure in Louisiana*. Ed. and trans. Richebourg Gaillard McWilliams. Baton Rouge.
- Phillips, Philip, and James A. Brown. 1975. *Pre-Columbian Shell Engravings: From the Craig Mound at Spiro, Oklahoma*. Cambridge, MA.
- Richter, Daniel K. 2001. *Facing East from Indian Country: A Native History of Early America*. Cambridge, MA.
- Riley, Carroll L. 1997. "The Teya Indians of the Southwestern Plains." In Richard Flint and Shirley Cushing Flint (eds.), *The Coronado Expedition to Tierra Nueva: The 1540–1542 Route Across the Southwest*, 320–43. Niwot, CO.
- Rogers, J. Daniel. 1995. "Dispersed Communities and Integrated Households: A Perspective from Spiro and the Arkansas Basin." In J. Daniel Rogers and Bruce D. Smith. *Mississippian Communities and Households*, 81–98. Tuscaloosa.
- Rogers, J. Daniel, and Bruce D. Smith. 1995. *Mississippian Communities and Households*. Tuscaloosa.
- Rogers, J. Daniel, Carla J. Dove, Marcy Heacker, and Gary R. Graves. 2002. "Identification of Feathers in Textiles from the Craig Mound at Spiro, Oklahoma." *Southeastern Archaeology* 21: 245–51.
- Rowland, Dunbar, and A. G. Sanders (eds. and trans.). 1927. *Mississippi Provincial Archives: French Dominion*. Vols. 1–3. Jackson.
- Salisbury, Neal. 1996. "The Indians' Old World: Native Americans and the Coming of Europeans." *William and Mary Quarterly* 53: 435–58.
- Scarry, John F. 1990. "The Rise, Transition, and Fall of Apalachee: A Case Study of Political Change in a Chiefly Society." In Mark Williams and Gary Shapiro (eds.), *Lamar Archaeology: Mississippian Chiefdoms in the Deep South*, 175–86. Tuscaloosa.
- Schambach, Frank F. 1999. "Spiro and the Tunica: A New Interpretation of the Role of the Tunica in the Culture History of the Southeast and the Southern Plains, AD 1100–1750." In Robert Mainfort, Jr. and Marvin D. Jeter (eds.), *Arkansas Archaeology: Essays in Honor of Dan and Phyllis Morse*, 169–224. Fayetteville.
- Shaffer, Lynda Norene. 1992. *Native Americans before 1492: The Moundbuilding Centers of the Eastern Woodlands*. Armonk, NY.

- Smith, Bruce D. 1986. "The Archaeology of the Southeastern United States: From Dalton to De Soto, 10,500–500 BP." *Advances in World Archaeology* 5: 1–92.
- Smith, Bruce D. (ed.). 1990. *The Mississippian Emergence*. Washington, DC.
- Smith, F. Todd. 2000. *The Wichita Indians: Traders of Texas and the Southern Plains, 1540–1845*. College Station.
- Smith, Marvin T. 2000. *Coosa: The Rise and Fall of a Southeastern Mississippian Chiefdom*. Gainesville.
- Steponaitis, Vincas P. 1986. "Prehistoric Archaeology in the Southeastern United States, 1970–1985." *Annual Review of Anthropology* 15: 363–404.
- Turnbaugh, William A. 1976. "Wide-Area Connections in Native North America." *American Indian Culture and Research Journal* 1: 22–8.
- Usner, Jr., Daniel H. 1998. *American Indians in the Lower Mississippi Valley: Social and Economic Histories*. Lincoln.
- Waselkov, Gregory A. 2006. "Indian Maps of the Colonial Southeast." In Gregory A. Waselkov, Peter H. Wood, and Tom Hatley (eds.), *Powhatan's Mantle: Indians in the Colonial Southeast*, 435–502. Lincoln.
- Wedel, Mildred Mott. 1982. "The Wichita Indians in the Arkansas River Basin." In Douglas H. Ubelaker and Herman J. Viola (eds.), *Plains Indian Studies: A Collection of Essays in Honor of John C. Ewers and Waldo R. Wedel*, 118–34. Washington.
- Wedel, Waldo R. 1983. "The Prehistoric Plains." In Jesse D. Jennings (ed.), *Ancient North Americans*, 183–219. New York.
- Whayne, Jeannie M., Thomas A. Deblack, George Sabo III, and Morris S. Arnold. 2002. *Arkansas: A Narrative History*. Fayetteville.
- Young, Gloria A., and Michael P. Hoffman (eds.). 1993. *The Expedition of Hernando de Soto West of the Mississippi, 1541–1543: Proceedings of the De Soto Symposia 1988 and 1990*. Fayetteville.

Aztec Geography and Spatial Imagination

BARBARA E. MUNDY

The Aztecs were the final of a series of great indigenous empires that controlled a swath of (today) central Mexico. Their capital city was centered in the Valley of Mexico, a region notable for its gentle climate, rich soils, and ecological diversity. Their predecessors in the Valley, the empire of Teotihuacan (fl. first–eighth century CE) and that of Tula (fl. tenth–twelfth century CE), left behind little record of their particular kind of spatial imagining. But, during their brief hold on power (c. 1325–1520 CE), the Aztecs did. Some of their records fell into the hands of their sixteenth-century conquerors, Spaniards under the command of Hernán Cortés, who preserved some and reworked others to aid their own imperial administration.

Since these records are pictographic, rather than written texts, they benefit from visual analysis. In this chapter, analysis of the pertinent remaining records of the Aztecs will address the following questions: How did the Aztecs picture the spatial expanse of their empire? What can be ascertained about Aztec understandings of space from their both their spatial descriptors and representations?

Historical Background

While the Aztec empire has a large place in the American imagination, its hold on power was actually quite brief. Centered in the Valley of Mexico during the fourteenth and fifteenth centuries, it had been created by the union of three *alte-peme* (sing.: *altepetl*), or city states, lying about 10 kilometers apart (see Figure 8.1). Beginning in the fourteenth century, the armies of this Triple Alliance battled neighbors in the Valley, and then beyond. Captured polities sent a wealth of tribute goods – foodstuffs, cloth, luxury items – back to the Triple Alliance cities four times a year, enriching lords and commoners. Eventually, their military prowess

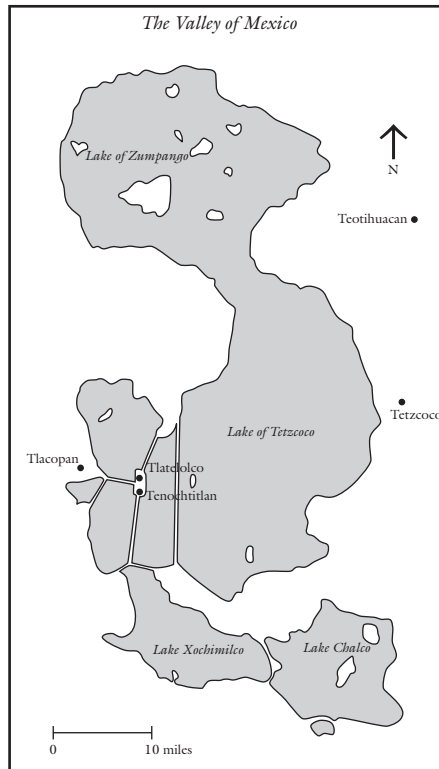


Figure 8.1 Map of the Valley of Mexico. Barbara E. Mundy

and aggressive politics allowed the people of Tenochtitlan to receive a majority share. They, along with the residents of their sister city Tlatelolco, called themselves the Mexica. Due to the benefits of their tribute empire, their island capital in the center of the lakes of Mexico, founded in 1325 at the urging of their tutelary deity Huitzilopochtli, grew into a city of some 150,000 to 200,000 people by the early sixteenth century (Berdan 1982: 14). Within this highly organized grid-plan city, a *huetlatoani*, or “great speaker,” sat at the apex of the social pyramid. At the time of conquest he was Moteuczoma II and lived in splendid palaces at the center of the city, surrounded by a large court, numerous wives and children, and educated elites. The city was populated by artisans, merchants, priests and urban farmers, with distinctions between classes clearly maintained by sumptuary laws. The tribute economy benefited them all: elites enjoyed not only luxury goods, but also the high standard of living that the conquest economy yielded; the abundant foodstuffs coming into the Valley assured that, in most years, there was enough for all.

The two other members of the Triple Alliance, the Acolhua of Tetzcoco and the Tepanecs of Tlacopan, likewise benefited from this tribute economy. So did elites in conquered polities that made up this Aztec empire. They were rewarded for their

compliance, it seems, by sumptuous gifts from their conquerors, and in many cases, their traditional pre-conquest prerogatives remained unchallenged, as long as tribute was delivered (Hodge 1996). Elites from neighboring cities often lived in Tenochtitlan, and their sons, along with sons of high-ranking nobility from tribute provinces, were educated in Tenochtitlan schools; the highest ranking of them would be brought into the *huei tlatoani's* family by marriage to Mexica princesses. The loyalty of conquered regions was further insured by the “housing” of their sacred tutelary deity in a special temple for such divine hostages in the Templo Mayor, Tenochtitlan’s expansive temple precinct. But force was still the glue of this imperial system and compliance to the Triple Alliance’s quota for tribute insured by strategically placed military garrisons at the frontiers of, or adjacent to, independent-minded states. A measure of permanent instability was insured by hold-outs to this empire. Certain pre-Hispanic kingdoms, among them the Tlaxcalans, the Tarascans, and the Yope, resisted Triple Alliance armies, and remained outside the tributary regions. They paid a high price for their resistance, as they were the favored target of Triple Alliance armies making forays for captives to be used in the sacrificial rituals. But they found revenge of a kind; the Tlaxcalans were quick to ally themselves when a Spanish army of 300 soldiers, under the command of Hernán Cortés, appeared in 1519. Along with some disgruntled tribute-paying provinces, Spanish and indigenous armies would together bring down the empire in 1521.

New World Geography?

At the apex of its power, on the eve of the conquest, the Aztec empire comprised tribute-paying regions from central Mexico to an outpost on the Pacific Coast of Guatemala. Given the long reach of their domain, Aztec leaders and bureaucrats clearly had knowledge of its spatial extent. But, to narrowly apply a point Michel Foucault makes more largely about types of discourse, to discuss that space in terms of Aztec “geography” is to apply a discipline that is neither intrinsic nor autochthonous (Foucault 1972: 22). Geography, associated with empirical science and a particular kind of description, has a Mediterranean pedigree (Cosgrove 1985). To bring geography’s concerns to bear on New World cultural products that were created well beyond the boundaries of its orbit, is always problematic. For instance, the insistence in modern geographic practice on vision and verisimilitude as the basis for geographic representations does not always hold in the New World, where “ways of knowing” are not always based on sight. Since geography’s signal visual representation, the map, relies on both technologies and visual conventions rooted in verisimilitude, ideas about maps drawn from the western tradition can limit perception of the range of spatial conceptions present in the New World. Harley and Woodward’s formulation of a map helps to widen the parameters of the map (1987: xvi): “Maps are graphic representations that facilitate a spatial understanding of things, concepts, conditions, processes, or events

in the human world.” While I draw on this definition, I will also emphasize, in the Aztec case, the perceptual ways of “knowing” that go beyond vision. And because Aztec space was not exclusively represented by the map (nor was the map even a privileged site of representation), but also personified, an investigation of Aztec spatial concepts will also lead us into Aztec ethnography.

It is clear that a full Aztec epistemology of space will never be recoverable. The material traces of its existence are fragmentary: the Aztec books and libraries that survived the wars of conquest were often burned by zealous friars; only 11 books from before the conquest or shortly thereafter are known today (Boone 2000: 23).¹ Much of the information about Aztec culture comes from texts written by Europeans or produced by native intellectuals working under their auspices (Burrus 1973; Gibson and Glass 1975). One, in the form of a European encyclopedia, the *Florentine Codex*, compiled by native elites working under the Franciscan Bernardino de Sahagún in the 1560s and 1570s, is perhaps the most authoritative (Sahagún 1950–63). Paired with a dictionary published by another Franciscan, Alonso de Molina, in 1571, the *Vocabulario en Lengua Castellana y Mexicana* (Molina 1977), these works give us a window, albeit narrow, into the culture of elites before the conquest. In more recent years, the large body of much more pedestrian material which survives from after the conquest, including maps and lawsuits written in Nahuatl, the dominant indigenous language of Central Mexico, has continued to shape our understanding of what came before (Glass 1975; Glass with Robertson 1975; Lockhart 1992). In addition, archaeology, especially in the center of the Aztec capital, continues to reveal more about the pre-Hispanic world (Matos Moctezuma 1982; Solís Olguín 2004).

In an attempt, however partial, to work within Aztec categories, I will use a basic division in investigating Aztec imperial space, an opposition between two relational terms in Nahuatl, the language of the Mexica and the imperial tongue: *nahuac* and *huehca*. Given that Nahuatl was not a written language until Europeans introduced the Latin alphabet, the terms are found only in post-Conquest sources, but these seem to reflect enduring usage. *Nahuac* is a postposition, and it indicates “nearby”; its root *nahua* means “clear, intelligible” and is also the root of *Nahuatl*, the name of the Aztec language (literally “clear speech”). Nahuac was applied to spatial concerns: *Cem anahuac tenochca tlalpan* (“the surrounding waters, the land of the Tenochca”) was an epithet used for Tenochtitlan; *altepe-nahuac* meant the territorial limits of a town (Molina 1977: fol.4r). Opposed to *nahuac* is *huehca*, meaning “far away,” rooted in the common verb *ca* “to be.” It was associated with things outside the known and thus connects to ethnography: *huehcachaneh* and *huehcatlaca* are both words for foreigners. In the Florentine Codex, *huehcatlaca* refers to the indigenous enemies of the Mexica (Lockhart 1993: 13 n. 24). Together *nahuac/huehca* can be taken to represent two opposite points on a spectrum of space, one referring to the known and perceptible, the other to the distant and imperceptible.

The space of *nahuac/huehca* was envisioned from *nican*, or “here.” *Nican* is ubiquitous in post-Colonial Nahuatl documents and legal writs and it refers to

the immediate space, as does “here” in English – the space of the house, or the garden plot, or the town. When paired with the word for people (*tlaca*), it translates as “the people here,” suggesting a social and spatial unity characteristic of central Mexico.

Nican: The Here and Now

The majority of people living within the Aztec empire were settled agriculturists. Intensive cultivation was the norm in the Valley of Mexico, the great highland basin around Tenochtitlan, where over a million people lived at the time of the conquest.² We understand social space in the Valley as a series of concentric hierarchies, like Russian nesting dolls (Lockhart 1992: 14–58). The basic unit was the nuclear family, beyond this the extended family, and beyond this the *calpolli*, or *tlaxilacalli*, a larger social group, probably occupying contiguous space. The *calpolli* were joined into the *altepetl*. Urban agglomerates like Tenochtitlan and Cholula seem to have been “super *altepetl*,” combining *altepeme* under one ruler, or a pair of rulers, with populations in the tens or hundreds of thousands.

The *altepetl* was the fundamental unit of political identification in central Mexico, much as the city-state was in ancient Greece; residents referred to themselves by the name of their *altepetl* rather than as “Aztecs.”³ This identification was religious as well as political, for each *altepetl* had its own special tutelary deity, gods who jockeyed for power within the cosmos just as the armies of their representative *altepetl* did on the field. But self-identification with smaller spatial units was also common. For settled agriculturalists in the Valley, the *nican* was often the lands of the local *calpolli*, built up out of the individual plots held and worked by each family. Since *calpolli* bureaucrats were responsible for reassigning usufruct rights to the *calpolli*'s communal lands, the extensive graphic records of landholding they kept privileged the spaces they controlled and took the form of documents we would describe as maps and cadastral records; sixteenth-century Europeans saw them in much the same light.

A sixteenth-century Spanish official, Alonso de Zorita, wrote that a *calpolli* leader “has pictures on which are shown all the parcels, and the boundaries, and where and with whose fields the lots meet, and who cultivates what field and what land each one has” (Zorita 1994: 110). One cadastral record of individual landholdings of c. 1544 created in the *tlaxilacalli* (or *calpolli*) of Santa Maria Asunción on the eastern side of the Valley reveals the careful recordkeeping that seems to have been typical within the *calpolli* (Figure 8.2). Santa Maria Asunción comprised only 187 households of small landholders, yet it kept extraordinarily detailed documentation. Each of the 12 divisions of Santa Maria Asunción was documented three ways: with a census of all household members, with a land register showing linear measurement of fields, and with another land register showing area measurements and soil types of the same fields (Williams and Harvey 1997). The document reveals the precise system of measurement used in the Valley, capable

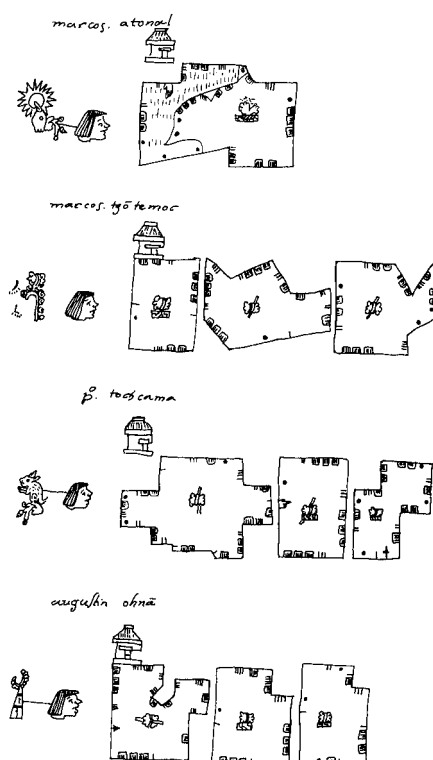


Figure 8.2 Drawing after Códice Santa María Asunción, fol. 57v, ca. 1544.
Barbara E. Mundy

of recording both linear and area measures (Castillo 1972). At the end of three of the land-register sections, a scribe wrote a short gloss. The one on fol. 31v is typical: *nican tlamīn yn intlal yn huiznahua*, “Here end the lands of the Huitznahuac.” The “nican” could be read literally as the spot on the book’s page where the account of the lands ends, but given that the book was probably verified by survey, the “here” can be interpreted as the limit of local boundaries. Thus, this context reveals *nican* to be a reference to a local, known space.

Such representations of the *nican* appear widely, because the practice of mapping individual plots was not unique to Santa María Asunción, and, as Zorita’s observation suggests, was likely the norm in the pre-conquest Valley. But it was not just the *calpolli* that held such maps: indigenous landholders, particularly wealthy ones, also held similar maps and cadasters of their holdings. They used them to document the lands they passed down to their heirs, and when lands were disputed, such maps and cadasters entered the legal record, where many of them survive today (Tanck Estrada, Miranda García and Chávez Soto 2005).

One feature of representations of this *nican* is the absence of a larger relational field. For instance, when maps of large scale plots of land appear in wills or in lawsuits, there is often little to show how these pieces relate spatially to others.

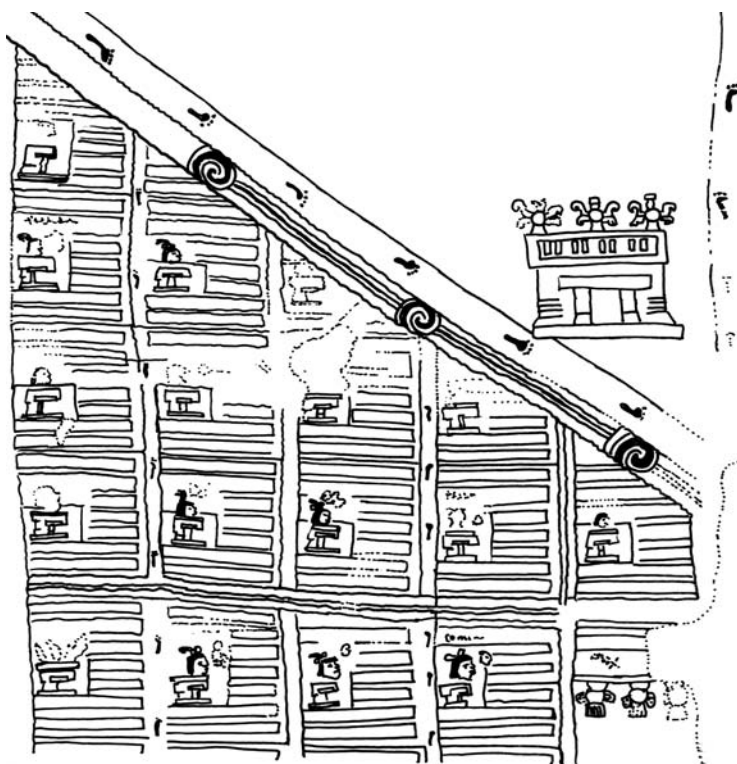


Figure 8.3 Drawing after Plano parcial de la ciudad de México, detail, ca. 1565.
Barbara E. Mundy

This is also true of one of the best known representations of the *nican* from the Valley of Mexico. The Plano parcial de la ciudad de México was likely created around the 1560s, or amended up to that point. It is an enormous work, measuring some 238 × 168 cm. It shares some conventions with the Codex Santa Maria Asunción, in that each field is carefully identified with the pictographic name of its owner (Figure 8.3). But it is a map, not a cadaster, and documents a vast expanse of irrigated fields. Each plot is depicted as having roughly the same dimensions (no measurements are noted) and contains a symbol for a house, with a profile head on top attached to a pictographic name of the plot's owner.

In the Plano, the vast spread of individual fields across the sheet, the distinctive irregularity of roads and waterways, and the singular eruption of temples and springs suggest that the map was the product of a visual survey, but since it includes many abstract symbols we cannot assume visual verisimilitude to be the aim of the artist. These symbols include the house symbols, the name glyphs, the wavy striations used to denote water, and the footprints to show roads. Because the Plano lacks clear signs or glosses that refer to outside places, its precise location has never been identified, but recent scholarship on the map suggests that it comprises agricultural lands once belonging to Tlatelolco and claimed by the Mexica

of Tenochtitlan in the mid-sixteenth century (Calnek 1973; Castañeda 2008).⁴ Because this territory, even if securely located, would be under the dense urban sprawl of modern Mexico City, we may never be sure to what degree some of its more “naturalistic” features (like the dimensions of individual landholdings) might be conventions as well.

Large scale maps and cadasters were thus produced by local bureaucrats, and given the centralized training of scribes in the Valley, the creation of such land registers was likely a learned skill, based on a conventional representational vocabulary. Given the wide circulation of such maps, Valley residents must have accepted them as an appropriate representation of their particular *nican*, be it the “here” of the *calpolli*, or the “here” of the household – that is, these representations, shaped by local understandings of the *nican*, then in turn shaped the parameters for the ways that the *nican* was imagined. The maps were admired by Spaniards and quickly absorbed into the growing Spanish practice of using maps as administrative documents in court cases and in land grants, thus creating a wealth of large scale maps in the sixteenth century (Mundy 1996: 180–211). Their dominance in the existing archive points to the local sphere of *calpolli* lands and individual plots as being the most familiar spatial nexus for the majority of peoples in the Valley of Mexico.

Huehca: Beyond the Horizon

For the Mexica, much of their immediate environs in the Valley was familiar territory. The topography of the Valley itself must have contributed to this idea of “known space” through vision: ringed by live volcanoes, spent volcanic cones and mountain ranges, the Valley’s approximately 6500 square kilometers appears as an encircled and closed space. Hydrography contributed as well: the great lakes of the Valley are actually inland seas, receiving their water from surrounding rivers and streams, but having no natural outlet. The Valley was perceived as a closed system through other senses as well. Knit together by networks of regional markets, buyers and sellers would move through the Valley, often traveling from agricultural areas to urbanized ones from day to day (Hassig 1985; Blanton 1996). Elites, too, would traverse the Valley as they walked to sacred sites – to the Hill of the Star during New Fire ceremonies, to the pyramids of Teotihuacan, to the sanctuary of the rain god high on Mount Tlaloc (Durán 1977: 156–7; Aveni 1991; Townsend 1992). All these experiences, both mundane and sacred, by the residents of the Valley must have contributed to a sense of its integrated wholeness.

Punctuating this closed space of the Valley were the queues of tribute bearers that, four times during the year, crossed over the surrounding mountains and merged into central Tenochtitlan, following routes across the mountains that are major roadways into Mexico City today; pouring along the main roads, the traffic streamed together as it neared the center of the city, massing along the five causeways that crossed over the shallow lakes. These foreigners, their backs laden with exotic

goods – bundles of brilliant tropical plumage, pots of fragrant copal incense, piles of military costumes made from feathers and skins – would often have been visually and aurally distinct from peoples of the Valley. Wearing different clothing, sporting different hairstyles or tattoos and piercing, speaking a language different than “clear speech” of Nahuatl as they snaked along roads into the city, these foreigners would have been well known to Valley residents, signifiers of a world “out there.”

A natural place to look to grasp the *huebca*, or even for ideas about imperial space in general, would be the famous tribute register found in the pages of the Codex Mendoza, a copy of a pre-Hispanic record book, and one of the few known documents of imperial administration.⁵ The second part of the Codex Mendoza is an atlas of empire: each folio contains a list of towns in a tributary region, named by pictographic toponyms arranged around its edges (Figure 8.4). The town named at the top left of the page is the regional “head town” where tribute would be amassed before being shipped on to the Valley. In the center of the page is a pictographic record of required tribute which, typically, was foodstuffs (maize, beans, chia, amaranth) and woven cloth, with some regions required to supply more specialized or exotic goods, like costumes, jade, and gold.

This atlas of empire has been the basis of every modern geographic map of the Aztec domain, from Robert Barlow’s pioneering 1949 study to the most recent revision by Frances Berdan and her collaborators in 1996. These modern researchers have located the Mendoza’s “head towns” and subsidiary towns, many of which exist today, on modern maps, creating regions; together these regions amount to an imperial map (Figure 8.5). But beyond the territorial proximity of places named on each Mendoza page, this tribute list is remarkably unrevealing about the Aztec conception of the empire as a spatial expanse, no better than a shipping inventory would be.⁶ For instance, the order of pages documenting tribute regions is arranged in a roughly near-to-far sequence, beginning with tribute collection points around Tenochtitlan, and then spiraling out counterclockwise towards places farther away. If plotted out on a geographic map, this circuit resembles the characteristic counter-clockwise rotation used in ritual dances and in ordering the internal hierarchies of altepetl. But within the Codex’s pages, spatial differences are muted: each page, with its standard format, looks roughly the same as the others, and there is no sharp break between adjacent provinces and far-away ones. Instead, “near” and “far” are subtle distinctions, signaled largely in the different amounts of tribute goods – more foodstuffs (heavy and perishable) from nearby, more exotic goods from far away – and, perhaps, in encoded oddities of the place-names (Dykerhoff 1984; Berdan 1992a).

Of course, the Mendoza is just one imperial record of the tributary empire, and it may have been based on a rather pedestrian inventory used by the keepers of imperial storehouses to check off goods received (Berdan 1992b). These administrators, stationed in the warehouses, may have had few concerns about spatial distance or difference. Nor should the Mendoza’s importance to our geographic representation of the Aztec empire be allowed to overshadow other Aztec ideas

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Figure 8.4 Unknown creator, Codex Mendoza, fol. 43r, ca. 1545, showing the tribute due from the region headed by Coayxtlahuacan. MS. Arch. Selden. A. 1., fol. 43r. Reproduced courtesy of The Bodleian Library, University of Oxford

of the *huehca*. The Mexica in Tenochtitlan more consistently represented the spatial extent of empire in terms of ethnic difference. Two key monuments, produced by two different Aztec emperors and both situated in public places in Central Tenochtitlan, demonstrate this conflation of spatial and ethnic difference. These monuments, the sacrificial stone of Moteuczoma I and the Stone of Tizoc, glorify the military conquests of two emperors, Moteuczoma I (r. 1440–68) and Tizoc (r. 1481–86), and were likely created during their reigns (Wicke 1974; Umberger 1996: 97–102). Both are cylindrical monoliths sharing a similar format and iconography: the flat top is carved with a bas-relief solar emblem; the sides of the monuments are divided into distinct scenes, and each shows the emperor taking

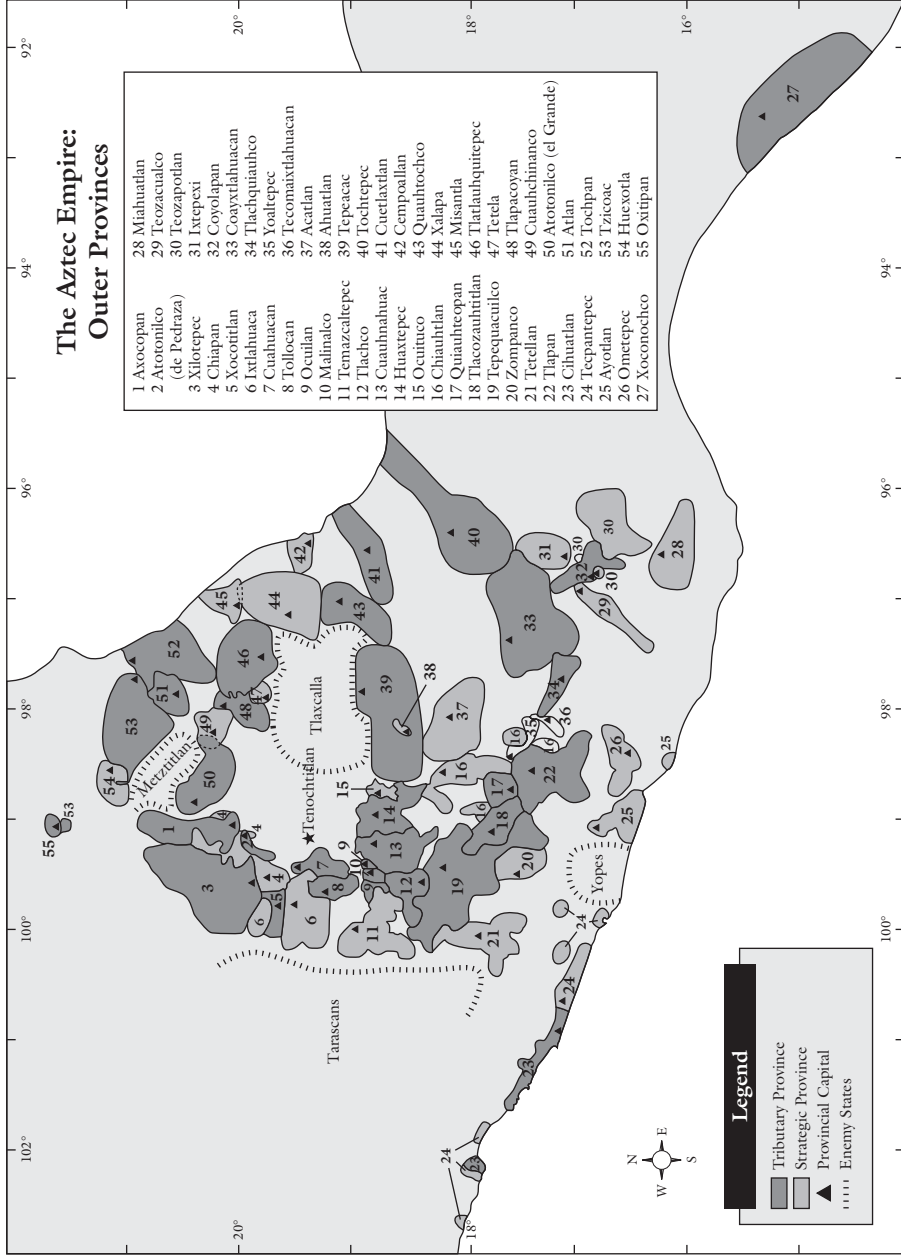


Figure 8.5 Map of the Aztec empire: outer provinces, after Berdan *et al.* (1996: Figure A4-1). Reproduced courtesy of Dumbarton Oaks Research Library and Frances Berdan

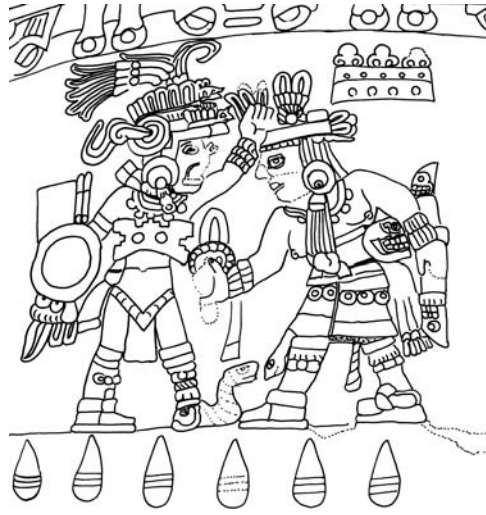


Figure 8.6 Unknown creator, Stone of Tizoc, detail showing Tizoc (left) conquering the deity of Xochimilco (right), ca. 1485. Barbara E. Mundy

an enemy warrior captive. One is seen in Figure 8.6: here the emperor Tizoc wears the guise of the Mexica deity Huitzilopochtli, and overpowers his foe. Above the enemy warrior, a pictograph identifies the name of the Xochimilco *altepetl*, one of the towns conquered by the Mexica; this figure also wears distinctive emblems of the Xochimilco tutelary deity. The earlier stone created for Moteuczoma is almost identical, but has only 12 scenes, separated into distinct panels, not 15.

The places Tizoc is shown conquering range from nearby Culhuacan (about 5 km to the south of central Tenochtitlan), to distant Tochpan on the Gulf Coast. As in the Codex Mendoza, places are arranged from nearby to faraway but the monuments offer no discernible markers of absolute spatial distance. Instead, we find a preoccupation with ethnic difference. Warriors are dressed as distinct divinities, with headgear and paraphernalia, suggesting that Tizoc's military campaign (like the earlier one of Moteuczoma I) is not merely a territorial occupation but a divine preoccupation. The sun that dominates the top of the monument was identified with Huitzilopochtli, and by association with Tenochtitlan itself. Thus, the stone reveals an ideology of the besieged: Tenochtitlan is shown surrounded by the circle of *huehcatlaca* deity-warriors, but as they face off against Tizoc-as-Huitzilopochtli, he conquers them, and the light and heat of his sun permeate his domain. This trope of Tenochtitlan as axis mundi colored other monuments created for the Mexica (Townsend 1979). These monuments, of course, were imperial propaganda and portray the empire in fairly simple terms, but they do show how the powerful *altepetl* of Tenochtitlan represented the conquered space of the empire through combined signifiers of ethnic difference, particularly costume and tutelary divinities.

The static content of the Stone of Tizoc, carved into hard diorite, was brought to life for the residents of Tenochtitlan in the great public celebrations held in the city, both on a regular monthly basis (the *veintena* cycle) and also at less regular intervals tied to imperial campaigns of conquest. In these important ceremonies, witnessed by thousands in the city and visitors from outside, spatial dimensions of the empire were performed as ethnic difference. We see this vividly when we look at a single feast held every November. This feast, called Ochpanitzli (“The Sweeping”), coincided with both the end of harvest and one of the four annual periods of tribute collection. Its name conjured a powerful metaphor for Valley residents, because sweeping, while a mundane female activity, was also seen on a cosmic level as a powerful mechanism for world ordering. Moreover, like many of the *veintena* festivals, Ochpanitzli celebrated fertility, in this case, that of the earth-mother goddess named Teoinnan (“Mother of us all”) or Toci (“Our grandmother”). At the time of the feast, tribute, which had no doubt been quietly massed at provincial collection points, would begin flowing into the city, and residents would have been treated to the spectacle of strange-tongued foreigners arriving with their bundles of feathers, bags of incense, and pots of honey. The main public celebration for Ochpanitzli took place in Tenochtitlan’s main square. Here, brilliantly costumed priests and dancers performed in the main temple precinct; the center of the attraction was a young woman acting as the impersonator or incarnation (*ixiptla*) of the deity Toci herself, destined for death on a sacrificial stone.

Ethnic and spatial difference figured both among the spectators and in the performance. As in many Mexica celebrations, the leaders of conquered provinces were invited, or compelled, to attend. As they viewed the ceremonies, they would have stood out from Mexica nobles because of their distinctive ornaments and hairstyle, as well as the colors and patterns of the cloaks they wore. These cloaks may have been a sign of Mexica largesse, because one type of tribute coming into the city was elaborately worked cloaks of specific designs, woven, embroidered, and dyed by women weavers in the provinces. By giving these prestigious tribute goods to visiting nobility, the Mexica usurped the latter’s right to decide what they wore (Umberger 1996: 103), and ensured that they appeared visibly different as they sat as spectators before the dancing gods and the massed residents of the city.

Thus, layered on top of spatial *buehca* was a human one, that is, space was represented and performed in the human cognates of *buehca*: the foreign *buecachaneh* and *buecatlaca*. But these *buecatlaca* were not merely the spectators, they were the performers as well. For the fragmentary records of *veintena* festivals also show that within their elaborately choreographed rituals, this spatial and ethnic “otherness” was part of the routine. Most prominently featured at Ochpanitzli were Gulf-Coast peoples, residents of the hot-country; among the sober highland Mexica *nahuatle* (law abiding people), Gulf-Coast peoples had a reputation for excess and exuberant sexuality. During the peak of the fevered dancing around Toci, figures costumed as Huastecs from the Gulf Coast, sporting enormous erect penises (perhaps made of paper-mache), paraded around this earth-mother deity – in a symbolic insemination that was paralleled by the flow of goods from the

Gulf Coast into the fertile Valley. The sacrificial victims (like the girl incarnating Toci) that were at the heart of all Mexica rituals, were also very probably part of this performance of *buehca*. Inga Clendinnen has convincingly argued for the foreignness of the victims (Clendinnen 1991a: 90), and their fates as sacrificial victims – hearts torn out and offered to Huitzilopochtli, bodies dismembered – was a potent reminder of the line between “us” and “them,” between inside and outside, between near and far away.

Nahuac: The Heart of Empire

The performance of *buehca* and the marking of difference between the people of Tenochtitlan and those outside derived both their origin and their goal from the consolidation of the Mexica themselves, who were charged by a sense of themselves as a chosen people. One Mexica strategy was to mark differences in performance and artwork, and yet another was to align Tenochtitlan, both the space and its peoples, to cosmic space – the movement of celestial bodies, particularly the sun which, as it emanated *tonal* (life-heat), was seen as the animating force in the larger universe (Townsend 1979). This alignment of Tenochtitlan to the cosmic order is signaled by the phrase *Cem anahuac tenochca tlalpan* (“the surrounding waters, the land of the Tenochca”). The phrase “cem anahuac” can be interpreted in two ways, and I suspect both were in play for the Mexica. If it refers to the oceans, then it becomes a statement of the dramatic ambitions of the Mexica for their empire – as if these ancient imperialists were claiming their own “sea to shining sea.” But if it is read more narrowly, then it declares Tenochtitlan to be an island capital, surrounded by waters. What lifts this statement from a topographical commonplace is the connection it establishes with the sacred place of origin of Aztlan, an earlier island capital that the Mexica left, setting out on a long migration at the urging of Huitzilopochtli. Aztlan, which had the same place in the Mexica imagination as Jerusalem did to European crusaders, was recreated in Tenochtitlan.

The image of Tenochtitlan as the new Aztlan colors one of its few known representations, found in a map published to accompany Hernán Cortés’ letter to Charles V, the Spanish monarch (Figure 8.7). This city map, as I have argued elsewhere (Mundy 1998), was based on an earlier indigenous map of the Mexica capital. In casting hydrography and topography as a disc, the original artist drew on a powerful set of metaphors – visual metaphors being typical in Aztec art – creating a kind of metaphoric topography. Aztlan is usually portrayed as sitting in a disc of water, as is the city of Tenochtitlan in the map, where the island capital dominates, and the surrounding lake is reshaped to conform to Aztlan’s contours. Bodies of water were typically represented as blue-green, and blue-green discs are also used to represent both the sun and the solar year. This alliance of Tenochtitlan with the solar disc is a repeated theme in Mexica art, seen in monuments like the Stone of Tizoc, whose top is dominated by the image of the

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Figure 8.7 Unknown creator, Map of Tenochtitlan and the Gulf Coast, from *Praeclara Fernandi Cortesii de Nova Maris Oceani Hispania Narratio . . .*, (Nuremberg, 1524). Rare Books Division, The New York Public Library, Astor, Lenox and Tilden Foundations

sun. Thus, in this map, which alludes to both Tenochtitlan's connection to Aztlan and to the city's identity as the solar center of the world, we can see the imprint of the Mexica cosmos.

The alignment of the city to the cosmic order is anchored in the central figures of the map. For in the center, its European maker unwittingly transcribed an important detail from the Aztec source. Here appear the twin temples that dominated the temple precinct of Tenochtitlan and its skyline, one dedicated to the rain god Tlaloc, the other to Huitzilopochtli. Between them appears the sun whose movements along the horizon would cleave the Aztec calendar into its two main ritual periods (Maudslay 1913). As recent excavations of the site have shown, at the equinox the sun rose directly from between the cleft in the twin temple-pyramids. From the point of view of a Tenochtitlan resident, it appeared as if the sun were literally channeled by the temples, guided by them to its proper place in the sky. The artist of the map shows this temple precinct enormously out of proportion to other parts of the city, a signal of its importance. Because it was here that monthly ceremonial sacrifices would take place, it was here that deities would be made manifest through their ritual impersonators. So while the map is full of European conventions introduced by its transcriber, we can nonetheless discern that its Aztec source was a map weighted down with visual devices signaling the sacredness of this ideal geography.

This map is not alone in its idealization of the city of Tenochtitlan. Another rendering of the city is found as the frontispiece of the *Codex Mendoza*. As such, it leads into the first section of the book, dealing with the conquest histories of the individual rulers of Tenochtitlan, a subject similar to both Tizoc's and Motecuzoma I's conquest stone (Figure 8.8). The page shows the city at the time of its founding in 1325; the great lakes surrounding the city are compressed into a thin rectangle, and four even canals are shown cutting through the space that would become the city. History is implanted on this topography: around the edge of the page are square glyphs, each one naming a year, counting out the time that the first leader of the city ruled, a figure named Tenoch who appears in the middle of the page.⁷ In the very center of the page, where the *Templo Mayor* complex would eventually be built, we see the eagle, a messenger of Huitzilopochtli, whose act of alighting on a nopal cactus was a prearranged signal for the gathered Mexica to found the city.

But it is not only this event that marks the city as a divinely chosen center. The indigenous artist of the *Mendoza* page also draws on metaphoric topography. In using the canals to divide the city into four quadrants, the artist may have been thinking of the quadripartite divisions of the sixteenth-century city that he knew. But the resultant shape of the city, that of a Saint Andrew's cross, was also the template used in pre-Hispanic maps of the whole world. In one of these maps, from the pre-Hispanic *Codex Fejérváry-Mayer*, the surface of the earth is divided into four parts, each one held up by four world trees, each flanked by a pair of deities; beyond, although not pictured here, would be the surrounding ocean (Burland 1971: fol. 1r). Around the edge of the *Codex Fejérváry-Mayer* page are temporal

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Figure 8.8 Unknown creator, Codex Mendoza, fol. 2r, ca. 1545, showing an abstracted map of Tenochtitlan at its founding. MS. Arch. Selden. A. 1, fol. 2r. Reproduced courtesy of The Bodleian Library, University of Oxford

counters, each dot marking a day; this same arrangement of space in the center and temporal count on the margins is found in the Codex Mendoza as well. In the fusing of the mundane space of the city with the sacred space of the universe, the Mendoza artist was giving visible shape to the idea of Tenochtitlan as *cem anahuac*: an island surrounded by water, a city at the center of the universe.

While only fragments of this world-view and imperialist program survive, the excavations at the Templo Mayor have added to evidence of the Mexica understanding of their capital as an axis mundi and their sacred Templo Mayor as a microcosm of the world itself (Broda 1987). These ideas were present in stone monuments, manuscript paintings, and in public performances. The influx of foreigners (be they lowly carriers of tribute or elite imperial guests) who witnessed these displays meant that Mexica messages about the central place of their city, about its constructions of *nahuac* and *huchca*, the near and the far, the center and the periphery, were broadcast widely among both neighbors and enemies. The Mexica of Tenochtitlan claimed to be possessors of the center of the earth; the *altepeme* around them, be they allies or enemies, were also marked and treated as different, both spatially and socially. So it is little surprise that when the Spanish

arrived, led by Hernán Cortés, with their superior weapons and flagrant disregard for conventional rules of engagement, the *buehcatlaca* were all too ready to turn against the Mexica (Clendinnen 1991b). In the final days of the war, as they were besieged in Tenochtitlan, even their closest allies and partners in the glory days of the Triple Alliance, the Acolhua, would turn against them. As Tenochtitlan was starving, Acolhua messengers would arrive in the city to say: “Let the people of Tenochtitlan be left alone, let them perish by themselves” (Lockhart 1993: 263). The city soon fell, and Mexica idealism about it and its role in the larger universe would be displaced by the Spanish conquerors, who carried with them to American shores their own ideas about the space of empire.

Notes

- 1 Europeans sent many indigenous manuscripts abroad in the early sixteenth century, often as gifts and curiosities; kept in personal archives and libraries, a number of these have survived to the present. An overview of this manuscript tradition can be found in Boone 2000.
- 2 Population estimates for the Valley as a whole range between 1,000,000 to 2,500,000 people (Sanders, Parsons and Santley 1979).
- 3 “Aztec” is actually a term invented by nineteenth-century scholars; I use it here to name the tribute empire created by the Triple Alliance.
- 4 Each owner wears the distinctive hairstyle of warriors, supporting the idea that these fields were originally handed out as war booty. Since the war in question happened in the late fifteenth century, and this map was created sometime around 1565, these owners may have been not the contemporary land holders, but the original recipients of lands on which their descendants were likely living.
- 5 Part two of the Codex Mendoza (fol. 2r–16v) is either a copy of an earlier manuscript, the *Matricula de Tributos* (Berdan and Durand-Forest 1980), or else both were derived from a common source. Their relationship is considered by Berdan (1992b: 56–63). Because the Mendoza is the more complete of the two documents, it will be discussed here, but many of the points about the Mendoza pertain to the *Matrícula*.
- 6 Within the pages, the order of the toponyms might reflect the hierarchy of tribute collection centers, with the name of the regional collection point first, followed by sub-regional centers, followed by sub-sub-collection points. Berdan points out that tribute collection centers do not always coincide with regional political capitals of conquered regions, as part of an Aztec strategy of “muting” the political power of provincial elites (Berdan 1996: 122–4).
- 7 The following pages of this first part of the manuscript are likewise devoted to the reigns of the succeeding Tenochca monarchs.

References

- Aveni, Anthony F. 1991. “Mapping the Ritual Landscape: Debt Payment to Tlaloc during the Month of Atlcahualo.” In D. Carrasco (ed.), *Aztec Ceremonial Landscapes*, 58–73. Niwot.

- Barlow, Robert H. 1949. *The Extent of the Empire of the Culhua Mexica*. Berkeley.
- Berdan, Frances F. 1982. *The Aztecs of Central Mexico: An Imperial Society*. Fort Worth.
- Berdan, Frances F. 1992a. "Glyphic Conventions of the Codex Mendoza." In Frances F. Berdan and Patricia R. Anawalt (eds.), *The Codex Mendoza*. 4 vols., 1. 93–102. Berkeley.
- Berdan, Frances F. 1992b. "The Imperial Tribute Roll of the *Codex Mendoza*." In Frances F. Berdan and Patricia R. Anawalt (eds.), *The Codex Mendoza*. 4 vols., 1. 55–79. Berkeley.
- Berdan, Frances F. 1996. "The Tributary Provinces." In Frances F. Berdan, Richard E. Blanton, Elizabeth H. Boone, Mary G. Hodge, Michael E. Smith, and Emily Umberger (eds.), *Aztec Imperial Strategies*, 115–35. Washington, DC.
- Berdan, Frances F. and Jacqueline de Durand-Forest (eds.). 1980. *Matrícula de Tributos (Códice de Moctezuma)*. Codices selecti, vol. lxxvii. Graz.
- Blanton, Richard E. 1996. "The Basin of Mexico Market System and the Growth of Empire." In Frances F. Berdan, Richard E. Blanton, Elizabeth H. Boone, Mary G. Hodge, Michael E. Smith, and Emily Umberger (eds.), *Aztec Imperial Strategies*, 47–84. Washington, DC.
- Boone, Elizabeth Hill. 2000. *Stories in Red and Black: Pictorial Histories of the Aztecs and Mixtecs*. Austin.
- Broda, Johanna. 1987. "Templo Mayor as Ritual Space." In J. Broda, D. Carrasco, and E. Matos (eds.), *The Great Temple of Tenochtitlan: Center and Periphery in the Aztec World*, 61–123. Berkeley.
- Burland, C. A. (ed.). 1971. *Codex Fejérváry-Mayer: M 12014 City of Liverpool Museums*. Codices selecti, vol. xxvi. Graz.
- Burrus, Ernest J., SJ 1973. "Religious Chroniclers and Historians: A Summary with Annotated Bibliography." In H. Cline (ed.), *Handbook of Middle American Indians*, 13: 138–85. Austin.
- Calnek, Edward. 1973. "The Localization of the 16th-century Map called the Maguey Plan." *American Antiquity* 38.1: 190–5.
- Castañeda de la Paz, María. 2008. "El plano parcial de la Ciudad de México: Nuevas aportaciones con base en el estudio de su lista de tlatoque." In Guilhem Olivier (ed.), *Simbolos de poder en Mesoamérica*, 393–426. Mexico City.
- Castillo, F. Victor M. 1972. "Unidades nahuas de medida." *Estudios de cultura náhuatl* 10: 195–223.
- Clendinnen, Inga. 1991a. *Aztecs: An Interpretation*. Cambridge.
- Clendinnen, Inga. 1991b. "'Fierce and Unnatural Cruelty': Cortés and the Conquest of Mexico." *Representations* 33 (Winter): 65–100.
- Cosgrove, Denis. 1985. "Prospect, Perspective and the Evolution of the Landscape Idea." *Transactions of the Institute of British Geographers* n.s. 10.1: 45–62.
- Durán, Diego. 1977. *Book of Gods and Rites and The Ancient Calendar*. Eds. and trans. F. Horcasitas and D. Heyden. Norman.
- Dykerhoff, Ursula. 1984. "Mexican Toponyms as a Source in Regional Ethnohistory." In H. R. Harvey and H. J. Prem (eds.), *Explorations in Ethnohistory: Indians of Central Mexico in the Sixteenth Century*, 229–52. Albuquerque.
- Foucault, Michel. 1972. *The Archaeology of Knowledge*. New York.
- Gibson, Charles, and John B. Glass. 1975. "A Census of Middle American Prose Manuscripts in the Native Historical Tradition." In H. Cline (ed.), *Handbook of Middle American Indians*, 15: 322–400. Austin.
- Glass, John B. 1975. "A Survey of Native Middle American Pictorial Manuscripts." In H. Cline (ed.), *Handbook of Middle American Indians*, 14: 3–80. Austin.
- Glass, John B., with Donald Robertson. 1975. "A Census of Native Middle American Pictorial Manuscripts." In H. Cline (ed.), *Handbook of Middle American Indians*, 14: 81–252. Austin.
- Harley, J. B., and David Woodward. 1987. "Preface." In Harley and Woodward (eds.), *The History of Cartography, I: Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean*, xv–xxi. Chicago.

- Hassig, Ross. 1985. *Trade, Tribute, and Transportation: The Sixteenth-Century Political Economy of the Valley of Mexico*. Norman.
- Hodge, Mary. 1996. "Political Organization of the Central Provinces." In Frances F. Berdan, Richard E. Blanton, Elizabeth H. Boone, Mary G. Hodge, Michael E. Smith, and Emily Umberger (eds.), *Aztec Imperial Strategies*, 17–45. Washington, DC.
- Lockhart, James. 1992. *The Nahuas after the Conquest*. Stanford.
- Lockhart, James (ed. and trans.). 1993. *We People Here: Nahuatl Accounts of the Conquest of Mexico*. Berkeley.
- Matos Moctezuma, Eduardo. 1982. *El Templo Mayor: Excavaciones y estudios*. Mexico City.
- Maudslay, Alfred P. 1913. "A note on the Position and Extent of the Great Temple Enclosure of Tenochtitlan, and the Position, Structure and Orientation of the teocalli of Huitzilopochtli." *Acts of the International Congress of Americanists*, vol. 18, pt. 2: 173–5. London.
- Molina, Alonso de. 1977. *Vocabulario en Lengua Castellana y Mexicana y Mexicana y Castellana*. Mexico City.
- Mundy, Barbara E. 1996. *The Mapping of New Spain: Indigenous Cartography and the Maps of the Relaciones Geográficas*. Chicago.
- Mundy, Barbara E. 1998. "Mapping the Aztec Capital: The 1524 Nuremberg map of Tenochtitlan, Its Sources and Meanings." *Imago Mundi* 50: 1–22.
- Sahagún, Bernardino de. 1950–63. *Florentine Codex: General History of the Things of New Spain*. 13 vols. Trans. Arthur Anderson and Charles Dibble. Santa Fe.
- Sanders, William T., Jeffrey R. Parsons, and Robert S. Santley. 1979. *The Basin of Mexico: Ecological Processes in the Evolution of a Civilization*. New York.
- Solís Olguín, Felipe R. (ed.). 2004. *The Aztec Empire*. New York.
- Tanck Estrada, Dorothy, Jorge Luis Miranda García, and Tania Lilia Chávez Soto. 2005. *Atlas ilustrado de los pueblos de indios: Nueva España, 1800*. Mexico City.
- Townsend, Richard. 1979. *State and Cosmos in the Art of Tenochtitlan*. Washington, DC.
- Townsend, Richard. 1992. "The Renewal of Nature at the Temple of Tlaloc." In Townsend (ed.), *The Ancient Americas: Art from Sacred Landscapes*, 170–85. Chicago.
- Umberger, Emily. 1996. "Art and Imperial Strategy in Tenochtitlan." In Frances F. Berdan, Richard E. Blanton, Elizabeth H. Boone, Mary G. Hodge, Michael E. Smith, and Emily Umberger (eds.), *Aztec Imperial Strategies*, 85–106. Washington, DC.
- Wicke, Charles R. 1974. "Once More Around the Tizoc Stone: A Reconsideration." 41st International Congress of Americanists, *Proceedings*, II: 209–22. Mexico City.
- Williams, Barbara, and H. R. Harvey. 1997. *The Códice Santa María Asunción: Households and Lands in Sixteenth-Century Tepetlaoztoc*. Salt Lake City.
- Zorita, Alonso de. 1994. *Life and Labor in Ancient Mexico: The Brief and Summary Relation of the Lords of New Spain*. Ed. and trans. Benjamin Keen. New Brunswick.

Inca Worldview

CATHERINE JULIEN

Tawantinsuyu was the name given to the territory unified by the Incas in the century before Spaniards first arrived in the Andes in 1528. It extended from near the border between modern Colombia and Ecuador, to south of Santiago, the capital of modern Chile (Figure 9.1). The Spaniards soon learned that the Incas had annexed this territory through force or threat of force, had exacted service in labor from annexed groups and had imposed a common form of administration. Tawantinsuyu, following modern usage, would be called an empire. A great deal changed after Europeans arrived in the Andes, but Tawantinsuyu – renamed “Peru” – survived as a territory without any administrative partitioning until 1739, when the territory that would become the modern nation of Ecuador was annexed to the Viceroyalty of New Granada to the north (Rowe 1954: 6–7). Some territorial loss around the periphery occurred in the decades after the Spanish overthrow of the Incas, owing to a lesser Spanish investment in occupying regions to the east of the Andean highlands. “Lost Inca cities” have turned up ever since the eighteenth century in this zone.

Evidence and Problems

The territory of Tawantinsuyu survived in large part, but it was entirely reimaged by the Spaniards who took it over. Learning something about the worldview underlying the conceptualization of Tawantinsuyu is complicated now by a lack of materials written by native authors in local languages. Andean people had sophisticated systems of record-keeping and representation, which are still evident in modern communities (Salomon 2004; Frame 2005), but nothing like alphabetic writing appears to have been in use in the Andes prior to the Spanish arrival.

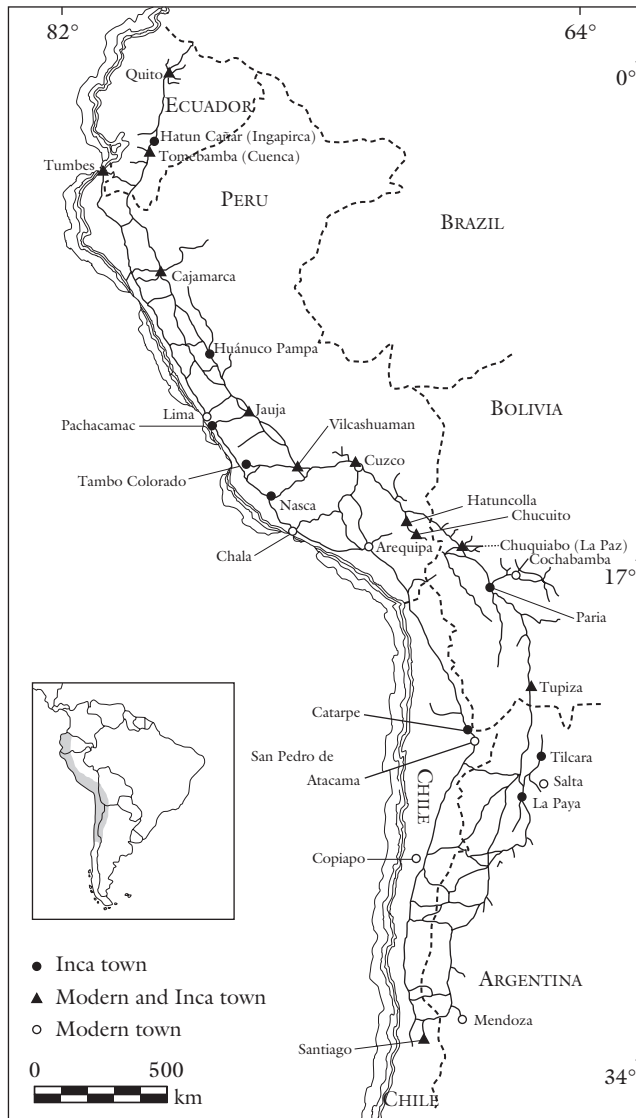


Figure 9.1 Extent of Tawantinsuyu and the Inca road network (based on graphics from Laurencich Minelli 2000)

Sometimes narrative material from Andean sources was recorded in alphabetic writing in Quechua, the Inca language, or in Spanish, and what was captured is extremely precious, since it is the only approximation we have to what must have been a rich oral literature. The narrative history written in the 1550s by Juan de Betanzos, a Spaniard proficient in the Inca language who married a woman of excellent Inca birth, offers one point of entry to Inca dynastic tradition, since he relied on some formally transmitted Inca narrative material (1987 [1551–7]; Julien 2000: 91–130).

Andeans who learned to communicate in Spanish, like the Inca Titu Cusi Yupanqui (2006 [1571]) or Felipe Guaman Poma de Ayala (1980 [1615]), are also points of entry, even though their narratives are further removed from prehispanic Inca sources. Both these men had learned a great deal about how to communicate in Spanish with Spaniards.

As far as is presently known, Guaman Poma is the only Andean author who made a concerted effort to describe what was being lost. He wrote at the beginning of the seventeenth century, and was a Christian grappling with a new intellectual universe. Although he was not an Inca, aspects of an Andean perspective on the world are preserved in his writing (Adorno 2001). Titu Cusi had been born earlier, around the time that the Spaniards arrived. He was an Inca, and a son of the Inca that Francisco Pizarro chose to ally with when he first arrived in Cuzco. At the time Titu Cusi wrote, he was himself *the* Inca, and ruled an autonomous province northwest of Cuzco. With the aid of a notary and a Dominican friar, he wrote a history of his father's dealings with the Spaniards in the first decade following the Spanish arrival. Something important about Inca conceptualizations of their world can be learned from him.

What sources written in the sixteenth and early seventeenth centuries tell us about Inca worldview is tantalizingly incomplete. Because these authors lived close in time to the period prior to the takeover of political authority by an elite with radically foreign ideas, their accounts tell us as much as we may ever learn about an Inca conceptualization of the world. Given the relatively shallow time depth of the Inca Empire – about a century – Inca worldview does not have a very long history. It comes as no surprise that what emerges from a study of Inca worldview is an awareness of how an Inca perspective took older conceptualizations of the world into account. This chapter, too, will attempt to look backward to earlier perspectives.

Tawantinsuyu

The name Tawantinsuyu means “four parts.” *Tawa* is four, and *suyu* derives from the verb *suyuni*, which means to divide up an obligation (González Holguín 1952: 333, 336). The four parts of Tawantinsuyu were named Chinchaysuyu, Andesuyu, Condesuyu and Collasuyu. The Incas had an elaborate apparatus for recruiting labor from subject provinces and for gathering information (Julien 1982, 1988, 2006); so the conceptualization of Tawantinsuyu may have been closer to a jurisdictional state model than to a territorial one. Still, Tawantinsuyu was very much a conceptualization of space. The space around Cuzco, most readily defined as what could be seen as far as the horizon, was organized by the four *suyus*. A list of 328 out of at least 400 places that were the focus of an elaborate official sacrifice program was organized by *suyu*, and each *suyu* was called a “road” (*camino*) in the list (Rowe 1979; Bauer 1998). The larger Cuzco region, extending well beyond

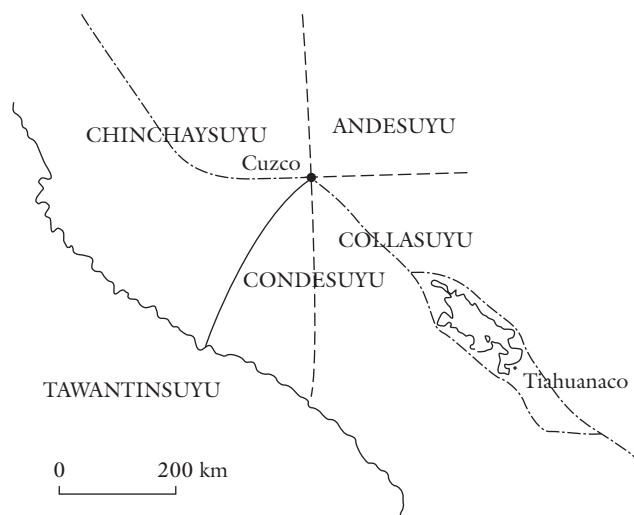


Figure 9.2 The Tawantinsuyu Division

the Cuzco valley, was also organized according to the *suyu* division. For example, the “province of Chinchaysuyu” was one of four provinces into which this larger region was divided (Julien 2002: 12–13). The four roads that left Cuzco were also named for the four *suyus*. The roads may have tied the more distant provinces to the center. Though the conceptualization of Tawantinsuyu might have focused on the link between the provinces and the roads, without defining territorial limits between *suyus* in the space beyond the larger region of Cuzco, some information has been found that identifies the boundary between Chinchaysuyu and Condesuyu on the Pacific coast (Julien 1998: 499). The *suyu* divisions were bounded in some manner. They can be mapped, taking into consideration different classes of information from various sixteenth-century sources (Figure 9.2).¹

The *suyus* derived their names from peoples who resided within their territories, following the Inca classificatory practice of extending the name of an exemplar to a larger whole. Chinchaysuyu derived its name from the people of Chincha, on the coast of what is now Peru; Andesuyu was named for the Andes, a lowland people who lived in the region north-northeast of Cuzco; there were Condes and Collas, too, who were among the numerous peoples in their respective *suyu* territories. These peoples were called “nations” by the Spaniards. The Incas differentiated at least 40 different peoples in the territory of their empire that could be defined by external signs such as dress and head deformation.² The identities were durable, and can be traced throughout the Spanish colonial period.

Since the Inca empire was defined as four parts centered at Cuzco, the practice of locating the four through reference to the system of cardinal points was quick to appear. Thus, in the late 1540s, the Spanish soldier-author Pedro de Cieza de León (1986), described Andesuyu as being east of Cuzco, Chinchaysuyu as north,

Condesuyu as west, and Collasuyu as south. The Inca Titu Cusi, who wrote in 1571, did the same. His account was written for a Spanish audience, so it made inherent sense for it to use terms that they would understand. The fit, however, between the assignment of the four terms used to identify the cardinal points and the actual locations of the *suyus* was not very good. Andesuyu is better described as north and Condesuyu as south (see Figure 9.2).

An entirely different conceptualization of space, and the means of locating the individual within it, was at play in the Andes. Learning something about it requires a sensitive reading of several sources that reflect it. Titu Cusi's account is a good place to start. After ordering the four *suyus*, he elaborates upon the relationship between the parts and the center:

This is how we order [the *suyus*], standing in Cuzco, which is the center and head [*cabeza*] of all the land. For this reason, and because it is the head, my ancestors (who came from Cuzco, and it was their place of origin) were called the lords of Tawantinsuyu, which means “the four parts of the world.” They were called this because they were certain that there was no other world outside of this one. [And since they were at the center of the world], they would often send messengers from Cusco to the four parts of the land to call the people to Cuzco. (Titu Cusi Yupanqui 2006: 43, 45)

Here, Titu Cusi seems to tell us something about the relationship between the idea of Tawantinsuyu and authority, and specifically the connection between rulers and subjects. Tawantinsuyu was a living human network and a definition of the known world.

Felipe Guaman Poma de Ayala defines Tawantinsuyu in a similar manner through reference to a person standing in Cuzco. In the passage cited below, I have supplied formatting and inserted some words to clarify his description:

MAPAMUNDI OF THE INDIES. YOU MUST KNOW that the entire kingdom had four kings, four parts:

- [1] Chinchaysuyu, on the right hand, [facing] toward the sunset;
- [2] above, toward the mountains and the North Sea, Andesuyu;
- [3] from where the sun rises, [with the back to where the sun rises,] on the left hand, toward Chile, Collasuyu;
- [4] toward the South Sea, Condesuyu. (Guaman Poma de Ayala 1980: 982 [1000])

Guaman Poma was not an Inca, and part of this definition supports his attempt to validate other noble lines in the Andes besides the Inca dynastic line, which was the only one acknowledged by Spain. There were no “four kings.”

Immediately following the global definition of Tawantinsuyu, Guaman Poma returns to the matter of spatial definition, clarifying his first statement with a new description, this time emphasizing a division in halves:

These four parts were also divided in two:

Incas Hanan Cuzco, to the west;

Chinchaysuyu, Lurin Cuzco, to where the sun rises [east];

Collasuyu on the left hand;

And so the head and court of the kingdom, the great city of Cuzco, is in the center. (Guaman Poma de Ayala 1980: 982 [1000])

The definition is confused because of the introduction of two of the *suyus*, but what is important is his mention of an overarching division in halves called Hanan and Hurin (here Lurin). A schematic ordering of the *suyus* following a division in halves, and then in half again, underlies Guaman Poma's description and can be documented from other sources:

Hanan	Chinchaysuyu
	Andesuyu
Hurin	Collasuyu
	Condesuyu

The important feature of Guaman Poma's description is that he defines the *suyus* through reference to an entirely different system of orientation than the cardinal points. Like Titu Cusi, he defines the system with reference to a person standing at its center in Cuzco. Chinchaysuyu was on the right hand of a person who faces the sunset. Collasuyu was on the left when the person's back is to where the sun rises. (Note that the position of the person has not changed, only the manner of describing orientation.) The other two *suyus* are described in a different manner: Andesuyu was located toward the North Sea (the Atlantic) and Condesuyu toward the South Sea (the Pacific). Guaman Poma finished his work in 1615 and, as I will argue below, was grappling with foreign ideas, as his use of terms like Mapamundi and North Sea indicate. His description is a better reflection of the location of Andesuyu and Condesuyu as north and south, respectively, of Cuzco than the usual attributions of the cardinal points.

Despite his efforts to accommodate different understandings into a single conceptualization of space, Guaman Poma still tells us something about how local people defined Tawantinsuyu. The relevant points may be the following:

- 1 The whole is defined with reference to a center.
- 2 The definition references parts from the human body, located at the center.
- 3 The division of space is related both to the path of the sun and the orientation of the body.
- 4 The fundamental division of space is in halves, which can be described as the space on the right or left hand of the person standing at the center, oriented according to the path of the sun.
- 5 There is an inherent symmetry in the definition of the halves, which are further divided in two parts, each half reflecting the other.

Spatial Order

Similar principles of spatial order are evident in the narrative of the Inca past written by Juan de Betanzos. In his opening chapters, Betanzos describes the creation of Andean people by a supernatural being called Contiti Viracocha. This being designed human prototypes out of stone at Tiahuanaco (Figure 9.2), a site in the southern Lake Titicaca region that was the center of an earlier round of unification (approximately 500–1150 CE; see Janusek 2004). The stone prototypes were the ancestors of the many peoples who inhabited the Andes. Beginning a story about the Inca past with a story about how all the peoples of the Andean world were created conforms to Christian expectations about universal creation events at the beginning of time, but there is something true in the story's emphasis on the separate origins of Andean peoples. There were no common human ancestors, like Adam and Eve, in the Andes (Julien 2000: 286–8).

Of interest here is how Betanzos describes a form of movement through space that reflects a division in halves defined by the path of the sun. Contiti Viracocha sent out helpers to identify the places where the ancestors of the diverse Andean peoples were to emerge. Two helpers remained with him, who were sent out to call forth these peoples from the assigned places:

[Contiti Viracocha] sent one helper through the region and province of Condesuyo, which is, standing in Tiahuanaco, with the back toward the sunrise, on the left hand. . . .

He also sent a helper through the region and province of Andesuyo, which is on the other, right hand, standing in the said manner, with the back toward the sunrise.

Once he had dispatched them, he traveled straight to Cuzco, between these two provinces, following the main highland road. (Betanzos 1987, pt. 1, ch. 2: 13)

If he traveled on a straight course, he first had to walk across Lake Titicaca but, after that, he was traveling on the Inca road of Collasuyo (Figure 9.3).

The spatial concepts in Betanzos's account of the movement of these three individuals are similar to those of Guaman Poma. Again, the whole is defined with reference to a center, even though in this case it is Tiahuanaco, not Cuzco; the description of space again relies on the orientation of the body at a particular center, and to what is on the left and right hand, again defining halves. What is interesting in Betanzos's description is that he is only defining halves around a central axis. His use of "Condesuyo" and "Andesuyo" in this context is anomalous, since these terms are only to the right and left of a person standing in Cuzco. The terms "Condesuyo" and "Andesuyo" appear to serve here as references to "right" and "left," terms that Betanzos's Inca informants might have used to translate a foreign system of spatial orientation into something recognizable, in much the same way that Spaniards described Andean space through reference to the cardinal points.

Betanzos repeated a story told to him by the Incas about another part of the world, the Lake Titicaca region (Figure 9.3). The people of the Titicaca region

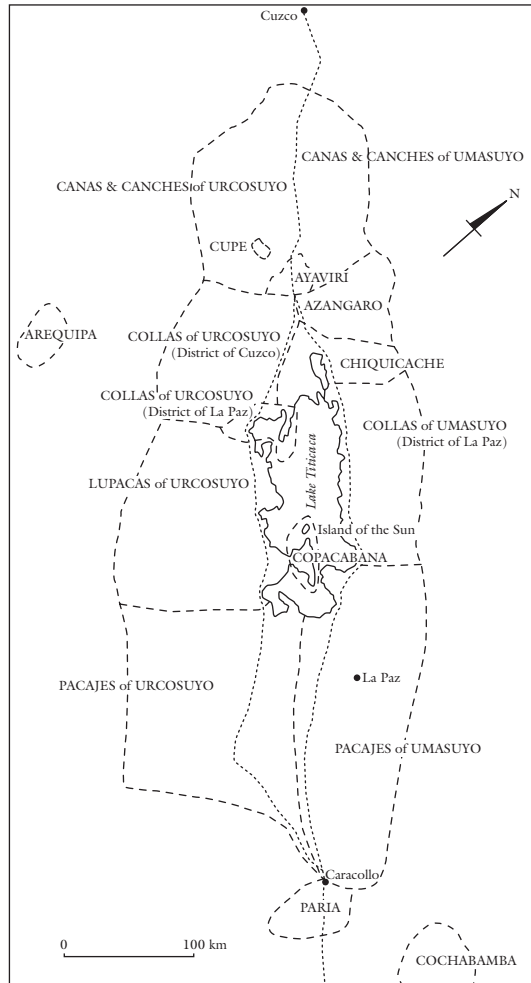


Figure 9.3 Collasuyu and the Urcusuyu/Umasuyu Division

had their own terms for describing the halves defined by the path taken by Conti Viracocha from Tiahuanaco to Cuzco: they were called Umasuyu and Urcusuyu (Julien 1983: 9–31). This conceptualization of space was at home in the Lake Titicaca region, where the sun was believed to have risen on the first day from the sacred rock of Titicaca on the island of the same name. Given what is known archaeologically about Tiahuanaco and also that Betanzos's informants are describing primordial events, the story as told appears to reflect an older conceptualization of space in halves in the Lake Titicaca region. Tawantinsuyu, then, was an elaboration of an older spatial order, drawn around a new center.

This spatial order is reflected at two other points in Betanzos's narrative, when he refers to the movement of armies. First, he describes the movement of a Chanca

army as it approached Cuzco from the northwest. The Chanca attack was miraculously repelled by the young Inca Pachacuti, who usurped power from his father and launched his own successful campaign, which greatly expanded the authority of Cuzco. As the Chanca captain Uscovilca approached Cuzco, he sent captains out to conquer along parallel courses, one on his right, through Condesuyo, and the other through Andesuyo on the left. Uscovilca himself took a course down the middle. Uscovilca moved along the same axis as Contiti Viracocha and his helpers, but in reverse (Figure 9.2). The directionality of Condesuyo and Andesuyo has changed. The terms are not “right” and “left” in an abstract sense, but references to the two halves that were fixed in space. The description again identifies a road as the axis of the division, along the same course as the Inca road of Chinchaysuyu. The other point in Betanzos’s narrative where the same spatial order is invoked is the description of Pachacuti’s return from a military campaign, following the same road as Uscovilca. Pachacuti also sent captains to conquer on parallel courses to his own, one through Condesuyo and the other through Andesuyo.³

A knowledge of the Inca road system and the terrain crossed by the armies sent on parallel courses leads to the conclusion that Betanzos did not describe actual marches, but instead was using a metaphor that related the movement of the powerful to the movement of the sun. The Incas called themselves *intipchurin*, or “descendants of the sun,” a claim to a genealogical tie with a supernatural being that was responsible for their success. This status flowed through the line descended from the first Inca pair, and it was carefully husbanded by the Incas once it was revealed to them (Julien 2000: 27–35, 103, 291–2). At the time of the Inca expansion and later, when groups tried to rebel from Inca authority, similar claims about ties to the solar supernatural were launched.

Betanzos describes the movement of the central force along the main highland road. The road was the axis of the division, but how does this axis relate to the movement of the sun? Clearly, it does not follow the east-west axis of the system of cardinal points. In that system, east and west are the points on the horizon where the sun rises and sets at the time of the equinoxes. The course taken by Contiti Viracocha from Tiahuanaco to Cuzco was roughly directed toward a point on the horizon close to where the sun sets at the time of the June solstice. This sunset was closely observed by the Incas. It was marked on the horizon, as viewed from Cuzco, by a pair of pillars known as Sucasca on the hill of Picchu; at the time of the June solstice an observer standing in Cuzco would have seen the sun set between these pillars (Bauer and Dearborn 1995: 68–76). No remains of them have ever been located. Pillars have been found on the island of Titicaca, however, marking the time of the June solstice as observed from the plaza in front of the sacred rock of Titicaca. The sun also rises on that day from behind the sacred rock (Dearborn, Seddon, and Bauer 1998: 249–54). The solstices were the most important occasions for ritual in the Inca calendar. At the June solstice, *intiraymi*, the “solar fest,” was celebrated. *Capacraymi*, or “*capac* fest,” when the Incas initiated male members of their lineage, was celebrated at the December solstice.

Both of these rites called attention to the special relationship of the Incas with the solar supernatural who guaranteed their success.

Tawantinsuyu was a definition of space, but it was more. When Titu Cusi describes his ancestors' ability to call people to Cuzco because it was the center of the world, he is explaining the nature of their authority. When Betanzos translates Inca metaphors that equate the movement of armies along the highland road to the movement of the sun, he tells us about the conceptualization of both space and power. Tawantinsuyu was as much an argument about who was powerful as it was a conceptualization of space: it was both a geography and a political theory.

Reimagining Tawantinsuyu

Tawantinsuyu was reimagined after the Spanish arrival, so something about its original conceptualization can be learned from looking at how it was reimagined by native Andeans. Felipe Guaman Poma de Ayala completed a "letter" to the king of Spain in 1615 that comprised 1189 pages, including 398 full-page drawings. One of these is a map, titled "Mapamundi of the kingdom of the Indies." (Figure 9.4; Guaman Poma de Ayala 1980 [1615]: 983–4 [1001–2]) It is a depiction of Tawantinsuyu. Guaman Poma had also served as an illustrator for other authors who wrote about the Incas. Of the drawings in their work that have been attributed to him, one is a depiction of Tawantinsuyu. This drawing accompanied a manuscript by the friar Martín de Murúa, who wrote in 1590 (Figure 9.5; Murúa 2004). While the 1615 map bore the title Mapamundi, the 1590 map was not labelled. Both tell us something important about how Tawantinsuyu was imagined, even as ideas about it changed.

On the 1590 map, the four *suyus* are represented iconically as Spanish cities. They are labeled, from the lower right moving clockwise: Chinchaysuyu, Andesuyu, Collasuyu and Condesuyu. On the drawing, there are the faint traces of a road from each to the city in the center, labeled "the great city of Cuzco, head of Peru." Mountains are depicted at the horizon, but there is no boundary of any sort at the bottom of the drawing.

In addition to the Mapamundi label, Guaman Poma has fitted a description of each *suyu* on the outside margins of the 1615 map that reflect its orientation toward the cardinal points:

[At the top:] A kingdom called Antisuyo on the right, toward the North Sea;

[On the right:] Another kingdom called Collasuyo; rising sun;

[At the bottom:] Another kingdom called Condesuyo [on the left], toward the South Sea;

[On the left:] Another kingdom called Chinchaysuyo; setting sun.

(1980 [1615]: 983–4 [1001–2])

These glosses are shortened versions of his textual description (above, p. 132) that fit the space available. One new detail: Andesuyo is described as "on the right."



Figure 9.4 Mapa mundi of Felipe Guaman Poma de Ayala, 1615, pp. 983–4 [1001–2]. Courtesy of the Royal Library, Copenhagen, Denmark

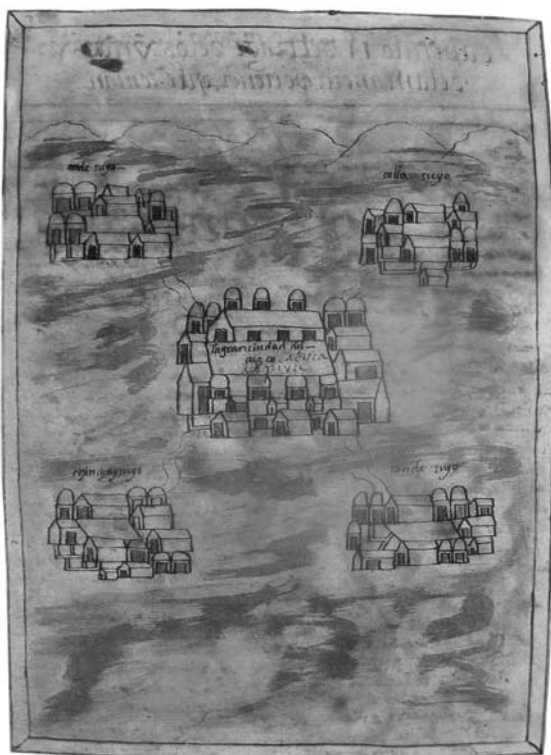


Figure 9.5 Tawantinsuyu map in the Galvin ms. of Guaman Poma. Photo taken by Juan Ossio Acuña of the original manuscript in the Galvin Collection in Ireland

Symmetry would suggest that Condesuyo was “on the left.” In the textual description, Chinchaysuyo was “on the right hand” and Collasuyo was “on the left hand.” The marginal glosses above are an accommodation to the cardinal points.

The 1615 map (Figure 9.4) is cluttered with additions that reflect new ideas about geography and representation in addition to Guaman Poma’s argument on behalf of pre-Inca nobility. The map is nonetheless similar to the 1590 drawing (Figure 9.5). The new map includes a king and a queen for each *suyu*, each pair shown with European-style coats of arms. Cuzco almost disappears in the binding of the book, although a coat of arms for the Incas is fully shown. Guaman Poma has tried to draw rivers and has represented various towns in each *suyu*, rather than representing the *suyu* itself iconically as a Spanish city. These features are tied to an effort to represent actual space, from a bird’s eye perspective. The 1615 map has a line of mountains drawn at the top of the landmass, as in the 1590 map, but a forest has also been drawn in the foreground of the mountains. It represents the tropical forest on the other side of the Andes, behind the mountains in the drawing. The perspective would make the forest invisible there, so Guaman Poma has shown it in front of the mountains instead. The clearest visual difference between this map and its 1590 predecessor is the sketching of the North and South Seas,

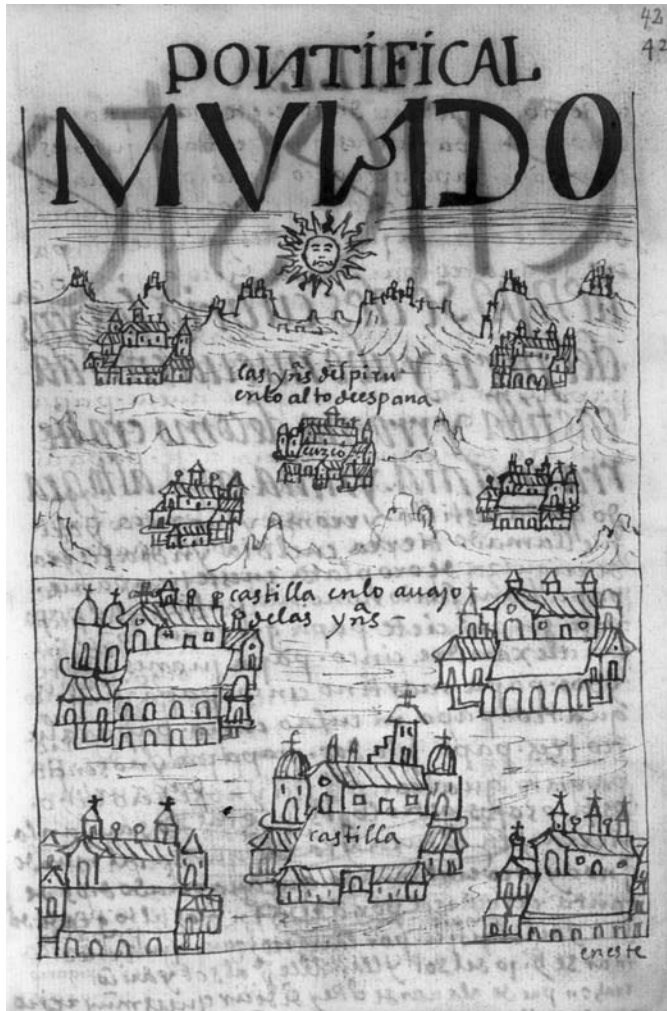


Figure 9.6 Pontifical World Map of Felipe Guaman Poma de Ayala, 1615, p. 42 [43]. Courtesy of the Royal Library, Copenhagen, Denmark

above and below Guaman Poma's representation of the land. We should remember that only the land was depicted in the 1590 version. The seas on the 1615 map are complete with sirens, monsters, and deep-sea creatures that are clearly borrowed from a European mapping tradition. A sun and moon are shown at opposite upper corners. What has not changed is that Cuzco is still the central place, and the *suyus* still radiate from it. The mountains still appear at the top.

An important difference between the 1590 and 1615 representations of Tawantinsuyu is that the *suyus* have shifted position in a clockwise direction from the earlier map to the later one. This shift brings them into line with the

orientation of the map according to the cardinal points. The visual similarity between the two maps is preserved, however, because the diagonals that connect the iconic representations of the *suyus* to Cuzco have been replaced by diagonals that represent the boundaries between the four *suyus*.

The later map is a better reflection of the land and its orientation than the earlier one. The earlier map has iconic features and a strongly diagonal design that tie it more closely to an abstract form of representation like *tokapu*, rectangles with a variety of geometrical figures in the interior space. The fairly simple, symmetrical descriptions of Tawantinsuyu – elements are right or left, above or below – would lend themselves to such a form. The strong diagonals can also be depicted in a format like those of the *tokapu*. The 1590 map has already covered the considerable distance between an abstract form of representation and the more representational form that characterized Spanish mapping traditions of the sixteenth century.⁴ *Tokapu* designs were woven into garments, including men's shirts and women's dresses and shawls, and they were probably also executed in enamel inlaid in wood.⁵ Some men's shirts were woven entirely of *tokapu* (see Figure 9.7). A shirt of all-over *tokapu* design was inventoried in the collection of King Philip II of Spain after his death in 1598. In the inventory the *tokapu* were described as “symbols representing the provinces that the Inca possessed, which

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the Incas understood” (*señales de armas de provincias que el ynga poseya, por donde las conocía*; Sánchez-Cantón 1956–9: 2. 334). Abstract geometric designs were a format for representing space.

There is another representation of space in Guaman Poma’s “letter” that also conveys a certain level of abstraction in thinking about space. One of the drawings in the 1615 manuscript revives the spatial order of Tawantinsuyu seen in the 1590 representation, this time representing Tawantinsuyu in the upper half of the drawing and Castille in the lower half. This drawing is titled “Pontifical world” (Figure 9.6). The labelling is spare, but each half has a gloss written across the landscape:

[Upper half] The Indies of Peru, above Spain (*Las yndias del Peru en lo alto de España*)
 [Lower half] Castille, below the Indies (*Castilla en lo auajo de las yndias*).

The drawing of Tawantinsuyu reflects the same organizational scheme as the 1590 drawing, with a representation of Cuzco, drawn as a Spanish-style city, at the center, and four other representations of cities at the diagonal. Although these are not labelled, and the roads connecting them to Cuzco are not shown, they appear to be the same iconic representations of the *syuyus* as in the 1590 drawing. A new feature is that a mountainous landscape is shown throughout the territory represented, and not just at the rear of the drawing. The drawing of Castille repeats the arrangement of a central Spanish-style city surrounded by four representations of cities at the diagonal. The drawings of these cities are much larger, and the landscape between them appears to be flat (Guaman Poma de Ayala 1980 [1615]: 42 [43]).

What Guaman Poma has drawn is something new. He shows a spatial relationship between the two worlds of Tawantinsuyu and Castille. There was a hierarchical relationship, at least in terms of precedence and prestige, between Hanan (upper) and Hurin (lower), so by representing Tawantinsuyu in the upper position, he accords the Inca world the first position. Because he has carefully depicted Tawantinsuyu as a mountainous world, the upper position may also reflect its mountainous terrain. The 1590 representation of Tawantinsuyu can be related to Andean canons of representation applied to new media and affected by knowledge of how others used those media. This drawing takes this process to another level, by applying these same canons of representation in the drawing of Castille. We have lost the spatial references to the oceans and to the cardinal points, and what remains is a reflection of ideas about order and symmetry, which are paramount Inca concerns.

Another feature of Guaman Poma’s “Pontifical world” is that it has aggregated two worlds into a new world order. Both the juxtaposition and ordering of two worlds into a single universe, and the idea itself that there can be more than one world, appear to reflect local understandings. The division of Andean space into halves, one in the sierra and one on the coast, is described in Guaman Poma’s 1615 manuscript. Boundaries between the two regions were set by Thupa Inca

(the tenth of 11 heads of the Inca dynastic lineage in prehispanic times) and his son Huayna Capac (the eleventh), and marked with stone boundary markers, which Guaman Poma lists in his text (1980 [1615]: 852 [866]). That these were two separate domains was also marked in other ways. For example, there were two lists of specialized tasks recruited by the Incas from subject provinces: one for sierra provinces and one for lowland provinces (Julien 1988: 268).

A story that describes the relationship between coast and highlands, cast as a genealogy of sacred beings or *huacas*, also explores the separation. I paraphrase it here:

When Thupa Inca was still in his mother's womb, she had a dream about Pachacamac, the principal coastal *huaca*. After her son was born, she told him about the dream and he went to the coast to find this being. After an elaborate program of fasting, Pachacamac appeared and conversed with him, telling Thupa Inca that he was a creator who had made everything "down here." The sun, his brother, had made everything "up there." (after Santillán 1879: 32)

There were two worlds with different creators, although they had a genealogical tie.

Embedded in this story are different understandings about what constitutes a separate world, about the nature of creation, and about the relationship between certain humans and a class of supernatural beings who were active in different spaces. More can be drawn from Andean source materials, but even an outline of this explanation of how the two worlds were related reveals some sort of precedent for Guaman Poma's drawing of two worlds, one above and one below. The landscape, tilted upward and finished by a horizon sculpted by mountains, may reflect how a person like Guaman Poma conceptualized his world.

Just as we began to see how Tawantinsuyu developed out of an older conceptualization of space centered at Tiahuanaco, here again a much older conceptualization seems to be operating in the background. Pachacamac – the name of one of the creators in the story – was the site of an oracle that had developed a thousand years before. It had played an important role during an earlier round of empire, centered at Huari, in the highlands (Uhle, in Uhle and Shimada 1991). Guaman Poma's ancestors originated in the northern Andean highlands, but he spent most of his life in Lucanas, a province between the Huari area and the coast. His representations may reveal knowledge about a much older world order at the very moment when he translates his understandings of Tawantinsuyu into something entirely new.

Worlds in Collision

Inca world-view proved ephemeral – for one reason, because of the maelstrom caused by the Spaniards' frontal attack on Andean understandings of the world; for another, because of the shallow time-depth of the Inca empire itself. As we

saw, this shallowness – about a century – brings with it the possibility that earlier conceptualizations of the world are embedded in Inca world-view or linger at its margins. Because of the rapidity of the Inca expansion, ideas about Tawantinsuyu needed to resonate with earlier conceptualizations of the world (or worlds). When an Inca story describes primordial events or beings, the landscape begins to take on its primordial shape. Chronological bearings may be absent, but these Inca stories tell us something about memories of ancient and venerable beings and their worlds. Tawantinsuyu is the landscape associated with the Inca expansion. It was the Inca world. Shadows of earlier worlds, one centered on Tiahuanaco and another on Pachacamac, are lurking in the background.

What can be learned about Inca worldview is dependent on Inca memory and representation. Other questions – for example, what the Incas thought lay beyond their world – are more difficult to address. Guaman Poma's Mapamundi of 1615 shows both the North and the South Seas, marking the "ends of the earth" from a South American point of view. His other, and arguably more Andean representations, do not show the outer boundaries of Tawantinsuyu. The Inca empire had frontiers, but these are not central to the representation of Tawantinsuyu in Guaman Poma's drawings, nor, it seems, to its conceptualization.

A related question is how the Incas may have conceived of any sort of humanity inhabiting the region beyond these frontiers. The contrast between mankind and the monstrous races found in the margins of the ancient Mediterranean world at the time of Herodotus does not appear to be a feature of any Inca conceptualization. Tawantinsuyu encompassed everything that was known. Peoples in the eastern lowlands may have come to be considered savages or barbarians, but the Incas had established provinces in the eastern lowlands and there is no a priori reason to think that their populations living there were categorically "different" from other non-Inca peoples.

Internal "othering" is more in evidence. The separate origins of Andean peoples call into question any theory of a common humanity. The concept of humanity itself may deserve considered reflection. Other "beings" – that we might readily recognize as animals, stones, or supernatural beings – behave in radically unexpected ways in Andean narratives, belying any simple assumption of equivalence between Andean and European categories. There will be no easy answers to these questions.

Notes

- 1 The map was created by locating towns in the larger Cuzco region on two lists which were classified by *suyu*: one with a date of 1577 (Zuidema and Poole 1982) and the other dated 1596 (Espinoza Soriano 1977). The boundary between Andesuyo and Collasuyo is the hardest to define because of the difficulty of locating some of the towns. Away from Cuzco, my own work has helped define the boundaries of Condesuyo (Julien 1991, 1998). Other maps will show Andesuyo as including all of the eastern Andean slope, reflecting a Spanish misconception.

- 2 The estimate given is rough and taken from the number of rural provinces or *corregimientos* established by the Spanish administration in the 1570s (see Miranda 1925 for a list of these). The *corregimientos* were based on the Inca provincial division. The Incas tried to standardize the size of provinces, so they split larger groups and lumped small groups together into provinces with standardized units of population (Julien 1983: 9–33).
- 3 On details of Uscovilca's and Pachacuti's marches, see Julien 2007.
- 4 When the Incas modelled landscape in a realistic fashion, they did it in three dimensions. Various documentary references exist to models of valleys or regions, presumably modelled in clay (Betanzos 1987 [1551–7], pt. 1, chp. X: 47; chp. XVI: 77–8). Guaman Poma's consistent use of the bird's eye view may be an accommodation of a three-dimensional format to two dimensions.
- 5 There were wooden tablets on which Inca history was represented, kept privately by the Inca dynastic lineage. Various Spanish authors mention them, but none appears to have seen the tablets, which may have disappeared soon after the Spanish arrival (Julien 2000: 12, 18, 89–90). The technique of wood inlaid with enamel certainly developed prior to the Spanish arrival, as cups executed in this technique have been found in interments dated to the later Inca empire or the first years of the Spanish presence. Cups were a major vehicle for the representation of the Inca past in the seventeenth and eighteenth centuries (Rowe 1961; Cummins 2002). The wooden tablets on which Inca history was represented utilized this mode of representation.

References

- Adorno, Rolena. 2001. *Guaman Poma and his Illustrated Chronicle from Colonial Peru: From a Century of Scholarship to a New Era of Reading*. Copenhagen.
- Bauer, Brian S. 1998. *The Sacred Landscape of the Inca: The Cusco Ceque System*. Austin.
- Bauer, Brian S., and David S. P. Dearborn. 1995. *Astronomy and Empire in the Ancient Andes: The Cultural Origins of Inca Sky Watching*. Austin.
- Betanzos, Juan de. 1987. *Suma y narración de los Incas* [1551–7]. Madrid.
- Cieza de León, Pedro de. 1986. *Crónica del Perú; segunda parte* [1553]. Lima.
- Cummins, Thomas. 2002. *Toasts with the Inca: Andean Abstraction and Colonial Images on Quero Vessels*. Ann Arbor.
- Dearborn, David S. P., Matthew T. Seddon, and Brian S. Bauer. 1998. "Where the Sun Returns to Earth." *Latin American Antiquity* 9 (3): 240–58.
- Espinoza Soriano, W. 1977. "Los cuatro suyos del Cuzco. Siglos XV y XVI." *Bulletin de l'Institut Français d'Études Andines* [Lima]. 6 (3–4): 109–22.
- Frame, Mary. 2005. "Tukapu, a Graphic Code of the Inca." In V. Solanilla Demestre (ed.), *Tejiendo sueños en el Cono Sur; Textiles andinos: Pasado, presente y futuro*, 236–60. Barcelona.
- González Holguín, Diego. 1952. *Vocabulario de la lengua general de todo el Perú llamada lengua quichua o del Inca* [1608]. Lima.
- Guaman Poma de Ayala, Felipe. 1980. *Nueva corónica y buen gobierno* [1615]. Mexico.
- Janusek, John Wayne. 2004. *Identity and Power in the Andes: Tiwanaku Cities Through Time*. New York.
- Julien, Catherine. 1982. "Inca Decimal Administration in the Lake Titicaca Region." In George A. Collier, Renato I. Rosaldo, and John D. Wirth (eds.), *The Inca and Aztec States, 1400–1800: Anthropology and History*, 119–51. New York.
- Julien, Catherine. 1983. *Hatunqolla: A View of Inca Rule from the Lake Titicaca Region*. Berkeley.

- Julien, Catherine. 1988. "How Inca Decimal Administration Worked." *Ethnohistory* 35.3: 257–79.
- Julien, Catherine. 1991. *Condesuyo: The Political Division of Territory under Inca and Spanish Rule*. Bonn.
- Julien, Catherine. 1998. "Los curacazgos de Chala y Ocoña." In Sabine Dedenbach-Salazar Sáenz, Carmen Arellano Hoffmann, Eva König, and Heiko Prümers (eds.), *50 años de estudios americanistas en la Universidad de Bonn*, 495–511. Bonn.
- Julien, Catherine. 2000. *Reading Inca History*. Iowa City.
- Julien, Catherine. 2002. "Identidad y afiliación por *suyu* en el Imperio Incaico." In Peter Kaulicke, Gary Urton, and Ian Farrington (eds.), *Identidad y transformación en el Tawantinsuyu y en los andes coloniales; Perspectivas arqueológicas y etnohistóricas*, 11–22. Lima.
- Julien, Catherine. 2006. "An Inca Information Network." *Ñawpa Pacha* 28: 41–61.
- Julien, Catherine. 2007. "War and Peace in the Inca Heartland." In Kurt A. Raaflaub (ed.), *War and Peace in the Ancient World*, 329–47. Malden, MA and Oxford.
- Miranda, Cristóbal de. 1925. "Relación hecha por el Virrey D. Martín Enríquez de los oficios que se proveen en la gobernación de los reinos y provincias del Perú" [1583]. In Roberto Levillier (ed.), *Gobernantes del Perú, Cartas y papeles, Siglo XVI*, IX: 114–30. Madrid.
- Laurencich Minelli, Laura (ed). 2000. *The Inca World: The Development of Pre-Columbian Peru, A.D. 1000–1534*. Norman.
- Murúa, Martín de. 2004. *Códice Murúa; Historia y genealogía de los reyes incas del Perú del padre mercenario Fray Martín de Murúa: Códice Galvin* [1590]. Madrid.
- Rowe, John H. 1954. "Movimiento nacional Inca del siglo XVIII." *Revista Universitaria del Cuzco* 107: 3–33.
- Rowe, John H. 1961. "The Chronology of Inca Wooden Cups." In Samuel K. Lothrop (ed.), *Essays in Pre-Columbian Art and Archaeology*, 317–41, 473–5, 498–500. Cambridge.
- Rowe, John H. 1979. "An Account of the Shrines of Inca Cuzco." *Ñawpa Pacha* 17: 1–80.
- Salomon, Frank. 2004. *The Cord Keepers*. Durham.
- Sánchez Cantón, F. J. 1956–9. *Inventarios reales: Bienes muebles que pertenecieron a Felipe II*. Archivo Documental Español, 9. Madrid.
- Santillán, Fernando de. 1879. "Relación del origen, descendencia, política y gobierno de los Incas" [1563]. In Marcos Jiménez de la Espada (ed.), *Tres relaciones de antigüedades peruanas*, 1–133. Madrid.
- Titu Cusi Yupanqui, Diego de Castro. 2006. *History of How the Spaniards Arrived in Peru*. Ed. Catherine Julien. Indianapolis.
- Uhle, Max, and Izumi Shimada. 1991. *Pachacamac: A Reprint of the 1903 Edition by Max Uhle; and Pachacamac Archaeology: An Introduction, by Izumi Shimada*. Philadelphia.
- Zuidema, Reiner T., and Deborah Poole. 1982. "Los límites de los cuatro *suyos* incaicos en el Cuzco." *Bulletin de l'Institut Français d'Études Andines* 11 (1–2): 83–9.

Masters of the Four Corners of the Heavens: Views of the Universe in Early Mesopotamian Writings

PIOTR MICHALOWSKI

Sometime after 900 BCE a Babylonian scribe illustrated a literary composition about the structure of the universe with a carefully drawn map (Horowitz 1998: 20–42; see Figure 10.1).¹ This artifact was first published in the West in 1899 CE and is, to this day, one of the best-known representations from ancient Mesopotamia. The map remains unique and its view of the world is somewhat surprising. It was undoubtedly composed in Babylonia, and we expect Babylon to occupy the central space, but the point representing this city is actually somewhat further north, and the center is marked, but not inscribed, so that one is at a loss to determine just what the person who drew this meant to represent at this central point.

This stands in marked contrast with the geographical conceptions that permeate the so-called *Babylonian Creation Story* (*Enūma Elish*, Foster 2005: 436–86), written no earlier than 1100. This great poem provides an etiology for the cultural and political dominance of Babylon, tracing it back to a cosmic battle and to the very origin of the physical universe that eventually led to the establishment of Babylon as the center of the world, constituting a bond that connects the nether regions and the surface of the earth with the heavens.² This map is exceptional: it is a map of the whole earth – nothing similar has come to us from ancient Mesopotamia – and it views the inhabited universe from the central vantage point of Babylonia. It illustrates a literary composition, unfortunately somewhat fragmentary, that describes foreign and fantastic animals as well as liminal heroes of old known from other literary texts. What we have here are mere glimpses of a Babylonio-centric worldview, in which distance from the center is represented by means of strange, imaginary, and literary creatures. There is much about it, however, that we do not understand. The map, like the accompanying text, may be Babylonian in origin and spirit, but it already belongs to another world, anticipating, or even participating in, the kinds of ideas that developed in the Hellenistic

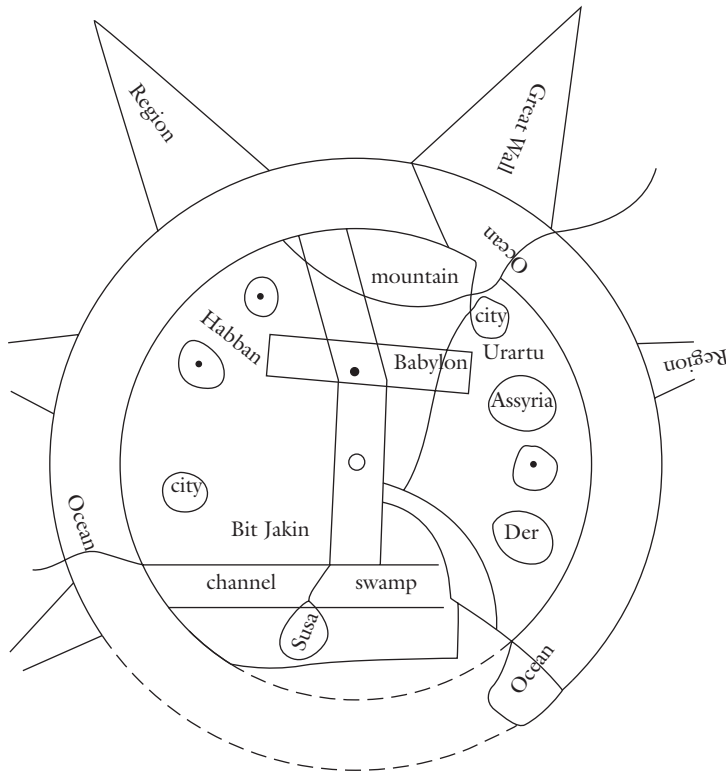


Figure 10.1 The Babylonian “Map of the world.” Adapted from Horowitz 1998: 21, with the kind permission of the author and publisher

world and in the complex cosmologies of Judaism and then Christianity (Schmidt 1988).

This chapter is concerned with much earlier periods, and I will not dwell further on this map, except to say that its unexpected features serve as a trope for all the limitations of our understanding of the geographical representations and, more important, of the mental maps or “psychogeographies” (deJean 1987) of very ancient cultures. Such notions, recovered primarily from written sources, did not rely on the reduction of representation to visual metaphors, inscribed in a map, but to verbal tropes that are often difficult to unravel. Moreover, the symbolic literary imagery that is the topic of this analysis must be contrasted with everyday experience and discourse, which referenced a much more complex and differentiated world. In literature the basic distinctions are between “(home)land” (*kalam*) and “(the Eastern) mountains” (*kur*), and within the former, there is a symbolic distinction between the cultivated and uncultivated areas, Sumerian *asag* and *eden*, respectively. This glosses over the complexities of the urban and rural landscape of Sumer, which has now been vividly described by Robert Adams (2008).

In the pages that follow I will attempt to describe the way in which the inhabitants of early Mesopotamia viewed their neighbors and the world around them, concentrating on the latter part of the third and beginning of the second millennium. The later periods of Mesopotamian history provide richer information on these subjects, but the earlier phases are more challenging, as the sources of information are meager and require much speculative interpretation.³ The resulting limits to our knowledge must be recognized from the beginning: the perspectives we tease out of the pictorial and epigraphic remains all come from narrow segments of these societies, bound as they are by social status and gender. We would look in vain for the perspectives of people for whom the world was limited to their city quarter, their village, or, at most, by the horizon, for they left no written or pictorial documentation for us to ponder. Gender is also an issue here, as we know that often men and women have different ways of viewing and categorizing space (Tuan 1977: 13; Montello, Lovelace, Golledge, and Self 1999), but the records we have are almost exclusively the product of male scribes, artisans, and patrons. Moreover, any analysis of issues such as the ones pursued here has to tolerate a high degree of speculation, due to lack of direct evidence, incommensurate distribution of sources and information between historical periods, and the prejudices of the interpreter.

The complex documentation left behind by a civilization that was literate for more than three millennia cannot be discussed in full here, so a few words on the earlier phases of Mesopotamian history will have to suffice. When we consider the way in which the inhabitants of the Tigris/Euphrates valley viewed their neighbors, we must first situate them in time and space, and so it is important for our purposes that Mesopotamia appears to have been populated relatively late. While surrounding areas of Western Asia show evidence of very ancient human presence, the first such remains from southern Mesopotamia date from the sixth millennium. The reasons of this are still very much debated; suffice it to say that the valley was probably much too wet for extensive human occupation until then, although it is possible that traces of earlier occupation were erased by time, or remain inaccessible (Nissen 1988, Pournelle 2007). But once people settled there, the population of the alluvial valley grew relatively quickly, with particularly large increases in the middle of the fourth millennium and the development of large and complex urban centers. Where these people came from is not clear; material culture remains such as pottery provide some connections with piedmont areas to the east, but one cannot exclude population influx from highland areas of Iran and from the banks of the Persian Gulf to the south. I mention all this here to signal the simple fact that we are dealing with a complex multicultural civilization that had deep roots elsewhere, that is, with people whose Mesopotamianness, so to speak, was created relatively recently. This set a pattern that lasted for millennia: the alluvial plain was the seat of civilizations that were not only continuously interacting with outsiders, but also absorbed other populations.

Moreover, even from times before written documentation provides glimpses of contacts with other lands, archaeology allows us to see elements of constant long

and short distance contacts between Mesopotamia and other civilizations. The land watered by the Tigris and Euphrates rivers can be made fertile with irrigation, and thus its products came primarily from human labor: agriculture, animal husbandry, and craftsmanship. Aside from palm trees, shrubs, reeds, bitumen, and some limestone, however, many resources, and especially almost all luxury goods, had to be sought outside of its borders. The need for metals, jewels, and wood forced the people living there into lasting contacts with their neighbors (Kohl 1978; Potts 1993). The very nature of these goods determined the complexity of the interchanges that surrounded their acquisition. Most of these were rare precious things that were needed for elite display, gift exchange, and patronage (Helms 1993). Some of them were brought in as raw materials, and some as worked objects; the latter were sometimes foreign and exotic, and thus offered glimpses of other styles and cultures, but in other instances they were fashioned in foreign lands with Mesopotamian tastes in mind, and thus give testimony to the spread of Sumerian and Babylonian styles.⁴

Before the middle of the third millennium BC, Mesopotamia was characterized by shifting currents of political fragmentation and much cultural unity (Figure 10.2). The city-states of the land controlled only limited territories, and fought as much with each other as with their eastern neighbors. Around 2334 all of this changed, as the armies loyal to the ruler of the hitherto insignificant city of Agade subdued all of Sumer and Akkad and absorbed them into a territorial state that continuously expanded its boundaries (Figure 10.3). The name of this conqueror was Sargon (2334–2279) – his throne name means “Legitimate (or True) King” in Akkadian – and his descendants were to lord over Mesopotamia for almost two

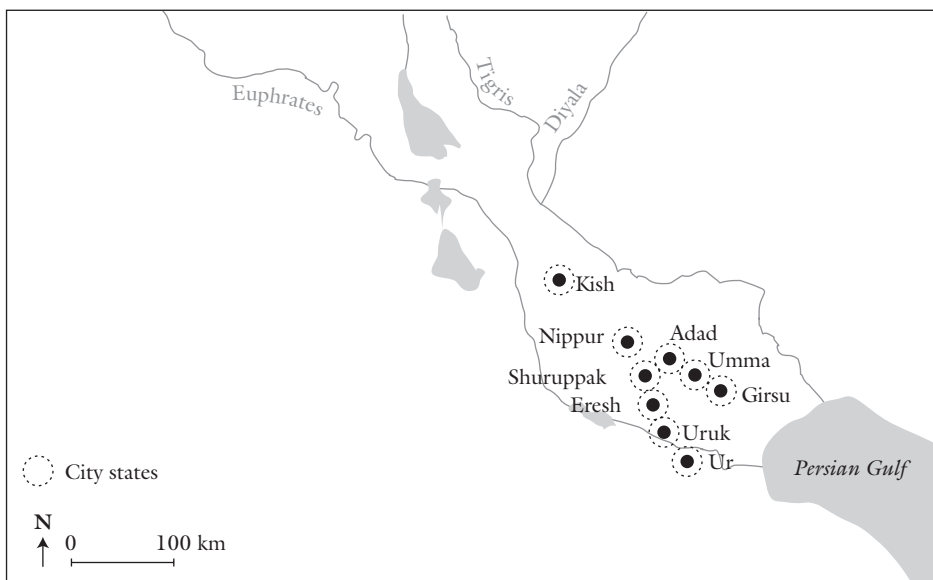


Figure 10.2 Early Dynastic Mesopotamia

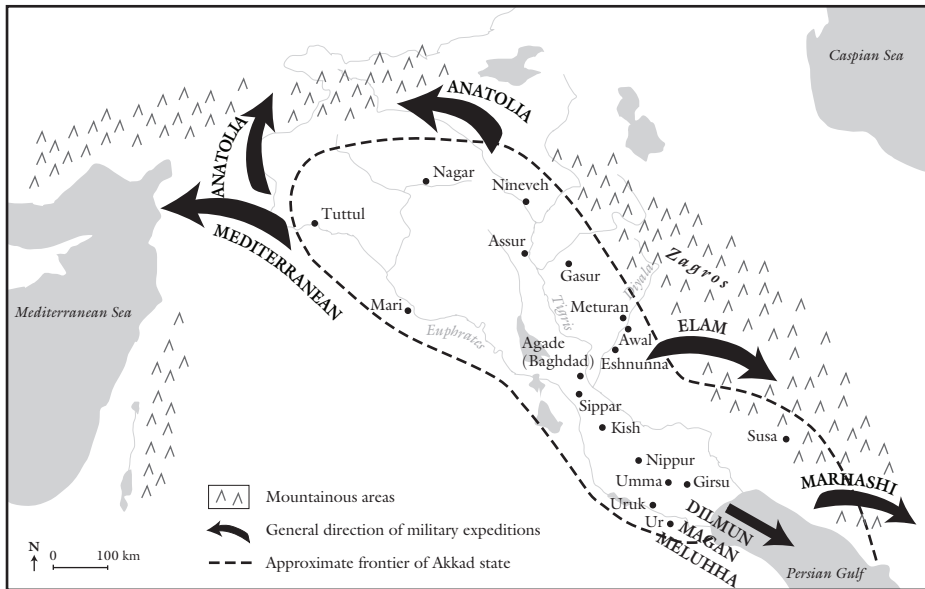


Figure 10.3 The Old Akkadian world

centuries (*c.* 2334–2150). This was the end of the city-state regime in the land, although its ideals died hard and rebellions greeted every new member of the dynasty. The kings of Agade transformed the organization of the land and began to impose the use of the language of their own city on many areas of Western Asia, to be used alongside the older Sumerian tongue for written communication. Max Weinreich's old saw (1945: 13), that a language is a dialect with an army (and a navy), finds here its first historical affirmation, as the Semitic vernacular of the town of Agade became what we call Old Akkadian (Sommerfeld 2003), the earliest well-attested form of what is otherwise known as the Akkadian or Babylonian language (Hasselbach 2005).⁵ Such widespread use of this new written language – as well as of a new artistic style – was driven by administration and politics; it had nothing or little to do with ethnic or national identity in the broad sense, and therefore the cultural uniformity of the empire that philologists and art historians recognize is in many ways an illusion. Underneath the veneer of representation, social and psychological diversity undoubtedly flourished much as before.

The long-lasting impact of the changes brought about by the ruling elites of Akkad was as apparent to later generations of Mesopotamians as it is to modern scholars, but the documentation for the period is far from abundant. Over 50 years ago Helene Kantor (1965: 145) commented on the meagerness of material evidence from those times:

The capital, Agade, has not been identified. Almost no major excavations in Akkadian levels on any site have been made; the archaeology of the period remains little known. So far merely a few examples of major Akkadian art have been recovered, although

copies of inscriptions and captions on Akkadian monuments still on view in the Old Babylonian period testify to the existence originally of many statues and steles, some obviously very ambitious.

Half a century later, the situation is hardly any different. We have a good number of administrative texts from the period, and the existing material has been properly published and much analyzed, but that is all.⁶ As a result, our knowledge is limited by the volume and intrinsic nature of the sources, which are almost all from elite contexts. Even more important, the few surviving monuments have acquired a reputation for uniqueness and are often seen as extraordinary works. In reality they might have been exceptional, average, or even mediocre by contemporary standards; they are distinguished only because of the banal fact that they have survived.

Under the kings of Akkad, Mesopotamia was politically transformed, but it was also in a sense redefined, as the kings of Akkad recognized no conceptual or topographical geographical boundaries; they extended their conquests to the ends of the earth that they knew, leading expeditions into Iran – almost to the Indian Ocean, and up into Northern Mesopotamia – pushing west until they washed their weapons in the Mediterranean Sea. The armies of Agade wrecked havoc, plundered cities, and took booty, but they also colonized many of the places they captured, spreading a complex uniform administrative system, and with it the art of writing. They memorialized themselves with inscriptions hewed into mountain sides, to be remembered by generations to come, and erected monuments to provide a metaphorical vision of their own identities, effecting a complex project of self-representation. The new naturalistic artistic style of public monuments proclaimed a new concept of state, centered on an all-powerful charismatic ruler, and its uniformity throughout the empire paralleled the organizational structure.

Textuality was central to the Akkadian state project. The higher levels of the bureaucracy, if not most of the scribes, were educated, trained, and indoctrinated in the capital, and then sent out throughout the empire. The visual contours of the cuneiform script were different, and the philologist is struck by the uniformity of writing throughout the state, in Mesopotamia proper as well as in conquered areas of Syria and Iran. The introduction of a new written language adds to this sense of unity and central control, as it is symbolized in the form as well as content of the written expression of the time, stamping it with a new identity and separating it from anything that came before. Thus, for the first time that we know of, writing is radically altered to signal political change and to symbolize universal dominion. Programmatic stone monuments were accompanied by written narrative; the elegant, regularized form of the inscriptions was designed to appeal to literate as well as illiterate eyes, and in this sense blends in with a completely new artistic esthetic that accompanies it (Buccellati 1963).

The inscribed texts proclaim a new vision of the world, with Akkad at the very center, and rays of control emanating in all directions, to the very ends of the

universe. The fourth ruler of the dynasty, Naram-Sin (2254–2218), proclaimed himself to be a god, linking sacred and profane in the city of Agade, and thus usurping the symbolism of the *axis mundi* that belonged to older urban centers, primarily to Nippur. The rulers now represented themselves as *šar kiššatim*, “king of everything,” a neologism that involves a bilingual play of words.⁷ It started life as a Sumerian epithet *LUGAL KIŠ*, “king of (the city of) Kish,” which was used by rulers of that city, but also by others who did not control it, but had pretensions to some form of hegemony in Sumer and Akkad. Sargon, the founder of the dynasty, was supposed to have served as a high court official in the city-state of Kish before creating his own kingdom centered in nearby Agade, or so we learn from later traditions. Not content to be kings of Sumer and Akkad, these rulers added still another forceful epithet, “king of the four corners of the universe,” or, in Sumerian, “kings of the heaven’s four corners,” in a sense glossing and driving home the notion of “everything.” The use of these concepts helps to understand the way in which these rulers and their elites viewed the world, their place in it, and their relationships with others. Unlike some of their predecessors, the masters of Agade saw themselves not as Mesopotamians who had to confront a hostile outside world, but as universal rulers who may have adopted many trappings of local Mesopotamian traditions, but who redesigned them with a larger frame in mind, creating a new and unprecedented civilization that incorporated the different city-states as well as the world beyond.

One new aspect of Akkadian art, which may reflect a new sense of the world, is the development of what might be called, within the limitations of the conventions of the times, landscape (Kantor 1965; Collon 2000). Small cylinder seals as well as large monuments now incorporate depictions of mountainous areas – those alien places that played such a central role in the imaginative and symbolic universe of lowland Mesopotamians. Some compositions are dominated by representations of trees, rocks, pinnacles, and highland animals, and these are depicted in a naturalistic style that in no way implies any strangeness or otherness. It is as if this landscape was as much a part of the mental universe of the Akkad elites as any other place. This is not to imply that the mountains were not foreign, but only that the foreign “other” belonged to Akkad, or should and would. The most expressive utilization of the new conceptualization of landscape is found in the best known, and most extensively analyzed, artistic representation from the period, the Victory Stele of King Naram-Sin (Figure 10.4).

This stone monument was found in Susa, in Iran, where it had been taken from Mesopotamia by a plundering army 1200 years after it was set up; most probably it originally stood in the Babylonian city of Sippar, although its original location cannot be ascertained. The accompanying inscription, albeit fragmentary, relates that the highlanders living in Lullubum, somewhere in the Zagros Mountains, gathered to fight Naram-Sin, but he managed to slaughter them and set up a burial mound over their corpses. Although a specific event is the subject of the relief, the encoded ideological messages about kingship, power, conquest, and universal dominion are all the more salient and expressive because of the generic



Figure 10.4 The victory stele of Naram-Sin. Musée du Louvre/Chuzeville/DR

quality of the representation. So much has been written about this monument that one must be careful to avoid over-interpretation.⁸

The stele, carved in pink limestone, measures 200 cm in height and 105 cm in width, but it is broken at the bottom and the original measurements are a matter of speculation (Winter 2002). The king, larger than any other character in the relief, with a horned helmet representing his divinity, and a bow and arrow marking his martial prowess, is standing in the mountains, with one foot treading on a slain captive. An enemy soldier is falling on his back in front of him, mortally wounded, trying to tear out an arrow lodged in his throat, and behind him stands the enemy king, pleading for his life. Naram-Sin's soldiers are climbing the mountains beneath him, intermingled with falling dead enemy soldiers. A tall mountain peak rises in front of the Akkad king, reaching the very heavens, where the gods are, represented by their symbols. Naram-Sin's gaze is fixed on this mountain, which is both cosmic and terrestrial at the same time. In cosmic terms it forms an axis that links the heavens and the earth, much as the central shrines in the old Sumerian cities that have now lost both their independence and their cosmological significance. They are no longer unique, and no longer the center of the universe, which may now lie somewhere beyond the horizon, in lands that were at one time considered distant, dangerous, treacherous, but also rich in desired

luxury goods. These lands maintain their attributes, but they are now perfectly attainable and belong, by divine right, to the god-king of Akkad. What makes the Naram-Sin stele unique is the double ground of the mountains: the king and his army are victorious in the highlands of the foreground, but the king is already gazing up to the seemingly unassailable mountain peak before him, ready to take on new adventures, to scale the highest mountains, symbolized by the narrow peak that links him to his fellow deities in the skies above him.

The relationships between Akkad and its foreign possessions are often described in terms of inside-outside relationships, using concepts such as center and periphery, but this, to my mind, misses much of the point. Akkad is not so much a center that is contrasted with a periphery as a focal point for the whole world. As a result we do not see any marked contrast between Akkadians and Sumerians, Elamites, Eblaites, or whoever, nor between Mesopotamians and others. The enemies, and there were plenty of them, could be in Iran, on the borders of the Persian Gulf, or in Syria, but could also be next door, as Sargon and all his successors had to face powerful revolts throughout the land, including Sumer and Akkad, revolts that they put down with brutal ferocity, if their own accounts are to be believed. Indeed, it is difficult to determine who “us” and “they” may be in this universal state, and there is apparently no demonization of outsiders or enemies of any kind. In the Naram-Sin stele, the only real contrast, in terms of figurative representation, is between the divine king and mere humans; the enemy soldiers are not represented very differently than the royal troops, and it is only the pictorial narrative and their headdress that allows us to tell them apart. The dead soldier under the foot of the king is naked, but this only signifies that he was captured, as during this period prisoners of war, from Sumer or from abroad, were stripped of their clothing before being bound and often executed. This Old Akkadian sense of the mingling of humanity and of all creation is well expressed by a poet who wrote only a generation or so at the most after the fall of the dynasty, in a Sumerian language composition that is today called *The Curse of Agade* (CA, Cooper 1983). His depiction of the capital included these lines, which describe the protective nurturing of the city by the goddess Inana (CA 17–20, Cooper 1983: 51):

That people would sit together in places of celebration,
Acquaintances dine together,
Outsiders cruise about like exotic birds in the sky,
And even the (far-off land of) Marhashi be returned to the accounting boards,
That monkeys, mighty elephants, water buffalos, beasts of far-off lands,
Would jostle each other in the far-flung streets (of Agade).

One is struck by the welcoming connection between acquaintances and outsiders, but also by how exoticism is represented not by people with other cultural or physical characteristics, but by animals from far-away worlds. Later in the same text (CA 40–53, Cooper 1983: 53) we read that

Its king, shepherd Naram-Sin,
 Appeared like the newborn day on the throne-dais of Agade;
 Its city-walls touched the heavens like mountains,
 And its city gates, as if for the very Tigris running to the sea,
 Holy Inana opened wide.
 (Downstream) Sumer sent its goods upstream of its own accord,
 Highland Amorites, although they are a people without knowledge of agriculture,
 Were able to deliver suitable bucks and rams,
 Meluhhans, people of the black land,
 Could now bring down exotic/mountain products,
 (Iranian) Elam and Subir carried goods as if strapped to donkey sacks;
 All the governors, temple administrators,
 And land registrars of the Gu'edena (area of Sumer)
 Regularly supplied it with
 Monthly and New Year offerings.

And here once again, the foreign lands of Meluhha – deep in Iran close to the Indian Ocean – as well as the more proximate Iranian areas of Elam and Subir are on a par with the bureaucrats of the civil administration deep in the south, in Sumer, and the people in charge of its extensive temple estates. But all of this changes when the god Enlil, offended by sacrilege (*CA* 152–7, Cooper 1983: 57),

Raised his eyes to the foreign land of Gubin,
Brought together (the inhabitants of) the far-flung mountain ranges,
 And then, not counted among the people, not reckoned as part of Sumer,
 The Gutians, an unorganized people,
 With human perception, but the understanding of beasts, and with monkey
 features,
 Enlil led down from the mountains.

The Gutians (Hallo 1971) were a part of the Akkad universe and are mentioned, albeit infrequently, in administrative texts from the time; they did take over some of the cities of southern Sumer after its collapse and had to be driven out by force by the succeeding dynasty. But, however they may have been perceived at the time, after the fall, in the imagination of this poet, they become the paradigmatic incarnation of what Jerrold Cooper (1983: 30–6) calls “the subhuman barbarian.” They are explicitly labeled as outsiders – they are not of “Sumer,” literally not of *the* country (*kalam*) – and their inhumanity is symbolized by crossing and confusion of classificatory boundaries, as they share human and non-human characteristics. Lacuna in our documentation may be a factor, but it seems that this kind of separation of “us” from “them” is part of a new construction of the world, as this text was composed sometime later, with other issues in mind, and in a sense provides a transition between the universalistic self-representation of the Akkad kings and that of their successors from a very different dynasty. But here I must pause once again for an exposition of some more historical background.

After less than two centuries of dominion, the Akkad state disintegrated around 2150, and the centrifugal forces that had never been fully suppressed came to the fore once again, as political power returned to smaller city-states. In native tradition the period that followed was designated as a time of the hegemony of the Gutians, the people from the eastern mountains who were mentioned in the poem cited above, although in fact they only ruled in a few southern provinces close to Iran, and their influence did not reach far beyond that as far as we can determine at present. It is also apparent that at some point armies from Anshan, a powerful state centered in south-western Iran, invaded through the break in mountain valleys that leads to the area around modern Baghdad, and took over at least part of northern Babylonia. This period of decentralization did not last for more than half a century, when a new attempt was made to reunite all of Sumer and Akkad. Around 2100 an otherwise unknown individual by the name of Ur-Namma (2112–2095), installing himself in the southern city of Ur, managed quickly to unite most of the Sumerian city states and to drive out foreign occupiers in the north and south, including the Gutians in the south and the Anshanites in the north. He was only to rule 18 years, but the state run by him and his four descendants, known to us as the Ur III Dynasty (2112–2004), marks an important moment in the political history of Mesopotamia (Sallaberger 1999).

At home the Ur III kings effected many organizational changes, most of which are of no concern to us here. Perhaps the most revolutionary aspect of their self-representational strategy took place during the long rule of the second ruler of the dynasty, named Shulgi. Sometime in the middle of his reign, the new king reinvented the concept of divine kingship, which had been introduced by Naram-Sin but was no longer in force (Michalowski 2008). I have no doubt that Shulgi's innovation was part of his long-term ideological damage control after the ominous death of his father, who apparently died in battle in his eighteenth regnal year. In Mesopotamian ideological terms, such an event could only be interpreted as a symptom of catastrophic divine displeasure and abandonment: the new state had lost its heavenly sponsorship, and the new king had to work hard to regain support in the transcendent order. As part of the reforms aimed at rebuilding the ailing state, Shulgi's regime devised a new textual order, in essence realizing an unprecedented and, in fact, catastrophic revision of the existing scholarly and educational textual repertoires. Mesopotamia, which had been literate for over a millennium, had produced a rich literature that had spread far beyond its geographical confines. This literature was primarily mythological in character, and was never, as far as we know, concerned with political matters. With only a handful of exceptions, all existing Sumerian and Akkadian literature was summarily discarded, and new texts were commissioned, all in the now dead Sumerian language (Michalowski 2006). Some of this new literature continued to focus on mythology, but much of it was centered around the figure of the divine kings of Ur, and on their imaginary predecessors from the city of Uruk. Few contemporary versions of these texts have been found, but because they continued to be copied for centuries, we can reconstruct them from later editions (Alster 2000).

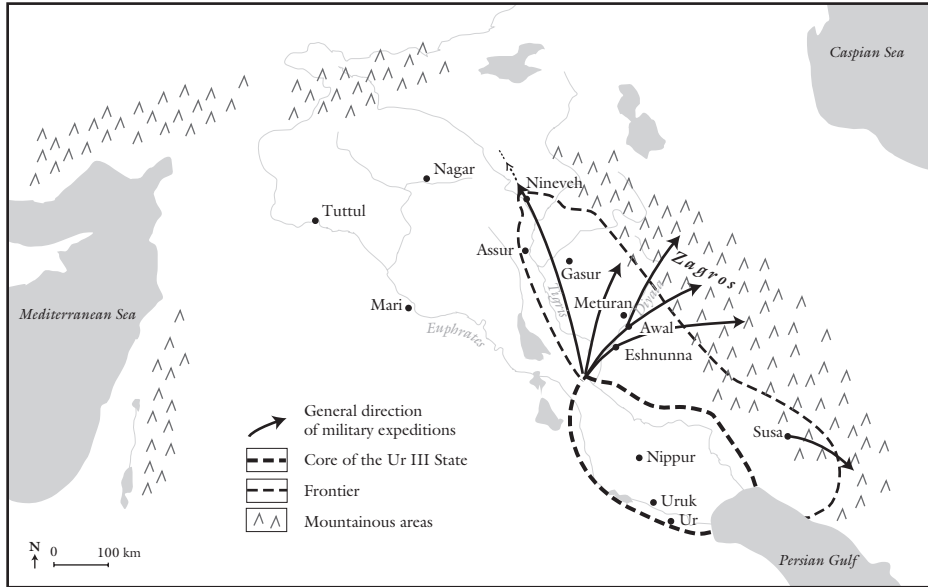


Figure 10.5 The Ur III world

These hymns and epics, to use conventional and to my mind misleading terminology, reveal a novel vision of the universe, one that differs substantially from the universalist vision centered on Agade and its kings.⁹ The masters of Ur ruled a smaller world; they confined themselves to Sumer and Akkad and the neighboring territories to the north-east and east, separated from hostile territories by an unstable buffer zone located in the mountain areas that today separate the countries of Iran and Iraq (Figure 10.5).

But, like their predecessors, they were completely dependent on the East for all their luxury items as this was the source of all precious stones, precious metals, and of almost all wood. These goods were necessary for their lavish self-displays and for maintaining control and the loyalty of their elites. As a result, the kings were involved in a continually shifting dance of plunder, tribute, trade, and gift-exchange with areas to the east and north-east, linked into a trade network that reached far into the land where the sun rises, to India and Afghanistan, the source of lapis lazuli and other precious stones. It is hardly an exaggeration to state that the Ur III state was in a continual state of war with a number of highland neighbors. How they perceived these regions can be gleaned from some of the poems that we attribute to their times, and it is to these texts that we now turn our attention.

The kings of Ur claimed descent from legendary rulers of the city of Uruk, and commissioned poems that described events that took place in the distant past, during the reigns of kings Enmerkar, Lugalbanda, and Gilgamesh.¹⁰ Lugalbanda's

relationship with a goddess resulted in the birth of the semi-divine Gilgamesh, who was identified as the sibling of the kings of Ur, thus legitimating their claims of divinity. In one story, which we call *Enmerkar and the Lord of Aratta* (ELA), the Uruk king attempts to force into submission the legendary Iranian city of Aratta. I should admit that there are two differing opinions about the identity of Aratta; many Sumerologists have attempted to associate the city depicted in the epics with localities such as Shar-i-Shosta in Iran. The second, and I believe very much a minority opinion, is that no such place ever existed and that its fictional nature is part of its symbolic function (Michalowski 1986; Potts 2004). Aratta is a peculiar place; it is beyond seven mountain ranges, deep in Iran, and yet it is the domain of the goddess Inana, who also presides over Uruk, and her temple there has a Sumerian name, Ezagina, “Lapis/Shining Temple.” These similarities are contrasted with major cultural differences, mainly of degree: Inana is displeased as the inhabitants of Aratta never built for her the kind of magnificent cult places that Uruk provided. Briefly stated, Aratta is in many respects a reverse mirror image of Uruk, it is familiar enough to be comprehensible but, although it has the riches that Mesopotamians crave, it is culturally inferior. In a sense we are witnessing here something that we could term Orientalism *avant la lettre*, a projection and a poetization of distance, proximity, and space that reveals much about the poets of Ur and next to nothing about ancient Iran. The two cities are in conflict with one another, as Uruk demands that Aratta submit, and the contest is conducted not by force of arms, but by means of an exchange of riddles. This serves to reinforce the notion that it is culture that is at stake here and not just material cravings. A messenger is made to traverse the mountain ranges, carrying the riddle messages back and forth between the two kings. Finally, at the time of his seventh journey, as it turns out (ELA 500–6, Vanstiphout 2004: 85; Mittermayer 2007: 79–81),

These were his words, but their meaning was lost,
 The words were too difficult for the messenger and he could not repeat them,
 Because the words were too difficult for the messenger and he could not repeat
 them,
 The king of Kulaba patted some clay and set down the words as if (he were
 impressing) a seal.
 Before then the setting of words on clay did not yet exist,
 But now, as the sun (rose) on that day, and it was so!
 The king of Kulaba had set words on the clay, and it was so!

This is a remarkable moment – unique in Mesopotamian literature – a parable about the invention of writing (Vanstiphout 1989). But this is simply an episode suited to its narrative and should by no means be cited as a normative native belief about the origins of cuneiform, for it simply sets up a dramatic moment that will come twenty lines hence (ELA 537–41, Vanstiphout 2004: 87; Mittermayer 2007: 82–4) when

The king of Aratta took from the messenger
 The tablet with *recorded words*.
 The king of Aratta stared at the tablet with *recorded words*,
 These were his (Enmerkar's) words at that moment; this was *his insistent demand*,
 But the king of Aratta continued staring (uncomprehendingly) at the tablet with
recorded words.

The final section of the composition is fragmentary and difficult to interpret, but in the end the gods decree that Aratta's job is trade, and that is to provide gold and lapis-lazuli to the goddess Inana in Uruk, defining it as a source not of culture, but of precious materials. It is a useful barbarian land brought to submission when its king looked uncomprehendingly at Sumer's highest cultural export – cuneiform writing. There is only one analogous passage that I know of, found, characteristically, in a hymn of self-praise that is placed in the mouth of King Shulgi, in which he refers to a rebellious land as one that “knows not how to set down words (on clay), nor how to raise emblems of the gods.”¹¹

This notion of cultural superiority is echoed in inscriptions and poems that extol the overwhelming martial power of the Ur III state, focused on the person of the king, and with this comes a new form of denigration of one's enemies. In one monument, king Shu-Sin (2037–2029), Shulgi's second successor, describes the Amorites as “destructive people, fools who dwell in the mountains.”¹² Elsewhere these Amorites are compared to monkeys (Cooper 1983: 32), that is, to non-native animals that come from the eastern mountains. To be sure, such slurs are not common, but they bolster a world view that is strictly hierarchical and politically as well as culturally Sumerocentric.

But there are more subtle, sarcastic and even humorous echoes of this world-view. The most explicit example of this comes from a poem that we today call *Gilgamesh and Huwawa* (Edzard 1990, 1991, 1993). The semi-divine Gilgamesh, son of Lugabanda and the goddess Ninsumuna and brother to king Shulgi, decides to take the road to the east, to cut down “cedars” in the mountains. The symbolism is obvious, but the forest is under the protection of the Sun god Utu, as this is where he rises after sinking into the netherworld in the west, and traversing it at night (Heimpel 1986). His enormous guardian Huwawa dwells there, protected by seven auras, or force fields, and both Gilgamesh and his sidekick Enkidu approach his domain with fear and apprehension, their nights filled with ominous dreams. The east is not only mysterious and dangerous; it is also the path of the sun from the netherworld, and therefore in a sense it represents a cosmic projection of human mortality. When they finally confront the guardian, Gilgamesh, unable to cope with his auras, asks Huwawa to turn them off. The Sumerian king promises to make him renowned by including him in his own family, offering him his oldest and youngest sisters in marriage (Shaffer 1983). There are many in-jokes here; the first sister, named Enishibbaragesi, was otherwise known in the Mesopotamian literary tradition not as a woman but as a man, and a legendary ruler of a rival city to boot, while the name of the second one, Peshturtur, seems to be a

reference to a real princess from Ur III times (Michalowski 2003). Neither had anything to do with Gilgamesh, but Huwawa, the mountain barbarian cannot know this; he has not read the *Sumerian King List*, and therefore cannot know the true identity of Enishbaragesi, and he is not clued into the complex workings of the Ur III harem and thus would not recognize Peshturtur. But this passage also offers a commentary on the limited options open to daughters of the crown, who could either become high priestesses or had to be married off to barbarian princes in the East, leaving civilized Ur behind forever.

Gilgamesh prevails and Huwawa is now his prisoner, but his servant Enkidu stabs the poor captive, slaughters him, cuts off his head, and then the two of them offer it to the god Enlil. Their miscalculation leads to serious consequences as we read in a difficult passage that has been recently explicated by Miguel Civil (2003: 84–6):¹³

When Enlil saw Huwawa's head,
 To Gilgamesh words . . .
 "Why have you done this?
 Because you have spoken thus, and annihilated his name from the earth,
 He will sit before both of you,
 He will eat bread intended for both of you,
 He will drink the water that was intended for both of you,
 (His head) will be placed as an ornament in the temples of the great gods!"
 The first aura was given to the fields,
 The second aura was given to the rivers,
 The third aura was given to the canebrake,
 The fourth aura was given to the lion,
 The fifth aura he gave to the forest,
 The sixth aura he gave to the palace,
 (And) the seventh aura he made to live on its own.¹⁴

Gilgamesh undertook the expedition to Huwawa's land to garner glory and immortal fame, but he and his companion overreached and committed a sacrilege by killing a divinely appointed guardian. In response, the god Enlil memorializes the head of Huwawa by bestowing upon him commemorative space on the façades of temples. In addition, the seven auras, having been distributed throughout the domesticated world (fields and the palace), as well as the natural and wild landscape (rivers, canebrake, the lion in the desert, and the forest) permanently permeated the Mesopotamian landscape, and Huwawa, the mythical guardian of the "Cedar" Forest, became a denizen of Sumer. In poetic fiction Huwawa lost his life, murdered by a culture hero who stands in for the royal house of Ur. In reality, after less than a century of rule, the state fell to a coalition of armies from Iran; its last king Ibbi-Sin was taken captive to Anshan, never to return. In a sense the nocturnal fears of Gilgamesh were realized, and the Ur III state, documented to us in over 80,000 published tablets, ends up as an ephemeral project, book-ended by Iranian occupations.

A somewhat different narrative use of the liminal status of the mountain ranges to the east of Mesopotamia is encountered in the two tales about Lugalbanda.¹⁵ Unlike in *ELA*, in which no armies made their presence and war was conducted by cleverness and verbal wit, the Lugalbanda narrative takes place during a military expedition against Aratta, although no normal human beings are part of the narrative. The hero, at the time still young and in the entourage of King Enmerkar, falls ill halfway to the Iranian city and is left in a mountain cave to heal or die. His companions – seven semi-demonic brothers – leave large stores of goods to help him survive, but these could just as easily be interpreted as grave offerings, and this mortuary motif invokes the symbolic links between the eastern mountains and human mortality.¹⁶ The hero recovers and must find a way to join the Uruk army which has moved on towards Aratta. The gods help him recover and the strange flora and fauna of the mountains provides sustenance, but no humans are around, and he is utterly alone. He prepares lavish offerings to the gods and goddesses; demons appear and partake in a cosmic battle, but at this point the text is incomplete and the narrative difficult to follow. The second half of the story finds Lugalbanda still abandoned in the mountains, dwelling in solitude. This is the nesting place of the mythical Anzu, an enormous creature with the body of an eagle and the head and claws of a lion, and the young warrior decides to honor him and his family with a feast. Lugalbanda befriends the frightful creature, who bestows on him supernatural strength, including the ability to leap over mountains with great speed, and in return the youthful warrior promises to fashion likenesses of Anzu (*Return of Lugalbanda* 181–3, Vanstiphout 2004: 145):

When I have woodcarvers make your statues, you will be a wonder to behold,
And then your name will radiate throughout Sumer,
As they will be placed as an ornament in all the temples of the great gods!¹⁷

This intertextual moment invokes the fate of the other epic liminal mountain creature, Huwawa, who was fated by Enlil to survive in the form of representations at the entrance to Sumerian temples, after he was slain by Gilgamesh and Enkidu. Similarly, representations of Anzu adorned the architraves of some Sumerian temples.¹⁸ In early Mesopotamian mythology this creature is primarily associated with the warrior god Ningirsu, who was the divine ruler of the powerful city of Girsu. Thus, at one narrative level, Huwawa and Anzu shared the same fate: the awe and fear they inspired, as well as their ferocious supernatural powers, were neutralized by absorption into the symbolic universe of Mesopotamia. They were transferred from the mountains to the lowlands – one dead and the other alive – and domesticated in Sumer. In later myth this would have dreadful consequences, as Anzu would revolt against his new masters and threaten the very order of the universe by stealing the Tablets of Destinies in an unsuccessful bid for supreme rule (Vogelzang 1988). But for now the two lion-clawed creatures have been tamed and this, more than any other metaphorical representation of the East, demonstrates the manner in which early Mesopotamian mythmaking and propaganda dealt with the dangers and attractions of the highlands: martial, economic, and psychological.

In Ur III times, which is when the Gilgamesh and Lugalbanda poems were undoubtedly first composed, the vast Iranian highlands were populated by various peoples and contained a range of polities, some of which were more powerful and territorially more extensive than the state ruled from Ur, but because we do not have any textual material from those areas, the myopic historical and literary perspective we work with comes from Sumer. By projecting present concerns into the past, the poets of the Ur III court also projected concerns about contemporary events into a mythical space in which symbols can selectively serve intellectual needs. By erasing all humans, all rival states and armies from the East, myths can effectively deal with the psychogeographical fears and allures of a land of opportunity and death and internalize those feelings into a coherent world view. As Yi-Fu Tuan (1977: 131) puts it, “world view is at a distance from particular experiences and needs: it is an intellectual construct.” Later generations would read these Sumerian texts very differently and miss much of the point, as we often do. Their intellectual constructs and experiences belonged to a different era, and their relationships with the surrounding world and its peoples, as well as the language of their perception of difference, were accordingly transformed. But for Ur the complex combination of fascination and fear of the other world on its shifting borders and beyond was well founded: a century after Ur-Namma took over the throne of the city and so rapidly involved himself with state creation, his marvelous creation disappeared from history, defeated and overrun by powerful enemies from the East.

I have only been able to sketch certain aspects of the complex and continually shifting relationships between Mesopotamia and its neighbors and the manner in which the inhabitants of Sumer expressed their views on such matters. As far as one can determine from the data known to us, the wide-open, seemingly boundless vision of the earth that is characteristic of the Akkad regime became much more circumscribed and limited in Ur III times. Because of the nature of the evidence we see only one side of this evolving drama, but it must be kept in mind that Iran is a vast and rich territory that in a sense dwarfed the small kingdoms of the Tigris/Euphrates valley. The latter had to labor hard, often by means of force, to contain political disorder in the East, as a means of self-protection, but also as a way of keeping the roads to raw materials open from control by more powerful states. To see how this played out only a few hundred years later, one need only look at the political and military situation in the middle of the eighteenth century, at the time when King Hammurabi ruled in Babylon; he, as well as his rivals on the thrones of other cities in Mesopotamia and Syria, all at one point recognized the overlordship of the emperor of Elam in south-west Iran, and eventually had to deal with an extremely dangerous Elamite invasion (Charpin and Durand 1991). This may have been an unusual situation, but it demonstrates both the potential power of Iranian polities and the fear and respect that this inspired. Indeed, such invasions would happen again more than once.¹⁹ But we rarely hear their side of the story, and so we have to rely, by default, on cuneiform sources from Mesopotamia. Moreover, since these sources do not spell out attitudes, we must tease them from between the lines of fragments, and try to read their minds,

at their narrative mercy, much like Italo Calvino's aging Khan, mesmerized by Marco Polo's geographical incarnations of Venice.

The shifts in perception we have tried to document here did not end with the fall of Ur. Indeed, the rulers who came after them, including the famous Hammurabi of Babylon were none other than those unfortunate Amorites, previously derided as monkeys. They now dominated the land, they were the incarnation of Mesopotamianness, and others were the outsiders, sometimes described in negative terms, but always with a bit of that old mirror that we saw in the older epic literature. And so it went, with rulers who were Kassites, or Persians coming in from the East, only to be ousted by an adventurer from Macedonia, some small place that no one had ever heard of before. In many ways, for the inhabitants of Babylonia, the outside was forever within, or on the verge of entering, and the hollow laughter of history mimicked their poetics of space.

Notes

- 1 All dates are BCE unless otherwise marked. All translations from ancient sources are by the author; for the convenience of readers I provide references to standard editions or to accessible modern translations, which may differ somewhat. I am grateful to Nicole Brisch, Norman Yoffee, Richard Talbert, and Kurt Raaflaub for comments on a draft version of this chapter, to Elisabeth Paymal for expertly making the maps in Figures 10.2, 10.3 and 10.5, and to Béatrice André-Salvini and Catherine Giraudon for providing the photograph, and reproduction permission, for the Naram-Sin Stela (Figure 10.4). I would also like to thank Catherine Mittermayer for sending me a copy of her new edition of Enmerkar and the Lord of Aratta (Mittermayer 2007).
- 2 On the central symbolic function of Babylon see George 1997. In the third and second millennia this role was fulfilled by the city of Nippur (Sallaberger 1997).
- 3 For first millennium traditions see the "cosmic" and imaginative topographical texts collected in Horowitz 1998 and the lists describing the topographical names and terminology within Mesopotamia assembled in George 1992. Some interesting information on Assyrian travels is now found in Favaro 2007.
- 4 The ascription of stylistic and iconographic elements to various cultures in the production, transmission, and consumption zones is a matter of much debate, much of it driven by the incomplete archaeological record; see, most recently, Pittman 2002.
- 5 There is some internal variation within "Old Akkadian," and the relationship between this language and later phases of Akkadian has been a matter of debate (Hasselbach 2007).
- 6 Akkadian royal inscriptions, originals as well as later copies, are now available in Frayne 1993; later literary compositions about the kings of Agade are collected in J. Westenholz 1997. For a comprehensive overview of the period, with extensive bibliography, see Å. Westenholz 1999.
- 7 For a fuller discussion of these titles, see Michalowski 1993.
- 8 On the relief see, most recently, Winter 1999–2000, 2002, 2004. For the inscription see Frayne 1993: 143–5 with bibliography.
- 9 One needs to keep in mind that, with but a few exceptions, these hymns have been preserved in manuscripts that date to a few hundred years after the Ur III period. It

is impossible at present to ascertain the level of redactional interference and even outright invention that produced the versions available to us.

- 10 For the Enmerkar and Lugalbanda stories, see Vanstiphout 2004; the Sumerian Gilgamesh poems have been recently translated by George 1999.
- 11 *Shulgi Hymn E: 220* (unpublished ms. by J. Klein). The translation offered here is not without problems.
- 12 The same Amorites are the subject of what Jerrold Cooper (1983: 32) has dubbed as the first ethnic joke; a school proverb says (Alster 1997: 103): “(A confection) was made of wheat rather than honey; the Amorite ate it, but could not recognize its ingredients.”
- 13 *Gilgamesh and Huwawa* version A 185–99, Edzard (1991: 229–31), with revisions and better reconstruction by Civil (2003). The last seven lines are particularly difficult, and matters of textual reconstruction and variation, issues that cannot be discussed here, complicate the interpretation of the whole passage. Civil (2003: 85) demonstrates that in Sumerian poetry the metaphors involved all connect with jails and imprisonment, and therefore the auras seem to be neutralized and kept from being appropriated by anyone, including Gilgamesh. My argument does not dispute this, but only attempts to take it further, adding another level of tropes.
- 14 The interpretation and translation of the second part of the line is difficult (*ni₂-te-a-ni ba-an-ti* in Sumerian, with variant *nun-gal* for *ni₂-te-a-ni* in one text). There may be a pun here between the reflexive pronoun *ni₂-te* and *ni₂-teĝ*, the word for “fear” and synonym for “aura.” The passage has variants, some manuscripts have varying orders of the places that each aura was placed in, while one text of unknown origin has different places altogether (the warrior and the prison). See Civil 2003: 84–6. The jail imagery (“forest” and “palace,” as well as the warden goddess Nungal in one version) implies that the auras were not destroyed, but neutralized by “imprisonment.”
- 15 Although the Lugalbanda tale was divided in antiquity into two separate compositions (*Lugalbanda in the Wilderness, The Return of Lugalbanda*), from the narrative point of view it is really one story and will be treated as such here. For the texts, see Wilcke 1969, 1987; Vanstiphout 2004: 97–165; I am grateful to Claus Wilcke who kindly provided me with his unpublished new edition of the Lugalbanda material.
- 16 His immediate companions are seven liminal figures; at one level they are associated with the seven demons who bring with them disease and death.
- 17 In Sumerian the line reads *é dingir gal-gal-e-ne-ka/ke₂ me-te-aš bí-[ib³-g]ál*; this is virtually identical with l. 192 of *Gilgamesh and Huwawa*, which reads: *[é dingir] gal-gal-e-ne-ka me-te-aš hé-im-mi-gál!*
- 18 See, most conveniently, Black and Green (1992: 107–8) under Imdugud, which some consider to be the proper rendering of the creature’s name in Sumerian.
- 19 On the history of Elam and Mesopotamian–Elamite relationships, see Carter and Stolper 1984; Potts 1999.

References

- Adams, Robert McC. 2008. “Interdisciplinary Overview of a Mesopotamian City and its Hinterlands.” *Cuneiform Digital Library Journal* 2008.1: 1–23 (http://cdli.ucla.edu/pubs/cdlj/2008/cdlj2008_001.html).
- Alster, Bendt. 1997. *Proverbs of Ancient Sumer: The World’s Earliest Proverb Collections*, I. Bethesda.

- Alster, Bendt. 2000. "Epic Tales from Ancient Sumer: Enmerkar, Lugalbanda, and Other Cunning Heroes." In Jack M. Sasson (ed.), *Civilizations of the Ancient Near East*, IV, 2315–26. New York.
- Black, Jeremy, and Anthony Green. 1992. *Gods, Demons and Symbols of Ancient Mesopotamia*. Austin.
- Buccellati, Giorgio. 1993. "Through a Tablet Darkly: A Reconstruction of Old Akkadian Monuments Described in Old Babylonian Copies." In M. E. Cohen, D. C. Snell, and D. B. Weisberg (eds.), *The Tablet and the Scroll: Near Eastern Studies in Honor of William W. Hallo*, 58–71. Bethesda.
- Carter, Elisabeth, and Matthew W. Stolper. 1984. *Elam: Surveys of Political History and Archaeology*. Berkeley.
- Charpin, Dominique, and Jean-Marie Durand. 1991. "La suzeraineté de l'empereur (sukkalma) d'Élam sur la Mésopotamie et le 'nationalisme' amorrite." In L. De Meyer and H. Gasche (eds.), *Mésopotamie et Elam*, 59–66. Ghent.
- Civil, Miguel. 2003. "Reading Gilgamesh II: Gilgamesh and Huwawa." In W. Sallaberger, K. Volk, and A. Zgoll (eds.), *Literatur, Politik und Recht in Mesopotamien: Festschrift für Claus Wilcke*, 77–87. Wiesbaden.
- Collon, Dominique. 2000. "Early Landscapes." In L. Milano, S. de Martino, F. M. Fales, and G. B. Lanfranchi (eds.), *Landscapes: Territories and Horizons in the Ancient Near East*, 3 Parts, 3.15–22. Padua.
- Cooper, Jerrold S. 1983. *The Curse of Agade*. Baltimore.
- deJean, Joan. 1987. "No Man's Land: The Novel's First Geography." *Yale French Studies* 73: 175–89.
- Edzard, Dietz Otto. 1990. "Gilgamesh und Huwawa A. I. Teil." *Zeitschrift für Assyriologie* 80: 165–203.
- Edzard, Dietz Otto. 1991. "Gilgamesh und Huwawa A. II. Teil." *Zeitschrift für Assyriologie* 81: 165–233.
- Edzard, Dietz Otto. 1993. "'Gilgamesh und Huwawa.' Zwei Versionen der sumerischen Zedernwaldepisode nebst einer Edition von Version 'B.'" *Sitzungsberichte der Bayerischen Akademie der Wissenschaften. Philosophisch-historische Klasse* 4, 1–6. Munich.
- Favaro, Sabrina. 2007. *Voyages et voyageurs à l'époque néo-assyrienne*. Helsinki.
- Foster, Benjamin R. 2005. *Before the Muses*. 3rd edn. Bethesda.
- Frayne, Douglas. 1993. *Sargonic and Gutian Periods (2334–2113 BC)*. Toronto.
- George, A. R. 1992. *Babylonian Topographical Texts*. Louvain.
- George, A. R. 1997. "'Bond of the Lands': Babylon, the Cosmic Capital." In G. Wilhelm, (ed.), *Die orientalische Stadt. Kontinuität, Wandel, Bruch*. 125–45. Saarbrücken.
- George, A. R. 1999. *The Epic of Gilgamesh. The Babylonian Epic Poem and Other Texts in Akkadian and Sumerian*. Harmondsworth.
- Hallo, W. W. 1971. "Gutium." *Reallexikon der Assyriologie* III: 708–20. Wiesbaden.
- Hasselbach, Rebecca. 2005. *Sargonic Akkadian: A Historical and Comparative Study of the Syllabic Texts*. Wiesbaden.
- Hasselbach, Rebecca. 2007. "The Affiliation of Sargonic Akkadian with Babylonian and Assyrian: New Insights Concerning the Internal Sub-Grouping of Akkadian." *Journal of Semitic Studies* 52: 21–43.
- Heimpel, Wolfgang. 1986. "The Sun at Night and the Doors of Heaven in Babylonian Texts." *Journal of Cuneiform Studies* 38: 127–51.
- Helms, Mary W. 1993. *Craft and the Kingly Ideal: Art, Trade, and Power*. Austin.
- Horowitz, Wayne. 1998. *Mesopotamian Cosmic Geography*. Winona Lake.
- Kantor, Helene J. 1965. "Landscape in Mesopotamian Art." *Journal of Near Eastern Studies* 25: 145–52.
- Kohl, Philip L. 1978. "The Balance of Trade in Southwestern Asia in the Mid-Third Millennium BC" [with comments and reply]. *Current Anthropology* 19: 463–92.

- Michalowski, Piotr. 1986. "Mental Maps and Ideology: Reflections on Subartu." In H. Weiss (ed.), *The Origins of Cities in Dry-Farming Syria*, 129–56. Guilford.
- Michalowski, Piotr. 1993. "Memory and Deed: The Historiography of the Political Expansion of the Akkad State." In M. Liverani (ed.), *Akkad: The First World Empire*, 69–90. Padua.
- Michalowski, Piotr. 2003. "A Man Called Enmebaragesi." In W. Sallaberger, K. Volk, and A. Zgoll (eds.), *Literatur, Politik und Recht in Mesopotamien: Festschrift für Claus Wilcke*, 198–208. Wiesbaden.
- Michalowski, Piotr. 2006. "The Lives of the Sumerian Language." In Seth Sanders (ed.), *Margins of Writing, Origins of Culture: New Approaches to Writing and Reading in the Ancient Near East*. 157–82. Chicago.
- Michalowski, Piotr. 2008. "The Mortal Kings of Ur: A Short Century of Divine Rule in Ancient Mesopotamia." In N. Brisch (ed.), *Religion and Power: Divine Kingship in the Ancient World and Beyond*, 33–45. Chicago.
- Mittermayer, Catherine. 2007. "Enmerkar und der Herr von Aratta. Neuedition." Doctoral dissertation, University of Bern.
- Montello, D. R., K. L. Lovelace, R. G. Golledge, and C. M. Self. 1999. "Sex-Related Differences and Similarities in Geographic and Environmental Spatial Abilities." *Annals of the Association of American Geographers* 89: 515–34.
- Nissen, Hans J. 1988. *The Early History of the Ancient Near East: 9000–2000 BC*. Chicago.
- Pittman, Holly. 2002. "The 'Jeweler's' Seal from Susa and the Art of Awan." In E. Ehrenberg (ed.), *Leaving No Stones Unturned: Essays in the Ancient Near East and Egypt in Honor of Donald P. Hansen*, 211–35. Winona Lake.
- Potts, Daniel T. 1993. "Patterns of Trade in Third-Millennium BC Mesopotamia and Iran." *World Archaeology* 24: 379–402.
- Potts, Daniel T. 1999. *The Archaeology of Elam: Formation and Transformation of an Ancient Iranian State*. Cambridge.
- Potts, Daniel T. 2004. "Exit Aratta: Southeastern Iran and the Land of Marhashi." *Name-ye Iran-e Bastan: The International Journal of Ancient Iranian Studies* 4: 41–52.
- Pournelle, Jennifer R. 2007. "KLM to CORONA: A Bird's-Eye View of Cultural Ecology and Early Mesopotamian Urbanization." In E. C. Stone (ed.), *Settlement and Society: Essays Dedicated to Robert McCormick Adams*, 29–62. Los Angeles.
- Sallaberger, W. 1997. "Nippur als religiöses Zentrum Mesopotamiens im historischen Wandel." In G. Wilhelm (ed.), *Die orientalische Stadt. Kontinuität, Wandel, Bruch*. 147–68. Saarbrücken.
- Sallaberger, W. 1999. "Ur III-Zeit." In W. Sallaberger and Å. Westenholz (eds.), *Mesopotamien: Akkade-Zeit und Ur III Zeit*. 121–392. Freiburg i. Br.
- Schmidt, Francis. 1988. "Naissance d'une géographie juive." In A. Desreumaux and F. Schmidt (eds.), *Moïse géographe. Recherches sur les représentations juives et chrétiennes de l'espace*, 13–30. Paris.
- Shaffer, Aaron. 1983. "Gilgamesh, the Cedar Forest, and Mesopotamian History." *Journal of the American Oriental Society* 103: 307–13.
- Sommerfeld, Walter. 2003. "Bemerkungen zur Dialektgliederung Altakkadisch, Assyrisch und Babylonisch." In G. J. Selz (ed.), *Festschrift für Burkhardt Kienast*, 569–86. Münster.
- Tuan, Yi-Fu. 1977. *Space And Place: The Perspective of Experience*. Minneapolis.
- Vanstiphout, Herman L. J. 1989. "Enmerkar's Invention of Writing Revisited." In H. Behrens, D. Loding, and M. T. Roth (eds.), *DUMU-É-DUB-BA-A: Studies in Honor of Åke W. Sjöberg*, 512–24. Philadelphia.
- Vanstiphout, Herman L. J. 2004. *Epics of Sumerian Kings: The Matter of Aratta*. Leiden.
- Vogelzang, M. E. 1988. *Bin šar dadme. Edition and Analysis of the Akkadian Anzu Poem*. Groningen.

- Weinreich, Max. 1945. "Der yivo un di problemen fun undzer tsayt." *YIVO Bleter: Journal of the Yiddish Scientific Institute* 25: 3–18.
- Westenholz, Åge. 1999. "The Old Akkadian Period: History and Culture." In W. Sallaberger and Å. Westenholz (eds.), *Mesopotamien: Akkade-Zeit und Ur III Zeit*. 17–117. Freiburg i. Br.
- Westenholz, Joan Goodnick. 1997. *Legends of the Kings of Akkade*. Winona Lake.
- Wilcke, Claus. 1969. *Das Lugalbandaepos*. Wiesbaden.
- Wilcke, Claus. 1987. "Lugalbanda." *Reallexikon der Assyriologie* 7: 117–32.
- Winter, Irene J. 1999–2000. "Tree(s) on the Mountain: Landscape and Territory on the Victory Stele of Naram-Sin." In L. Milano, S. de Martino, F. M. Fales, and G. B. Lanfranchi (eds.), *Landscapes: Territories and Horizons in the Ancient Near East*, 3 Parts, 1. 63–76. Padua.
- Winter, Irene J. 2002. "How Tall was Naram-Sin's Victory Stele? Speculations on the Broken Bottom." In E. Ehrenberg (ed.), *Leaving No Stones Unturned: Essays in the Ancient Near East and Egypt in Honor of Donald P. Hansen*, 301–11. Winona Lake.
- Winter, Irene J. 2004. "The Conquest of Space in Time: Three Suns on The Victory Stele of Naram-Sin." In J. G. Dercksen (ed.), *Assyria and Beyond: Studies Presented to Mogens Trolle Larsen*, 607–28. Leiden.

The World and the Geography of Otherness in Pharaonic Egypt

GERALD MOERS

Introduction: The Ancient Egyptian Perspective on the World

When discussing “geography, ethnography and perspectives of the world” in ancient pharaonic Egypt,¹ it is best to use a top down approach to explain the close relations between these topics and to start with the “perspectives of the world,” since obviously in premodern times geography as well as ethnography are often linked to implicit (and rarely also explicit) worldviews. In ancient Egypt, for example, conceptually cosmography comes before geography and ethnography. Deeply rooted in religious thought and preconditioned by theology and not by science, Egyptian cosmography normally took shape as mythical cosmogony.²

Thus, like most ancient cultures of the pre-global era, the pharaonic Egyptians considered their country the centre of the universe;³ accordingly, their view of the world was structured as a clear-cut dichotomy of centre and peripheral world edges paralleled by further dichotomies arranged along the distinctions between normality and abnormality, friendly nature and hostile wilderness,⁴ and so forth, while the relation of center and periphery was determined by what Denis Cosgrove in his summary of the 2006 conference called the “distance decay function.” Although it is difficult to simulate the thinking about such a conception from within the global model of Western thought and thus to translate one into the other, the implications of the Egyptian worldview are nevertheless quite logical. Since the ancient Egyptians did not know a geographical end of the world, they conceptualized its perceptible outer limits as anthropomorphic deities who regularly figured in their mythical cosmogonies. While the sky was metonymically perceived as the goddess Nut, the earth was thought to be her male counterpart

Geb, both together encircling and thus limiting what we would call “space defined by atmosphere” and the Egyptians identified as the god Schu, that is “dry air.” These gods belong to the second (Schu) and third generations (Geb and Nut) of what is known as the *Cosmogony of Heliopolis*, a mythical genealogy of the world, in which the preexisting god Atum (whose name literally means “completeness, everything,” and who is also called “Lord of the Limits”) defines the world by limiting space (Schu) through sky (Nut) and earth (Geb; Assmann 1984: 144–9). Also part of the defined world was a realm called Duat which was usually situated beneath the earth and is thus translated as “underworld”; sometimes, however, it was located within the body of the goddess Nut. This only seems contradictory, since the sky’s visible surface was conceived of as a body of water,⁵ blue at daytime and black at night, on which the sun was thought to travel in a vessel from horizon to horizon. At sunset, the sun was swallowed in the West by the goddess’ mouth and then took a regenerating nightly journey through her belly, at the end of which it was reborn from her crotch the next morning. This core world was further thought to be surrounded by primeval waters named Nu whose characteristics represented the total opposite of the world’s qualities: infinite, undefined, inert, lost, and dark. Nevertheless, as water this primeval ocean Nu was also the source of all worldly waters, including, for example, the river Nile itself.

Naturally, this Egyptian concept of the cosmos posed some problems when it came to the empirical and material distinction of Egypt from the rest of the world. This is most evident in the complex semantics of the word *t3*. While the most unspecific meaning of *t3* may be rendered as “land” in the sense of the world’s material surface (as opposed to *p.t* “sky”), it is also used to designate the “whole world” (consisting of earth *and* sky) and may even simply mean “Egypt.”⁶ Often enough, two of the three meanings are combined in one and the same sentence, as for example in the following spell from the so-called *Coffin Texts* (a collection of funerary literature known from the Middle Kingdom (around 2040) onwards): “War broke out in the whole world (*t3*), in the sky (*p.t*) and on earth (*t3*)” (Allen 2003: 23). If it is difficult for scholars today to distinguish in the textual material (especially in highly ideological royal narrative inscriptions) between the use of *t3* as “Egypt” and as “world,” this was true already for the ancient Egyptians who struggled to define Egypt’s boundaries in terms of stable natural borders. Thus, for example, Egypt’s southern border was geographically located in the area of the first cataract near the island of Elephantine at Aswan only because here the Egyptians located the spring of the river Nile in a divine form called Hapi which was thought to originate directly in the primeval ocean Nu. The reason for this surprising conception is that the Egyptians favored the explanatory power of their mythical cosmogony (as defined above) over their actual empirical geographical knowledge. The definition of an empirical geographical border by cosmogonical explanation illuminates how easily an ancient culture could handle multiple geographies, how the Egyptian worldview always implied that the borders of Egypt were also the borders of the world, and that these borders also demarcated an area of transition between the divine and the worldly spheres. Another example is the mysterious land of Punt, to be discussed in the following section.

What all this makes clear is that pharaonic Egypt did not share stable geographical borders with its neighbors, but was divided from them by frontiers. Thus, conceptually, the religiously defined Egyptian view of the cosmos created a world that was nothing less than a virtually endless realm open for Egyptian aspirations and rule. Consequently, Pharaoh, by definition the living incorporation of the god Horus who in the *Cosmogony of Heliopolis* (mentioned above) represents the last generation of gods, not only connects the actual world with its religious conception but is himself called “ruler of all,” “only ruler,” or “ruler to the limits” (Assmann 1997: 169). The real world is thus defined by the rule of Pharaoh whose virtually sole obligation it is to establish and maintain an order which is in fact “world order,” called *Ma’at* (Assmann 1990). Systemically, however, this perfect world contains a tiny paradoxical imperfection, namely the fact that, against all Egyptian claims to absolute rule over the world, the world itself is divided into a controllable and an uncontrollable part. Thus, in its self-perception, Egypt always encounters an environment which is thought to be uncontrollable and chaotic, and threatens Egypt with genuinely hostile intentions. To fulfill his task to maintain world order, Pharaoh therefore has at his disposal two complementary modes of action: for Egypt, he makes things possible, he is the creator of culture in the widest sense. All other countries and all foreign aspirations, however, he controls as a destructive hinderer.⁷

This, in short, is the conceptual default setting underlying all Egyptian possibilities to thematize what the title of the present chapter terms “the geography of otherness.” Its two components, the geography of foreign places and the ethnography of foreign peoples, will be discussed in subsequent sections. The geographical and ethnographical material presented there is mostly narrative when taken from royal inscriptions and literary texts, and more empirical when it comes from administrative contexts.⁸ Moreover, the empirical geographical material – as expressed, for example, in the phenomenon of mapping – is relatively scarce in comparison to conceptualizations in narrative sources and empirical ethnographical materials, such as those concerning foreigners in Egypt. Hence even the discursive division of Egyptian geographical sources makes clear how well ancient Egyptian culture coped with multiple geographies.

Geography

Within the frame of the Egyptian view of the world laid out in the previous section, all Egyptian geographies of foreign regions contained in royal inscriptions or the literary discourse play a conceptually very biased role in sustaining an altogether bipartite view of the world. In a book about the function of space in European writing of the nineteenth century, the Italian literary critic Franco Moretti (1999: 100) distinguishes the “geography” of the modern novel from what he metaphorically calls the “topography” of traditional narratives. Applying this distinction, we recognize that the geography displayed in the Egyptian written or pictorial sources in most cases corresponds to Moretti’s “topography”; that is, it reflects a

secondary conceptual and rhetorical manipulation of primary empirical knowledge of foreign places. The predominant feature of this “topography” is that it is structured as a polar opposition between two worlds: one, central, is of course Egypt, while the other is more or less an unspecific “elsewhere” located outside, separated from Egypt by conceptually clear borders which geographically are frontiers. According to Cosgrove’s “distance decay function”, this conceptually shaped “elsewhere” normally features in the Egyptian sources in two ways. Entirely in line with tendencies also known from other ancient cultures, in Egypt too the “Other” is conceived either as fascinating or as threatening and dangerous, while both attitudes of course have their roots in the idea of the supremacy of Egypt over the rest of the world.

The most prominent icon of this idea is a scene known as “Pharaoh smiting the enemy.” This scene can be found throughout Egyptian history in thousands of examples on all kinds of Egyptian artifacts, from small scarabs to monumental temples (Moers 2004: 88–130). It displays Pharaoh striding along and beating with his mace the subjugated and kneeling representatives of foreign peoples who are begging for mercy with upraised arms. Figure 11.1, engraved at the entrance gate of the mortuary temple of Ramses III (1186–1154) at Medinet Habu in Thebes, offers a good example. Although images like this always depict actual

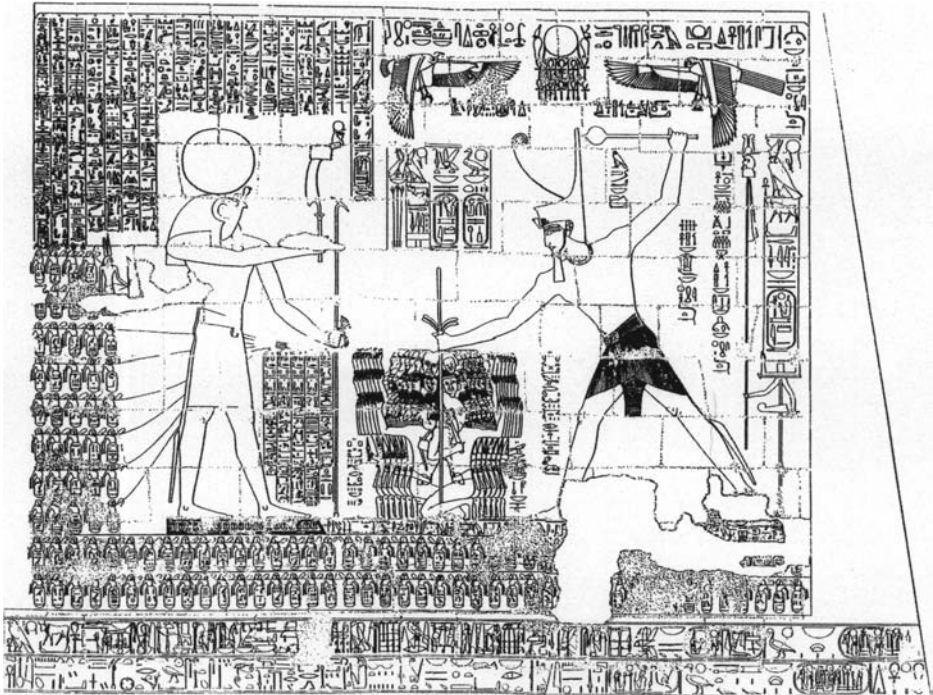


Figure 11.1 “Smiting the enemy” scene from the temple of Ramses III in Medinet Habu. Courtesy of the Oriental Institute of the University of Chicago. Source: Moers 2004: 123

Pharaohs, the historicity of such scenes is a matter of considerable debate. In most cases they might be interpreted as pictorial and symbolic rather than as any actual reenactment of the Egyptian worldview. Accordingly, in such images foreign geography – including landscape and natural resources – figures in exactly the two contrasting ways mentioned above: as fascinating and as a threat to be contained. Phrases like “chiefs of foreign countries will come to you loaded with their dues, their children and all beautiful and good things of their foreign countries” (Edgerton and Wilson 1936: 111), which normally accompany the monumental scenes, refer to the Egyptian desire for all the fascinating aspects of foreign material culture. This desire was regularly satisfied by bringing back all sorts of precious goods obtained in periodic raids of neighboring countries. Such raids were conceptualized as establishing order in areas that posed a threat. The depiction of foreign countries in these images corresponds to this concept. More precisely, their representations combine conceptual and empirical parts. While their upper part shows the upper half of a bound human body, which refers to the subjugation of the “Other,” their lower part consists of the hieroglyphic sign for foreign settlements with actual foreign toponyms inscribed; the whole thus reflects the conceptually interpreted empirical geographical knowledge of the time. These highly abstract representations of foreign countries are then shown as leashed together and handed over to Pharaoh by Egyptian gods. In sum, the icon of “smiting the enemy” reduces world geography to an additively structured topographical list of deliberately interchangeable toponyms contained by Pharaoh’s destructive power.⁹

While this is a very condensed, almost formulaic way to conceptualize the two main aspects of geographical otherness, there are also more outspoken means of representing both the fascinating as well as the hostile sides of foreign geography. The essence of Egyptian preoccupation with the exoticism of foreign landscapes is visible in the almost mythical status of the land of Punt (Harvey 2003; Meeks 2003).¹⁰ Although scholars have not yet been able to determine its exact location, it is generally associated with regions around the Red Sea either in East-Africa or on the Arabian peninsula. According to Egyptian texts which obviously refer to empirical geographical knowledge, it was accessible by water and/or land (Sethe 1961: 320, 15; 324, 11; 342, 15; 345, 1). Punt’s special status among all other foreign countries has two main reasons. One is its association with incense and other aromatic products needed for divine worship in Egypt; the other is its distant location at the edge of the known world and thus, as laid out in the previous section, right at the border between the human and divine worlds. Although definitely a real and accessible place on earth, known for centuries, Punt was so far removed from the sphere of Egyptian dominance and control that in the so-called Punt-inscription of queen Hatshepsut (18th dynasty, 1478–1458) the roads to Punt were described as so obscure that the land was never entered before (Sethe 1961: 320, 15–17), and that it was conceived of as “God’s land” or “place of rejoicing” made by the god Amun “for himself” (*ibid.* 345, 4–6). Accordingly, the “distance decay function” took over and reduced the ethnography of Punt to images of the abnormally fat body of the land’s queen (Schulz and Sourouzzian

1997: 185 fig. 70). Thus, the Queen's individual bodily traits are considered characteristic for the entire population of Punt.

The other side of representing geographical otherness, as said above, consisted of highlighting the hostility of foreign regions to the Egyptians. Already in the early Middle Kingdom (around 2050), a didactic text explains the character of Near Eastern peoples by referring to their natural environment as a determining factor. It thus not only stresses the strong connection between geography and ethnography, but also suggests that it was not in ancient Greece that the idea of using climate and natural environment as arguments for one's own cultural superiority was invented (examples are Plato's *Timaeus* 24c or Aristotle's *Politics* 7.7).

But now, these things are said about the Barbarian: the vile Asiatic is the arduousness of the place where he lives – lacking in water, inaccessible despite the many roads leading there, and painful because of the mountains. He has never settled in any place, lack of food making his feet wander. He has been fighting since the Time of Horus [i.e. since Pharaoh ruled the world] and cannot prevail as well as he cannot be prevailed over. He does not announce the day of battle like a thief whom society has expelled. (*Teaching for Merikare*; Quack 1992: 54–9, 183–6)

Another text, often characterized as a “satirical letter,” from the reign of Ramses II (1279–1212) and thus some 750 years later, dwells on the same conceptual connection of geography and ethnography to underscore foreigners' hostility. Interestingly, here too large portions of the text consist of lists of toponyms which are used by one scribe to display (or maybe only pretend) empirical geographical knowledge and thus to mock a fellow scribe's lack of education.

The narrow path is dangerous because of the Bedouins hiding under the bushes. Some of them are of four cubits or of five cubits from their nose to the feet, with fierce faces, of unfriendly mood and not listening to coaxing. You are alone, no helper with you, no army behind you. You cannot find a guide who helps you to find a way. You decide while walking “Forward!” although you do not know the way. You shudder, your head is dizzy, and you are scared to death. Your path is filled with boulders and pebbles, without a passable track, overgrown with reeds and brambles, briars and wolfs-pad. The ravine is on the one side of you, the mountain rises on the other. (*pAnastasi I*; Fischer-Elfert 1983: 139–42)

But not only in texts are foreign landscapes conceived of as hostile. A contemporary scene in Ramses II's battle reliefs shows an Asiatic landscape during one of the king's raids in the Near East (Heinz 2001: 277). Perfectly in line with the Egyptian artistic conventions to display everything, including geography and nature, as ordered and scaled by registers and an underlying grid,¹¹ the foreign landscape conceptually lacks this order as well as the scaling grid and is shaped as chaotically as in the texts quoted above.

Thus, to summarize, in the conceptually manipulated material of ancient Egypt empirical geographical knowledge features in two ways. On the one side, it is shaped

as topographical lists which unfortunately do not add much to our understanding of how this Egyptian knowledge was used in practice. On the other hand, it looks like descriptive and narrative geography but is in fact a secondary topographicalization of geographical empiricism. In both cases, such conceptualized geography serves to prove Egyptian supremacy in a bipartite world constructed as “here” vs. “there.” In my view this even holds true in sources where Egyptologists normally tend to detect a more open view on geographical or ethnographical otherness, as for example in Achenaten’s *Great Hymn to the Sundisk*, dating to around 1340 in the New Kingdom.

O sole god beside whom there is none, you made the earth as you wished, you alone. All peoples, herds, and flocks, all upon earth that walk on legs, all on high that fly on wings, the lands of Syria and Nubia and the land of Egypt. You set every man in his place, you supply their needs, everyone has his food, and his lifetime is counted. Their tongues differ in speech and their appearances likewise. Their skins are different, for you distinguished the peoples. You made the [divine form of the river] Nile in the netherworld, you bring him when you will to nourish the people, for you made them for yourself, Lord of all who toils for them, Lord of all lands who shines for them, Aten of daytime, great in glory. All distant lands, you make them live. You made a heavenly Nile descend for them. He makes waves on the mountains like the ocean to drench their fields and their towns. How excellent are your ways, O Lord of eternity! A Nile from Heaven for foreign peoples and all lands’ creatures that walk on legs, but for Egypt the Nile from the Netherworld (transl. Lichtheim 1976: 98–9).

Here indeed the foreign countries too seem to be presented as created according to the order of Egypt itself. Yet this is only the case because the Egyptian creator God has made them as a mirror image to the perfect Egyptian world which still defines normality, as can be seen in the way that the text tries to explain the phenomenon of rain typical for geographical regions other than Egypt.

There are, however, hints to how empirical Egyptian geography may have looked and how this geographical knowledge was displayed in sources which stem from less conceptually biased contexts and were primarily intended for practical administrative use. Thus, for example, already among fragmentary papyri found in the Middle Kingdom (2040–1674) town of Illahun there are small pieces of what one is tempted to consider “maps,” even if Stephen Quirke prefers to call them “spatial diagrams” (2003: 169–70; see also note 2). A more instructive example of such proto-maplike diagrams is the so called *Gold Mine Papyrus* from the Turin Museum (Harrell and Brown 1992).¹² The papyrus, which may even be attributed to a well known individual from the village of the royal tomb builders at Deir el Medineh, dates to the third year of Ramses IV (1154–1148) and illustrates the geography and geology of the Wadi Hammamat, a prominent gold-mining and quarrying region in the Eastern desert located between ancient Thebes and the Red Sea. Its purpose apparently was to serve “as an aid to or as a record of” Ramses IV’s greywacke “quarrying expedition to the Wadi Hammamat” (Harrell and Brown

1992: 104). Hence it locates not only roads, mountains and mines but also temples and stelae, some of which can still be found at their original locations. Although the map roughly corresponds to modern cartographic material, it lacks scale and measured distances. In fact, the attempt of measuring distances was restricted in ancient Egypt to a special kind of funerary literature, the so-called books of the underworld (Quirke 2003), in which exact ritual knowledge of the symbolic landscapes of the underworld was necessary for the deceased's rebirth (Robinson 2003).

Ethnography

In the ancient Egyptian conception of the world, as the previous section has demonstrated, geography and ethnography are closely interdependent. Moreover, what one would nowadays call the "ethnographic" material from ancient Egypt is highly biased by the religiously defined ideological preconceptions laid out in the first section. It should have become clear that Egyptian "ethnography" serves mainly to stabilize the imaginary border between Egypt and its neighbors in terms of the latter's cultural inferiority, thus also offering a justification to treat those neighbors as they are normally treated by the Egyptians. That Pharaoh or his soldiers might do to them whatever they liked is, for example, expressed in another phrase accompanying the "smiting the enemy" scene of Ramses III at Medinet Habu (Figure 11.1): "you might give breath to those of them you wish to and kill those of them you like to" (Edgerton and Wilson 1936: 111). The underlying explanatory formula is easy to grasp: hostile natural environments (like those presented in the previous section) produce aggressively hostile neighbors who also tend to crowd the Egyptian frontiers. Furthermore, they are considered so barbaric and of such brutal nature that it is even possible to ascribe to them a monstrous body and thus to perceive them as almost animal-like. The dehumanizing potential of this conception is shown in the passages cited earlier.¹³ "But now, these things are said about the Barbarian: . . . The Asiatic is a crocodile on the sandbank that snatches from a lonely road but cannot go on the prowl from the populous quay" (*Teaching for Merikare*, Quack 1992: 54–9, 183–6). "The narrow path is dangerous because of the Bedouins hiding under the bushes. Some of them are of four cubits or of five cubits from their nose to the feet [i.e. up to 2.50 m plus half of the head!], with fierce faces, of unfriendly mood and not listening to coaxing . . ." (*pAnastasi I*; Fischer-Elfert 1983: 139–42).

Two further texts may suffice to highlight the continuity of the inferiorization pattern in Egyptian culture. The first, from the so-called *Prophecy of Neferti*, dates to the early Middle Kingdom (around 2000) and describes the invasion of Egypt by birdlike foreigners who crowd the Egyptian homeland because of hunger and deprivation caused by the poor natural environment of the Near East (as described, for example, in the *Teaching for Merikare* quoted in the previous section).

An alien bird will breed in the marshlands of the Delta, having made its nest upon its neighbors because the people allowed them to approach through want. Destroyed indeed are those things of happiness – the fish pools which were full of people gutting fish, which overflowed full of fish and fowl. All happiness has fled, and the land is laid low with pain, because of these feeding Asiatics who roam the land. (*Prophecy of Neferti*: Helck 1970: 26, 30)

Another source from the reign of Merenptah (1212–1202), the successor of Ramses II, compares the foreigners with despicable worms for the same reason:

One was not able [to destroy] them like worms. Their mass was not to be overcome, because they are preferring death and despising life . . . They spend all day roaming the land, fighting to fill their stomachs. They crowd the borders of Egypt to seek out food for their mouths. (Kitchen 1982: 4, 12–15)

Already in the fifth dynasty of the Old Kingdom (2510–2460) there is iconographic material which dwells on the same protonational ethnographic prejudice that considers foreign peoples to be as threatening as they are miserable because of their natural environment. Two scenes from the causeways of the pyramid temples of the Pharaohs Sahure and Unas near Memphis show starving Asiatic bedouins (Hawass and Verner 1996: 182–5 and pl. 55b and 55c). The bedouins are so emaciated that their bellies are shrunken, their bones protrude, and their skin is wrinkled. One of them is even so weak that he is unable to raise his hand in a begging gesture as the others do. As the editors of the recent preliminary publication of the relief from the temple of Sahure point out, the scene comprises another register depicting Egyptian officials who watch the suffering bedouins in amazement (Hawass and Verner 1996: 182), confirming that the type of ethnography displayed here serves above all to maintain culturally bound prejudices about the difference between “us” and “them.” The amazed officials watching the starving foreigners symbolize the “Egyptian” mode of reception typical of such scenes.

Altogether, Egyptian pictorial and textual “ethnography” serves mainly to stabilize Egyptian identity, not least by establishing in the foreigners’ depiction a stark contrast with central cultural values of Egypt. Most prominent among these is an attachment to a settled existence: all the material discussed above leaves no doubt that anyone whom lack of food makes an outsider will not be permitted to settle down and will be treated accordingly (Moers 2004: 133–4).

Another ethnographic perspective on foreign cultures shines through, even if only negatively, in the passage from the *Prophecy of Neferti* quoted above. If the text expresses the Egyptian dislike of sharing food with foreigners, this is only the underside of views expressed in other ethnographical material that openly mocks foreign eating and cooking habits.¹⁴ Apart from Biblical (Gen 43:32) and Greek sources (Herodotus, *Histories* 2.36, 41) mentioning the Egyptian dislike of sitting down to eat with foreigners and of ethnic food in general, there is also direct Egyptian evidence for the same attitude. In a text from the Middle Kingdom, soldiers on a raid into Palestine compare the need to eat the food of Asiatic

captives with other military hardships (Altenmüller and Moussa 1991: 18, 36, 39), while a document from the New Kingdom blames an Egyptian individual for having gone crazy because he ate Asiatic food prepared with blood (Guglielmi 1983: 148, 152, 155). In a text from the Late Period a foreigner is not allowed to enter Pharaoh's palace because he is used to eating fish and is therefore considered impure (Grimal 1981: 176–9), and in a literary tale dating to the Roman period (around 50 CE) people from the ancient Sudan are called “gumeaters” and their food is thought to be nothing but “swill in the Cushite manner” (Griffith 1900: pl. 3, 3–6).

Despite all this, it is clear that the processing of ethnographic data as displayed in the material presented so far must in some way or other depend on actual experience and empirical ethnographic knowledge of the “Other.” It is thus not astonishing that from earliest times the perception of ethnic difference is well represented in Egyptian sources (for example, in terms of clothing, hairstyle, or body manipulations). Yet even such empirical knowledge tends to be presented in a stereotypical manner, as can be seen in the ethnically typicized semi-human shapes of the names in topographical lists (see Figure 11.1) or, much earlier, in the hieroglyphic writing system itself. Thus, for example, the classifiers of an Egyptian word for “enemies” in a text from the pyramid complex of king Sahure of the fifth dynasty (about 2500 BCE) have the form of three sitting persons, each representing one of the three main neighbors that are considered Egypt's arch-enemies: Libyans, Nubians and Asiatics (Figure 11.2). Ethnically distinguished from one another by typical body features, together they make up the mass of enemies that Egypt always had to encounter due to its dualistic concept of the world.¹⁵

The most immediate ethnographic representation of otherness, however, stems from contexts already alluded to in the second section. Very often in Egyptian tombs foreigners are depicted paying tribute by bringing goods of their countries

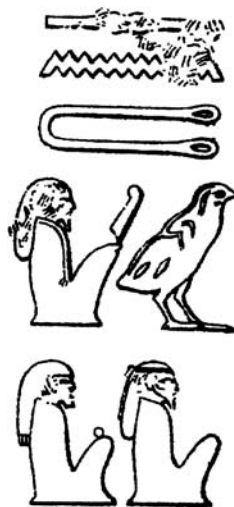


Figure 11.2 Hieroglyphic classifiers of an Egyptian word for enemies shaped as foreign bodies. Source: Moers 2004: 131

to Egypt.¹⁶ In these cases the foreign landscapes that produced these goods were obviously not conceived of as natural threats, but rather triggered the Egyptian desire for all the exotic things that were not available in Egypt itself and thus needed to be imported from abroad. Here too geography and ethnography are closely linked. It is only in circumstances like these, when foreigners fulfill their conceptual role of willing Egyptian subjects and tribute bearers, that they lose their usually negative conceptual function and can be represented, even within the boundaries of the Egyptian artistic canon, as ethnically different yet – in stark contrast, for example, to the “smiting the enemy scenes” discussed above – not inferior, humiliated, or broken.

On the other hand, whenever the sources reflect the Egyptian claim to world domination (as, for example, in the royal mode of processing ethnic difference), all foreigners, while ethnically still easily recognizable, are represented as bound and disfigured. The most prominent examples of how, in the royal ideology of ancient Egypt, worldview, geography, and ethnography go perfectly hand in hand are the walking sticks of King Tutankhamun, with handles shaped as foreign bodies (Reeves 1990: 178), or floor tiles of Egyptian palaces showing bound foreigners to walk upon (Endruweit 1997: 396 fig. 115) with sandals that equally display on their soles images of bound foreign captives (Reeves 1990: 155).

Notes

- 1 This chapter will not dwell on the sometimes problematical chronology of Ancient Egypt. The dates mentioned follow Grimal 1988 and are all BCE if not otherwise indicated.
- 2 The best overview can still be found in Assmann 1984: 67–90, 144–9. The difference between scientific cosmography and mythological cosmogony is paralleled by the distinction drawn by Quirke 2003: 170–2 between modern “maps” and what he calls ancient Egyptian “spatial diagrams.” I will dwell only briefly on the problem of “mapping” in the second section of this chapter.
- 3 A useful summary of “The Egyptian Concept of the World” as well as prominent figures of the anthropomorphic conception of the Egyptian cosmos are provided by Allen 2003.
- 4 The transition from nature to wilderness in conceptual images of Egyptian landscapes is analysed by Widmaier 2009.
- 5 Grammatically, the name Nut is the female form of the male noun Nu, meaning “primeval water” (see *infra*).
- 6 The most up-to-date collection of sources for the meaning of *t3* is Hannig 2006: 2626–34 for “earth” and 2638–9 for “Egypt.”
- 7 For a detailed discussion of Egypt’s conceptualized encounter with the “Other,” see Moers 2004.
- 8 Antonio Loprieno’s (2003) article “Travel and Fiction in Egyptian Literature” does not discuss the interface of conceptual and empirical geographies in ancient Egypt but distinguishes diachronically between earlier “centripetal” and later “centrifugal” geographies in Egyptian fictional literature.

- 9 Analysis has shown that for example Ramses III had reused parts of older lists (Edgerton and Wilson 1936: 111 n. †).
- 10 An analogous case can be found in a passage of the fictional *Tale of Sinuhe* which tells the story of an Egyptian's exile in the Near East around 1960 BCE (Stadnikow 1996: 101).
- 11 A famous example is the Egyptian garden depicted in the tomb of Sennefer (TT 96) at Thebes (Endruweit 1997: 386).
- 12 The map consists of the fragments PTurin nos. 1879, 1899, and 1869.
- 13 A detailed analysis of the dehumanizing rhetorical patterns used in ancient Egypt to degrade members of foreign cultures can be found in Moers 2004: 130–7.
- 14 For a more detailed discussion of the Egyptian dislike of foreign cuisine, and its cultural roots, see Moers 2006.
- 15 More famous but dating to the New Kingdom is the depiction of standardized ethnic differences in the so-called *Book of Gates* from the tomb of Sethos I (1294–1279), one of many books belonging to the New Kingdom genre of funerary literature (Hornung 1985: 147 pl. 120).
- 16 A classical scene from tomb 3 in Beni Hassan dating to the 6th year of Senwosret II (1889 BCE) shows a group of tribute bearers who by body, hairstyle and clothing are clearly recognizable as “Asians”; one of them is even individualized by a name (Shedid 1997: 124 fig. 35).

References

- Allen, J. P. 2003. “The Egyptian Concept of the World.” In D. O’Connor, and S. Quirke (eds.), *Mysterious Lands*, 23–30. London.
- Altenmüller, H., and A. M. Moussa. 1991. “Die Inschrift Amenemhets II. aus dem Ptah-Tempel von Memphis. Ein Vorbericht.” *Studien zur Altägyptischen Kultur* 18: 1–48.
- Assmann, J. 1984. *Ägypten. Theologie und Frömmigkeit einer frühen Hochkultur*. Stuttgart.
- Assmann, J. 1990. *Ma’at. Gerechtigkeit und Unsterblichkeit im Alten Ägypten*. Munich.
- Assmann, J. 1997. *Das kulturelle Gedächtnis. Schrift, Erinnerung und politische Identität in frühen Hochkulturen*. 2nd edn. Munich.
- Edgerton, W. F., and J. A. Wilson. 1936. *Historical Records of Ramses III. The Texts in Medinet Habu*. 2 vols. Chicago.
- Endruweit, A. 1997. “Häuser, Städte und Paläste – Die Wohnkultur.” In R. Schulz and M. Seidel (eds.), *Ägypten. Die Welt der Pharaonen*, 386–97. Cologne.
- Fischer-Elfert, H.-W. 1983. *Die satirische Streitschrift des Papyrus Anastasi I, I: Textzusammenstellung*. Wiesbaden.
- Griffith, F. L. 1900. *Stories of the High Priests of Memphis. The Sethon of Herodotus and the Demotic Tales of Khamuas. Atlas Facsimiles of the Demotic Text of the Second Tale*. Oxford.
- Grimal, N. 1981. *Études sur la propagande royale égyptienne, I: La stèle triomphale de Pi(onkh)y au musée du Caire Je 48862 et 47086–47089*. Cairo.
- Grimal, N. 1988. *A History of Ancient Egypt*. Oxford.
- Guglielmi, W. 1983. “Eine ‘Lehre’ für einen reiselustigen Sohn (Ostrakon Oriental Institute 12074).” *Welt des Orients* 14: 147–66.
- Hannig, R. 2006. *Ägyptisches Wörterbuch, II: Mittleres Reich und Zweite Zwischenzeit*. Mainz.
- Harrell, J. A., and V. M. Brown. 1992. “The Oldest Surviving Topographical Map from Ancient Egypt.” *Journal of the American Research Center in Egypt* 29: 81–105.

- Harvey, S. P. 2003. "Interpreting Punt: Geographic, Cultural and Artistic Landscapes." In D. O'Connor, and S. Quirke (eds.), *Mysterious Lands*, 81–91. London.
- Hawass, Z., and M. Verner. 1996. "Newly Discovered Blocks from the Causeway of Sahure." *Mitteilungen des Deutschen Archäologischen Instituts, Abteilung Kairo* 52: 177–86.
- Heinz, S. C. 2001. *Die Feldzugsdarstellungen des Neuen Reiches. Eine Bildanalyse*. Vienna.
- Helck, W. 1970. *Die Prophezeiung des Nfr.tj*. Wiesbaden.
- Hornung, E. 1985. *Tal der Könige. Die Ruhestätte der Pharaonen*. Zurich.
- Kitchen, K. A. 1982. *Ramesside Inscriptions. Historical and Biographical*, IV. Oxford.
- Lichtheim, M. 1976. *Ancient Egyptian Literature, II: The New Kingdom*. Berkeley.
- Loprieno, A. 2003. "Travel and Fiction in Egyptian Literature." In D. O'Connor, and S. Quirke (eds.), *Mysterious Lands*, 31–51. London.
- Meeks, D. 2003. "Locating Punt." In D. O'Connor, and S. Quirke (eds.), *Mysterious Lands*, 53–80, London.
- Moers, G. 2004. "Unter den Sohlen Pharaos. Fremdheit und Alterität im pharaonischen Ägypten." In F. Lauterbach, F. Paul, and U.-C. Sander (eds.), *Abgrenzung – Eingrenzung. Komparatistische Studien zur Dialektik kultureller Identitätsbildung*, 81–160. Abhandlungen der Akademie der Wissenschaften zu Göttingen, philologisch-historische Klasse, 3rd ser. no. 264. Göttingen.
- Moers, G. 2006. "'Jene Speise der Asiaten.' Zur bisher unbekanntenen Vorgeschichte spätzeitlicher Speisetabus." In R. Rollinger and B. Truschnegg (eds.), *Altertum und Mittelmeerraum: Die Antike Welt diesseits und jenseits der Levante. Festschrift für Peter W. Haider*, 507–16. Stuttgart.
- Moretti, F. 1999. *Atlas des europäischen Romans. Wo die Literatur spielt*. Cologne.
- Quack, F. J. 1992. *Studien zur Lehre für Merikare*. Göttingen.
- Quirke, S. 2003. "Measuring the Underworld." In D. O'Connor, and S. Quirke (eds.), *Mysterious Lands*, 161–81. London.
- Reeves, N. 1990. *The Complete Tutankhamun. The King – The Tomb – The Royal Treasure*. London.
- Robinson, P. 2003. "'As for Them Who Know Them, They Shall Find Their Paths.' Speculations on Ritual Landscapes in the 'Book of the Two Ways'." In D. O'Connor, and S. Quirke (eds.), *Mysterious Lands*, 139–59. London.
- Schulz, R., and H. Sourouzian. 1997. "Der Tempel – Königliche Götter und göttliche Könige." In R. Schulz and M. Seidel (eds.), *Ägypten. Die Welt der Pharaonen*, 152–215. Cologne.
- Sethe, K. 1961. *Urkunden der 18. Dynastie, II: Historisch-biographische Urkunden*. Berlin.
- Shedid, A. G. 1997. "Haus für die Ewigkeit – Gaufürsten- und Beamtengräber." In R. Schulz and M. Seidel (eds.), *Ägypten. Die Welt der Pharaonen*, 118–31. Cologne.
- Stadnikow, S. 1996. "Architektur, Landschaft und Natur in der Lebensgeschichte des Sinuhe." *Mitteilungen für Anthropologie und Religionsgeschichte* 11: 93–103.
- Widmaier, K. 2009. *Landschaften und ihre Bilder in der altägyptischen Kultur*. Göttingen.

On Earth as in Heaven: The Apocalyptic Vision of World Geography from *Urzeit* to *Endzeit* according to the *Book of Jubilees*

JAMES M. SCOTT

Introduction

For most students of ancient geographical conceptions, Judaism of the Second Temple period is *terra incognita*, remote and unexplored. The purpose of the present chapter is to introduce a rather obscure Jewish writing that uses conceptions of world geography – a rich amalgam of biblical and Hellenistic traditions refracted through a sectarian lens – in order to self-consciously articulate Israel’s prominent place in the world both now and in the expected eschatological future.

The *Book of Jubilees* is a Jewish work composed in Palestine during the mid-second century BCE.¹ It is classified today as a “pseudepigraphon” (a Greek term for “a writing with a false superscription”), because it purports to be the revelation to Moses on Mt. Sinai as given through the Angel of the Presence (Prologue; 1:1–4). In fact, however, *Jubilees* encompasses not only the revelation to Moses on Mt. Sinai (Exodus 19–24), but rather – at least as far as the surface narrative is concerned – everything from Genesis 1 to Exodus 24, although it should be observed that the text also gives a schematic preview of both Israelite and human history to the *eschaton* (the end of times). Scholars debate whether *Jubilees* is intended to augment or supersede the biblical text or rather simply to provide an authoritative interpretation of it. In any case, it is doubtful whether the term “pseudepigraphon” adequately captures what the author of the book thinks is going on in the text. In all probability, the intention is not simply to delude the gullible, but rather to stand seamlessly within the interpretive tradition that began in the Hebrew scriptures themselves. The author considers himself very much in the line of the priests and prophets of Israel and can therefore transmit the authoritative words delivered to Moses at Sinai in a way that, to our way of thinking, goes well beyond the underlying biblical text.

While “pseudepigraphon” may be an inadequate or misleading description of *Jubilees*, ascertaining the proper genre of the book has proven elusive, even if the writing is assumed to be a unified composition.² It is tempting to call *Jubilees* an “apocalypse” because the reception of a revelation through angelic mediation, as well as other characteristics of the book (e.g., the review and preview of human history from *Urzeit* to *Endzeit*),³ conform to what modern scholars have described as the genre of “apocalypse.” Here again, however, we must be cautious. “Apocalypse” is not an ancient genre classification, and modern checklists of what constitutes an “apocalypse” vary from one to another, although there has been an effort in recent years to impose some uniformity on the discussion.⁴ Moreover, of the 50 chapters in the *Book of Jubilees*, only chapters 1 and 23 display the distinctive characteristics of an “apocalypse” by any description; the rest of the material is largely narrative, relating especially to the alleged origins of Israel’s laws and festivals, often with a particular sectarian twist. In any case, we can say that *Jubilees* is apocalyptically oriented.

For *Jubilees*, the laws and festivals of Israel originated not when Moses received the revelation on Mt. Sinai, but rather at various times and places before Sinai, with Enoch – the auspicious seventh son of Adam who, according to Gen 5:22, “walked with God” (or, according to *Jub.* 4:21, “was with God’s angels”) – playing a key role in the transmission of divine revelation in the antediluvian period and beyond.⁵ Therefore, what Moses received on Mt. Sinai was a reiteration of the law.⁶ The question of whether *Jubilees* intends thereby to relativize the Mosaic legislation in favor of the Enochic tradition (or vice versa) has been a subject of controversy among scholars.

Jubilees’ tendency to antedate events pertains not only to laws and festivals, but also to the traditional land of Israel itself. For *Jubilees*, the land rightfully belonged to Israel long before they conquered it from the Canaanites under Joshua. As we shall see, Noah had effectively already parceled it out to them after the Flood.⁷ Hence, when Israel was redeemed from slavery in Egypt at the time of the exodus and was later rejoined to their land at the time of the conquest, *Jubilees* sees this twofold event as the biblical law of jubilees (that is, the requirement in the year of jubilee or 49th year to release individual Hebrew slaves within the land and to restore inherited property to its original owner [Lev 25:25–55]) applied on an international scale at the jubilee of jubilees (that is, $(49 \times 49) + 49$ years = 2401–2450 AM).⁸

With this brief overview of the book, it is possible now to turn to the issues at hand: geography, ethnography, and perceptions of the world in the *Book of Jubilees*. In the following, we shall examine the relevant sources of the book; the temporal and spatial axes of the book; and the geography and ethnography of the book.

Sources of the *Book of Jubilees*

For purposes of the present discussion, the most relevant sources of the book are the primeval history of Genesis (i.e., Genesis 1–11); the Enochic tradition (esp. the *Book of the Watchers*); and the *Genesis Apocryphon*.⁹

The primeval history of Genesis

Since, as noted above, *Jubilees* appropriates and adapts Genesis 1–Exodus 24 for its own surface narrative, we should briefly consider the nature of that portion of the Torah. Particularly important for our purposes is the primeval history (Genesis 1–11), which lays out the fundamentals of the creative order in order to contextualize the story of Israel that follows, beginning in Genesis 12. In effect, the primeval history places Israel within a universal frame of reference that is cosmic in scope with respect to the vertical axis and international in scope with respect to the horizontal axis. The genealogies interspersed throughout the narrative act as a way of marking off time (the temporal axis), since they typically give the age of the patriarchs when they procreated and when they died.

The Table of Nations in Genesis 10 is signally important for our discussion of world geography in *Jubilees*. Situated between the genealogical notice of Noah’s death (Gen 9:28–29) and the Tower of Babel story (Gen 11:1–9), the Table of Nations is presented as a genealogy of the sons of Noah to whom children were born after the Flood. Together with the story of the Tower of Babel, Genesis 10 marks the end of the primeval history (Genesis 1–11) and the transition to the patriarchal history (Genesis 12–50), which is set against the background of a world filled with nations.

Structurally, the table proceeds from Japheth (10:2–5) to Ham (vv. 6–20) and then to Shem (vv. 21–31), although the sons’ names appear in reverse order (Shem–Ham–Japheth) in the opening verse (v. 1). Thus, Shem, being the most important son of Noah and the progenitor of the Israelites, both begins and ends the list.

Genesis 10 includes within the genealogy several pieces of geographical information. The first geographical detail is found in the summaries at the end of each of the three sections and also at the end of the whole chapter.

Japheth (v. 5): “From these the coastland peoples spread. These are the descendants of Japheth in their lands, with their own language, by their families, in their nations.”

Ham (v. 20): “These are the descendants of Ham, by their families, their languages, their lands, and their nations.”

Shem (v. 31): “These are the descendants of Shem, by their families, their languages, their lands, and their nations.”

All-encompassing Summary (v. 32): “These are the families of Noah’s sons, according to their genealogies, in their nations; and from these the nations spread abroad on the earth after the flood.”

These summaries reflect a consciousness of “their lands” that will be highly influential in the subsequent tradition, because the established order as set forth in the

Table of Nations was commonly thought to persist through the subsequent ages. Nevertheless, because the exact boundaries of these ethnic territories are, for the most part, not specified, they invited geographical speculation and allowed revision in the course of time.

The second geographical detail occurs in Gen 10:18–19, where the actual boundaries of one specific ethnic territory are mentioned: “Afterward the families of the Canaanites spread abroad. And the territory of the Canaanites extended from Sidon, in the direction of Gerar, as far as Gaza, and in the direction of Sodom, Gomorrah, Admah, and Seboiim, as far as Lasha.” The legitimacy of the Canaanites’ territory was a contentious issue in later Jewish thinking, as *Jubilees* itself makes clear. Moreover, the boundaries of the Canaanites’ land were not considered the full extent of the Israelites’ territory (see further below).¹⁰

The third geographical detail is found in Gen 10:25, which states that Peleg was so called “because in his days the earth was divided,” where the verb “divided” comes from the Hebrew root *p-l-g*. The passive voice of the verb leaves open how the earth was divided and by whom (God or Noah?). Subsequent tradition will seek to clarify these points (see below on the role of Noah in *Jubilees* 8–9).

Finally, Gen 10:30 gives the borders for Joktan and his sons: “The territory in which they lived extended from Mesha in the direction of Sephar, the hill country of the east.” Insofar as Joktan is a descendant of Shem, and the Table of Nations describes more degrees of Shem’s descendants than for any of the other sons of Noah, it is not surprising to see this geographical detail added to the genealogy. However, Joktan is not the line through which the Israelites will eventually come; that distinction belongs to Joktan’s brother, Peleg.

The Enochic tradition

As we have seen, *Jubilees* credits Enoch with having received revelation that is foundational to the book (see *Jub.* 4:17–26). Therefore, when assessing *Jubilees*’ sources, we must consider the early Enochic tradition as possible source material. Already in the latter half of the third century BCE, writings began to emerge that were allegedly written by Enoch and that are now collectively called *1 Enoch*.¹¹ For the purposes of the present study, we will restrict our discussion to one of the earliest of these writings, the “Book of the Watchers” (*1 Enoch* 1–36), which includes extensive information about world geography in the course of its narrative.

Kelley Bautch has examined how the various sites described in *1 Enoch* 17–19 stand in relationship to one another; she has even attempted a graphic reconstruction of the mental map of Enoch’s world (2003: 159–274; see my review: Scott 2005b). Given the many uncertainties of the text’s interpretation, constructing even a schematic map of *1 Enoch* 17–19 seems a formidable, if not impossible, challenge (see Bautch 2003: 160). One notices immediately that the placement of Zion in

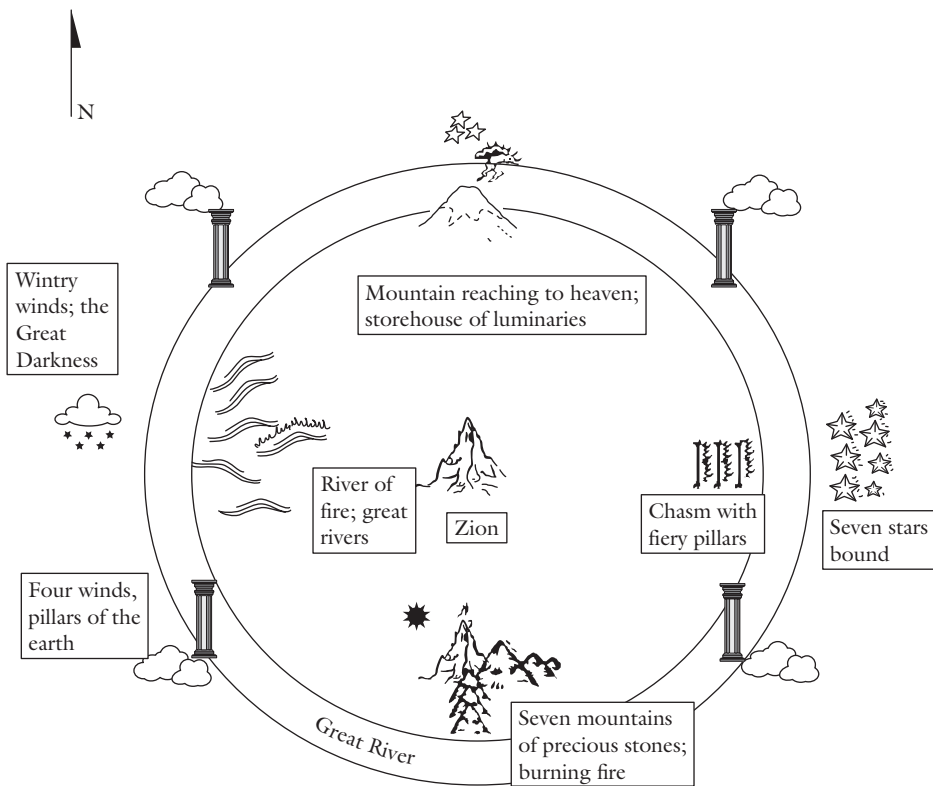


Figure 12.1 Map of *1 Enoch* 17–19. Kelly Coblentz Bautch, *A Study of the Geography of 1 Enoch 17–19: “No One Has Seen What I Have Seen”* (Supplements to the *Journal for the Study of Judaism* 81; Leiden: Brill, 2003) 185

the center of a disk-shaped earth (see Figure 12.1) cannot be supported from the text, because Zion does not figure at all in *1 Enoch* 17–19. Nevertheless, assuming that the text presupposes the earth to be indeed disk-shaped,¹² it is plausible to suggest a generally counterclockwise progression to Enoch’s journey. It begins perhaps in the North (Mt. Hermon [17:2]?), proceeds along the perimeter of the earth, past, for example, “the great sea of [the] west” (the Mediterranean [17:5]?) and the mountain (in the South?) that “reached to the sky like the throne of God” (Mt. Sinai [18:8]?), and comes finally to the prisons of the disobedient angels and stars, located presumably in the far East. One notices, however, that identifying the two mountains at the northern and southern extremities of the earth as Mt. Hermon and Mt. Sinai, respectively, results in an unusually compressed earth along the north-south axis.

If, as seems likely, *1 Enoch* 17–19 describes Enoch’s eyewitness account of his circuit of the earth, we may gain an important clue to the literary form of the text as a whole. Contrary to Bautch’s classification of the text as an apocalypse and a *nekyia* (a “visit to the Underworld”), I would suggest that, seen as a whole,

I Enoch 17–19 is an example of the well-established *periodos gēs* or “around-the-earth journey” literature. As James Romm explains, the *periodos gēs* offered ancient audiences a pleasingly synoptic view of the earth’s circuit, embellished with curious details of its most exotic phenomena (Romm 2002: 26–31; see also Romm, Cole, this volume). This is precisely what *I Enoch* 17–19 seems to do. Moreover, the emphasis on Enoch’s personal observation of these phenomena (note the refrain, “[And] I saw . . .”) feeds right into this particular literary form, for the convention of *autopsia* (“seeing with one’s own eyes”) almost always occurs in connection with the verification of information from or about distant *places* (Romm 1989: 97–113; Alexander 1993: 34–41).

The Genesis Apocryphon (IQapGen)

Another Jewish writing that *Jubilees* might have used as a source is the *Genesis Apocryphon*, a fragmentary text that was found among the seven major scrolls from Cave 1 at Qumran and that constitutes an Aramaic paraphrase of stories in the biblical book of Genesis (trans. Fitzmyer 2004). The *Genesis Apocryphon* narrates in expanded form the story of two biblical patriarchs: Noah (cols. 0–17?) and Abram (cols. 18?–22).

The first passage of particular interest for our purposes is the division of the earth among the sons of Noah after the Flood (IQapGen 16–17).¹³ Although the relevant two columns are poorly preserved, their contents can be deduced to a certain degree by comparing them to the very similar account in *Jubilees* 8–9. Like *Jubilees* 8, IQapGen 16 must have originally contained a description of the division of the world among the three sons of Noah, giving the geographical boundaries in each portion.¹⁴ By the same token, col. 17 must have given a description of the division of the portions of Shem, Ham, and Japheth among their sons much like that in *Jubilees* 9.¹⁵ Within the extant text, we find many of the same physical features as in *Jubilees*: the Great Sea (= the Mediterranean), the rivers Tina (= Tanais, i.e., the Don) and Tigris, and probably also the Mount of the Ox (Taurus mountains). We also find the same ethnography based on the Table of Nations in Genesis 10: Asshur, Arpachshad, Aram, Gomer, and Magog. Finally, we find the same basic order of presentation as in *Jubilees*, replete with similar directional indicators (“until it reaches,” “to the west,” and so on).

Esther Eshel argues that the conception of the world in the *Genesis Apocryphon* is based in part on an updated version of the sixth-century-BCE Ionian world map; it was enhanced by Dicaearchus’ division of the world by a median (*diaphragma*) running through the Pillars of Hercules (the Straits of Gibraltar), the Taurus mountains, and the Himalayas.¹⁶ Eshel argues further that since “the Sea of the East” (17.10) is to be identified with the Sea of Azov (a northern section of the Black Sea), the *Genesis Apocryphon* reflects the original Ionian world map, which placed Delphi at the center. For only someone using Greece as a point of reference could refer to the Sea of Azov as “the Sea of the East.”

Another passage that is of particular interest for us here is Abram's exploration of the enormous extent of the promised land by means of a giant circumambulation along its physical boundaries (1QapGen 21.15–19). Abram went from Bethel, where he was living, to explore the land that God in a dream promised to give him and his posterity. God had instructed Abram to climb up to Ramath-Hazor, north of Bethel, to the highest spot in the Judean mountains, from which he would gaze to the east, west, south, and north (21.9). Abram did that on the day following his dream and gazed from the River of Egypt (the Nile) to Mount Lebanon and Senir (Mount Hermon), from the Great Sea (the Mediterranean) to Hauran (the plateau between the Pharpar and Yarmuk Rivers), at all the land of Gebal (Seir) as far as Kadesh, and at all the Great Desert (Syrian Desert) to the east of the Hauran and Senir as far as the Euphrates (21.10–12). God told Abram to travel through this area, which he proceeded to do. According to 1QapGen 21.15–19, Abram started at the Gihon River (part of the Nile), moved along the (Mediterranean) Sea to the Mount of the Ox, then from the Great Sea to the Euphrates River, then down along the Euphrates to the Red Sea (Persian Gulf and Indian Ocean), then along the Red Sea to the tongue of the Reed Sea (tongue-shaped Gulf of Suez), then back to the Gihon River, where he started.¹⁷

Temporal and Spatial Axes of the *Book of Jubilees*

Like the underlying primeval history of Genesis, the *Book of Jubilees* has temporal and spatial axes (Scott 2005a; see also Frey 1997). As I have argued elsewhere, *Jubilees* affirms a rigorous temporal symmetry in the sense of recapitulation. All human history from creation to new creation is foreordained by God and inscribed in the heavenly tablets which, in turn, are revealed through angelic mediation to Moses on Mt. Sinai, just as they were revealed to Enoch before him. In this presentation, historical patterns are adduced to confirm providence over earthly events. A striking example is found in the correspondence between *Endzeit* and *Urzeit*. In *Jubilees*, as in other apocalyptic literature, God intends the world ultimately to conform to his original intention for the creation.

Jubilees also affirms spatial symmetry between heaven and earth. If the goal of history in the book is reversion to God's original intention for his creation, especially with respect to the religious practice (*cultus*), then we must also notice that the way things will be on earth is the way things are and always have been in heaven. The goal of history, in other words, is that the *cultus* will eventually be on earth as in heaven.

In *Jubilees*, recapitulation includes both universal and particular aspects that are integrally interrelated. In keeping with its view of sacred time – a comprehensive chronological framework which is rooted in the creative order itself – *Jubilees* necessarily contains a complementary vision of sacred space, including the whole created world and especially the holiest sites, Zion and the Land of Israel, which will occupy the focal point in the age to come. All times and places will eventually

be brought back into conformity with the Creator's will as foreordained in the heavenly tablets (cf. *Jub.* 1:26–29), and blessing will radiate out from Zion to the rest of the world.

Geography and Ethnography in the *Book of Jubilees*

Until the time of the expected restoration, the creative order is disturbed; it has not yet been brought back into conformity with God's original intention. Although imperialistic nations have repeatedly violated the territorial boundaries that have been established for them since the time of Noah, this situation too will be rectified at the time of the restoration of all things.

Jubilees 8:11–9:15 consists of two interrelated parts that are based on Genesis 10 but go well beyond the biblical text. In the first part (*Jub.* 8:11–30), Noah divides the earth by lot among his three sons – Shem, Ham, and Japheth. This is the same order as they are at first listed in Gen 10:1, that is, the order of their priority (and primogeniture). The idea that Noah divided the earth among his sons does not occur in the underlying text of Genesis. Indeed, the Table of Nations comes directly after the notice that Noah died (Gen 9:29) and seems to introduce a separate section (“This is the account of Shem, Ham and Japheth, Noah's sons, who themselves had sons after the flood” [10:1]). In the second part (*Jub.* 9:1–15), Noah's sons, still in the presence of their father, subdivide their portions among their own sons, according to the order Ham, Shem, and Japheth, that is, from south to north. As a result the whole world is covered twice, first by the three major lines of demarcation and then by the smaller subdivisions. Whereas the original Table of Nations in Genesis 10 contains merely a list of Noah's descendants in which his grandsons appear directly after the listing of each son, *Jubilees* 8–9 contains separate sections for the sons and grandsons and provides explicit geographical boundaries between them (see Figure 12.2). The procedure in *Jubilees* is thus more akin to the famous geographic work of Dionysius Periegetes of Alexandria, *Periēgēsis tēs oikoumenēs* (“Geographical Description of the Inhabited World”), written during the reign of Hadrian (117–38 CE), which first outlines the world by continents (Africa/Libya, Europe, Asia [line 9]) and then subdivides the continents by tracing lines according to their major geographical landmarks and noting the nations along the way (lines 170–1165; see Brodersen 1994: 17–19, 120–2). *Jubilees* 8–9 and Dionysius' work have many other points in common too. It may be that *Jubilees* is adapting the *periēgēsis* tradition of geographical description, to which, for example, Hecataeus of Miletus and Strabo of Amaseia also contribute.

The first section of the *Jubilees* account begins in 8:11 by setting the scene: “When he [sc. Noah] summoned his children, they came to him – they and their children. He divided the earth into lots that his three sons would occupy. They reached out their hands and took the book from the bosom of their father Noah.” The mention of a “book” of Noah is important, for the whole rest of chapters

Image not available in the electronic edition

Figure 12.2 *Jubilees'* mappa mundi

8–9 goes on to describe the lots contained in that book. Thus, beginning with Shem, we read: “In the book there emerged as Shem’s lot the center of the earth . . .” (*Jub.* 8:12). Unlike “the book of the words of Noah” to which 1QapGen v.29 refers, the “book” in *Jub.* 8:11–12 does not record Noah’s autobiography, but rather a title deed drawn up by Noah for distributing land among his sons which is analogous to the distribution of the promised land by “lots” among the twelve tribes of Israel.¹⁸

From this “book” of Noah, it becomes clear that Shem receives the most favorable portion in the temperate “center of the earth” (*Jub.* 8:12–21), with Mt. Zion “in the middle of the navel of the earth” (v. 19);¹⁹ Ham receives the hot southern portion (vv. 22–24); and Japheth receives the cold northern portion (vv. 25–30). This division follows the Greek geographical model of *klimata* or “zones of the world,” ranging from torrid to arctic, with the temperate climate in between. According to Strabo (2.3.1), Posidonius (c. 135–51 BCE) also represented zones by “ethnic distinctions”: “the Ethiopic zone,” “the Scythian-Celtic zone,” and “the intermediate zone.”

Shem’s strategic allotment in the temperate center of the earth may have been understood in geopolitical terms. Vitruvius (early Augustan period), for example, unhesitatingly relocates the center of the world from Greece (*De architectura* 6.1.6),

where it was earlier set by the Greeks, to Rome (6.1.10), where it serves once again as a justification for rule: "And so by its policy, Rome curbs the courage of the Northern barbarians, by its strength the imaginative South. Thus the Divine Mind has allotted to the Roman State an excellent and temperate region to rule the world." Vitruvius' contemporary Strabo (6.4.1) has a similar conception of Rome: "being in the middle . . . and through its superiority in courage and size . . . it is naturally suited to hegemony." Likewise, the *Book of Jubilees* clearly expects the descendants of Shem to rule the world from their privileged position in the center of the earth. Thus, in *Jub.* 22:11–14, Abraham (sic!) blesses Jacob with the words: "May my son Jacob and all his sons be blessed to the most high Lord throughout all ages. May the Lord give you righteous descendants, and may he sanctify some of your sons *in the midst of all the earth. May the nations serve you, and may all the nations bow down before your descendants. Be strong before people and continue to exercise power among all of Seth's descendants.* [. . .] May he strengthen you and bless you; may you *possess the entire earth.*" We find similar expressions of universal sovereignty for Jacob's descendants in *Jub.* 19:21–22 and 32:18–19. The fact that all four holy places in the *Book of Jubilees* (i.e., the Garden of Eden, Mt. Sinai, Mt. Zion, and the Mountain of the East) are located in Shem's territory further underscores its privileged position. Since the first three of these were created as holy places "facing each other" (*Jub.* 8:19), the result is to create two medians that intersect at Zion: an east-west median running through the Garden of Eden and the Straits of Gibraltar, and a north-south median running through Mt. Zion and Mt. Sinai.

If, as in the *Genesis Apocryphon*, the Ionian world map provided the framework of *Jubilees'* *imago mundi* (image of the world), then the author substituted scriptural geographical details for Greek ones. For example, Zion was made the *omphalos* (navel) of the earth instead of Delphi, and the three sons of Noah were named instead of the three Ionian continents (Europe, Asia, and Libya [= Africa]; Alexander 1982: 199). In *Jub.* 8:19, the notion of Jerusalem as the *omphalos* of the earth goes back to Ezek 38:12 (cf. 5:5).²⁰ Although Philip Alexander has argued that the earliest clear reference to Jerusalem as *omphalos* occurs in *Jubilees* 8 (1997: 147; 1999: 104), it is nevertheless probable that the author of *Jubilees* (or his source) interpreted Ezek 38:12 in this way. For the Ezekiel text is set within a passage that looks forward to the defeat of hostile, intruding nations and their judgment by fire (Ezek 38:1–39:29), and this is precisely the emphasis of *Jubilees* 8–10 (cf. 9:15). Alexander argues further that *Jubilees* is a politically motivated Hasmonean document: as such, it contrasts Jerusalem to Delphi, makes Greek influence in the East illegitimate, and justifies Hasmonean expansion (1997: 149–51; 1999: 105–7).

Jubilees describes the geographical extent of the allotted portions and the natural physical boundaries between them in great detail, following a circular path in each case. The descriptions of the territories of Shem and Japheth make a counterclockwise circuit beginning at the source of the Tina River; and the description of Ham's territory makes a clockwise circuit beginning at a place beyond the Gihon River, to the right (south) of the Garden of Eden. Each

description ends with a formula indicating that the portion allotted to that son became a possession to him and his descendants “forever” (vv. 17, 24, 29).

The second section of the *Jubilees* account describes the further subdivision of the earth among the sons of Ham (9:1), Shem (vv. 2–6), and Japheth (vv. 7–13). Again, the natural boundaries of the portions are set out. At the conclusion of the process, Noah compels his sons and grandsons in vv. 14–15 to “swear by oath to curse each and every one who wanted to occupy the share that did not emerge by his lot. All of them said: ‘So be it!’ So be it for them and their children until eternity during their generations until the day of judgment on which the Lord God will punish them with the sword and fire because of all the evil of their errors by which they have filled the earth with wickedness, impurity, fornication, and sin.” This oath gives *Jubilees* 8–9 an apocalyptic orientation. Here there seems to be a connection between violation of territorial boundaries and the future divine judgment by sword and fire. In that case, imperialistic nations such as the Greco-Macedonians (Seleucids) and later Romans would be particularly subject to the coming judgment. Indeed, *Jub.* 23:30 claims that the time of peace will arrive when foreign enemies are finally expelled.

Conclusion

The foregoing discussion shows that the *Book of Jubilees* has much to offer students of ancient geographical conceptions. For *Jubilees*, world geography is integrally related to Jewish self-identity vis-à-vis other peoples and places; cultic symmetry between heaven and earth; and a deterministic worldview, whereby the divine plan engraved on the heavenly tablets foreordains the course of everything from creation to new creation.

The history of the influence of the *Jubilees* tradition also deserves attention, although we could not discuss it here. According to Philip Alexander, “the Jubilees world map has the distinction of being the earliest attested example of the *imago mundi* which predominated in Christian circles right down through the patristic and mediaeval periods down almost to the time of Christopher Columbus” (1982: 212–13). Although one can quibble about whether the *Genesis Apocryphon* was actually the earliest witness to this *imago mundi*, nevertheless a case can be made that the *Jubilees* 8–9 tradition was preserved in apocalyptically oriented Christian circles from the time of the New Testament and for centuries thereafter, and that it may have influenced some of the medieval *mappae mundi* (Scott 2002: 159–70).

Notes

- 1 For a translation of the *Book of Jubilees*, see VanderKam 1989 (used in this chapter). For a convenient introduction to the text, see VanderKam 2001; for several aspects of the geography of *Jubilees*, see also Silverstein, this vol.

- 2 Scholars have long thought of *Jubilees* as an essentially unified composition, but increasingly the book is considered to be a patchwork of imperfectly redacted source material. The jury is still out on this fundamental question. See, most recently, VanderKam 2007, who supports the unity of the book.
- 3 Cf. *Jub.* 1:27: Moses is told everything “from the beginning of creation till my sanctuary has been built among them for eternity.”
- 4 One of the more widely accepted descriptions of the literary genre “apocalypse” is that of Collins (1979: 9): “‘Apocalypse’ is a genre of revelatory literature with a narrative framework, in which a revelation is mediated by an otherworldly being to a human recipient, disclosing a transcendent reality which is both temporal, insofar as it envisages eschatological salvation, and spatial insofar as it involves another, supernatural world.”
- 5 Enoch’s high-priestly role in offering incense in the Garden of Eden, which is considered a “holy of holies” in the *Book of Jubilees* (8:19), sets up a trajectory from the time of the flood to the end time (*eschaton*), when the world will be renewed. See *Jub.* 4:23–26: “He [sc. Enoch] was taken from human society, and we [sc. the angels] led him into the Garden of Eden for (his) greatness and honor. Now he is there writing down the judgment and condemnation of the world and all the wickedness of mankind. (24) Because of him the flood water did not come on any of the land of Eden because he was placed there as a sign and to testify against all people in order to tell all the deeds of history until the day of judgment. (25) He burned the evening incense of the sanctuary which is acceptable before the Lord on the mountain of incense. (26) For there are four places on earth that belong to the Lord: the Garden of Eden, the mountain of the east, this mountain on which you [sc. Moses] are today [Mt. Sinai], and Mt. Zion (which) will be sanctified in the new creation for the sanctification of the earth. For this reason the earth will be sanctified from all its sins and from its uncleanness into the history of eternity.”
- 6 Cf., e.g., *Jub.* 6:15–19, which claims that the festival of weeks was instituted not at Sinai (cf. Exod 23:16, 34:22), but rather in 1309 AM (on this abbreviation, see note 8 below), when God made a covenant with Noah: “He [sc. God] gave Noah and his sons a sign that there would not again be a flood on the earth. (16) He put his bow in the clouds as a sign of the eternal covenant that there would not henceforth be flood waters on the earth for the purpose of destroying it throughout all the days of the earth. (17) For this reason it has been ordained and written on the heavenly tablets that they would celebrate the festival of weeks during this month – once a year – to renew the covenant each and every year. (18) The entire festival had been celebrated in heaven from the time of creation until the lifetime of Noah – for 26 jubilees and five weeks of years [(26 × 49) + (5 × 7) = 1309 AM]. Then Noah and his sons kept it for seven jubilees and one week of years until Noah’s death [= 350 years]. From the day of Noah’s death his sons corrupted (it) until Abraham’s lifetime and were eating blood. (19) Abraham alone kept (it), and his sons Isaac and Jacob kept it until your [sc. Moses’] lifetime. During your lifetime the Israelites had forgotten (it) until I renewed (it) for them at this mountain [i.e., Mt. Sinai].” The awkward system of dating in terms of “jubilees” (a 49-year period), “weeks” (a seven-year period), and years (a 364-day period) that we see in this passage is characteristic throughout the *Book of Jubilees* and reflects the desire to date important cultic events according to the various cycles of the sun from the creation of the sun in the middle of the first week

(day 4). The moon plays no role in the *Jubilees* calendar, which constitutes a point of major contention with other contemporary Jewish groups and the wider Hellenistic world. Cf. *Jub.* 6:36–37: “There will be people who carefully observe the moon with lunar observations because it is corrupt (with respect to) the seasons and is early from year to year by ten days. (37) Therefore years will come about for them when they will disturb (the year) and make a day of testimony something worthless and a profane day a festival. Everyone will join together both holy days with the profane and the profane day with the holy day, for they will err regarding the months, the Sabbaths, the festivals, and the jubilee.”

- 7 *Jub.* 10:27–34, which makes clear that the land that rightfully belonged to Israel was called “the land of Canaan” only after Canaan violated the territorial boundaries that had been established by lot (i.e., divinely ordained) under Noah.
- 8 The abbreviation AM (Lat., *anno mundi*, “in the year of the world”) refers to the year in which an event occurs, dating it from the creation of the world in accordance with *Jubilees*’ reckoning of the chronology.
- 9 For a helpful overview that complements the material in this section, see Alexander 1992.
- 10 For different conceptions of the boundaries of the land of Israel already within the Torah, see, e.g., Gen 15:18–21 and Num 34:3–12.
- 11 For a translation (used in this chapter) and convenient introduction to these texts, see Nickelsburg and VanderKam 2004. For an exhaustive commentary on *1 Enoch*, see Nickelsburg 2001.
- 12 The only evidence for this is the interpretation of “the great river” [17:6] as the world-encircling Ocean.
- 13 See Scott 1995: 29–33, which includes a comparison with the division of the earth among the sons of Noah in *Jubilees* 8–9.
- 14 The extant text reads as follows: “(8) []. [] [] it reaches [] (9) the gulf which is between them, the head at a spring (?) as far as the T[i]na River, and ... spring(?) (10) all the land of the north until it reaches *L*... (11) [and] this boundary crosses the waters of the Great Sea until it reaches Ga[di]r. (12) He apportioned by lot for Japheth and for his sons to inherit as an everlasting inheritance. (13) (*vacat*) (14) [And] there came forth the second lot for Shem, for him and for his sons to inherit [as an ever]l[asting inheritance] (15) [] ... there w[e]nt forth the water of the Tina River[]..[] (16) as far as the Tina River*l ...m* (17) [to] the Great Salt Sea. And this boundary runs as a spring(?) from this gulf wh[ich (18) []’ [and] the boun[d]ary go[es?], which turns westward and crosses .[(19) [] until it reaches *l^c..... l.....wn* (20) ... [].....*n* [] to the east []”
- 15 The text reads: “(7) [And] Shem divided his [po]rtion among his sons. There fell first to [E]la[m] in the north (an area) alongside of the waters of the Tigris River until it reaches the R[e]d [S]ea, (8) as its source, which is in the north; and it tu[r]ns to the west, to Asshur, until it reaches the Tigris. After him, (9) to Aram (there fell) the land that is between the two rivers, until it reaches the peak of the m[ountains of Asshur] .*bq.b* *’rrb l.t* (10) (where) falls this Mount Taurus, and the portion crosses and goes westward until it reaches Magog and *l.l*..... and the sea of the east (11) in the [n]orth, which embraces this gulf, which is at the head of the three portions alongside of this sea. (There fell) to Arpachshad. (12) the

[boundar]y that turns to the south, all the land that the Euphrates waters, and all[] (13) ... all the valleys and the plains that are between them, and the island that is in the midst of the gulf[] (14) to the sons of Gomer and Amana, until it reaches the Euphra[tes] ...*m* ... [] .*q*' (15) ... the portion which Noah, his father, divided for him and gave to him. (*vacat*) (16) [And] Japheth divided among his sons. First he gave to Gomer (an area) in the north until it reaches the River Tina; and after him to Magog; and after him (17) to Madai; and after him to Javan all the islands that are near Lud and between the gulf [which] is ne[ar] Lud; and [the se]cond gul[f to Tubal, [which] crosses (18) [] on the land; and to Meshech the sea of ... []/ [and] to Tiras ... the [f]lour *ly* a tongue(?) in the midst (19) [of the sea which is alongside the por]tion of the sons of Ham ... []..*l*' (*vacat*)"

- 16 Eshel 2007. Philip Alexander (1982: 197–213) had earlier argued that just such a conception influenced *Jubilees*. However, if *Jubilees* does appropriate the Ionian world map, then the latter's geographical conceptions have been fundamentally altered. See Frey 1997: 280–1.
- 17 The text reads as follows: "So I, Abram, went to go around and look at the land. I started going about from the Gihon River and moved along the Sea, until (16) I reached Mount Taurus. I journeyed from [the coast] of this Great Salt Sea and moved along Mount Taurus toward the east through the breadth of the land, (17) until I reached the Euphrates River. I traveled along the Euphrates, until I came to the Red Sea in the east. (Then) I moved along (18) the Red Sea, until I reached the tongue of the Reed Sea, which goes forth from the Red Sea. (From there) I journeyed toward the south, until I reached the Gihon (19) River."
- 18 Cf. Num 26:55–56, 34:13; Josh 14:2, 15:1, 17:4, 18:6, 8–9, 10, 19:51.
- 19 *Jub.* 8:19 reads in full: "He [sc. Noah] knew that the Garden of Eden is the holy of holies and is the residence of the Lord; (that) Mt. Sinai is in the middle of the desert; and (that) Mt. Zion is in the middle of the navel of the earth. The three of them – the one facing the other – were created as holy (places)."
- 20 See also *1 Enoch* 26:1–2: "And from there I [sc. Enoch] proceeded to the center of the earth, and I saw a blessed place where there were trees that had branches that abide and sprout. (2) And there I saw a holy mountain."

References

- Alexander, L. 1993. *The Preface to Luke's Gospel: Literary Convention and Social Context in Luke 1.1–4 and Acts 1.1*. Cambridge.
- Alexander, P. S. 1982. "Notes on the 'Imago Mundi' of the Book of Jubilees." *Journal of Jewish Studies* 33: 197–213.
- Alexander, P. S. 1992. "Geography and the Bible (Early Jewish Geography)." In D. N. Freedman (ed.), *The Anchor Bible Dictionary*, II: 977–88. New York.
- Alexander, P. S. 1997. "Jerusalem as the Omphalos of the World: On the History of a Geographical Concept." *Judaism* 46: 147–58.
- Alexander, P. S. 1999. "Jerusalem as the Omphalos of the World: On the History of a Geographical Concept." In L. I. Levine (ed.), *Jerusalem: Its Sanctity and Centrality to Judaism, Christianity, and Islam*, 104–19. New York.
- Bautch, K. C. 2003. *A Study of the Geography of 1 Enoch 17–19: "No One Has Seen What I Have Seen."* Leiden.

- Brodersen, Kai (ed.). 1994. *Dionysios von Alexandria, Das Lied von der Welt*. Hildesheim.
- Collins, J. J. 1979. *Apocalypse: Morphology of a Genre*. Missoula.
- Eshel, E. 2007. "The *Imago Mundi* of the *Genesis Apocryphon*." In L. LiDonnici and A. Lieber (eds.), *Heavenly Tablets: Interpretation, Identity and Tradition in Ancient Judaism*, 111–32. Leiden.
- Fitzmyer, J. A. 2004. *The Genesis Apocryphon of Qumran Cave 1 (1Q20): A Commentary*. 3rd edn. Rome.
- Frey, J. 1997. "Zum Weltbild im Jubiläenbuch." In M. Albani, J. Frey, and A. Lange (eds.), *Studies in the Book of Jubilees*, 261–92. Tübingen.
- Nickelsburg, G. W. E. 2001. *1 Enoch 1: A Commentary on the Book of 1 Enoch, Chapters 1–36; 81–108*. Hermenia. Minneapolis.
- Nickelsburg, G. W. E., and J. C. VanderKam. 2004. *1 Enoch: A New Translation Based on the Hermenia Commentary*. Minneapolis.
- Romm, J. S. 1989. "Herodotus and Mythic Geography: The Case of the Hyperboreans." *Transactions of the American Philological Association* 119: 97–113.
- Romm, J. S. 2002. *The Edges of the Earth in Ancient Thought: Geography, Exploration, and Fiction*. Princeton.
- Scott, J. M. 1995. *Paul and the Nations: The Old Testament and Jewish Background of Paul's Mission to the Nations with Special Reference to the Destination of Galatians*. Tübingen.
- Scott, J. M. 2002. *Geography in Early Judaism and Christianity: The Book of Jubilees*. Cambridge.
- Scott, J. M. 2005a. *On Earth as in Heaven: The Restoration of Sacred Time and Sacred Space in the Book of Jubilees*. Leiden.
- Scott, J. M. 2005b. Review of K. C. Bautch, *A Study of the Geography of 1 Enoch 17–19: "No One Has Seen What I Have Seen."* *Review of Biblical Literature* 3 (2005). [<http://www.bookreviews.org/bookdetail.asp?TitleId=4367&CodePage=4367,3977>]
- VanderKam, J. C. 1989. *The Book of Jubilees*. Louvain.
- VanderKam, J. C. 2001. *The Book of Jubilees*. Sheffield.
- VanderKam, J. C. 2007. "The End of the Matter? Jubilees 50:6–13 and the Unity of the Book." In L. LiDonnici and A. Lieber (eds.), *Heavenly Tablets: Interpretation, Identity and Tradition in Ancient Judaism*, 267–84. Leiden.

“I Know the Number of the Sand and the Measure of the Sea”: Geography and Difference in the Early Greek World

SUSAN GUETTEL COLE

Our Disabilities

Early Greek writers did not distinguish mythical space from the real world.¹ The gods were always available; myths about divinities were tied to specific locations; and sanctuaries were maintained with the expectation of divine presence. There was no orthodox cosmology, and even in the early classical period accurate knowledge of lands located inland from the Greek Mediterranean was still limited. Poets, philosophers, and historians all shared an interest in describing the world, but there was no traditional vocabulary for discussing geographical space. Although early Greeks were intrepid travelers, most of their travel was by sea, and they rarely ventured very far inland from the shore. Finally, our evidence for early Greek geography is haphazardly preserved, coming to us in fragments of poetry, mythology, and philosophical theory, quoted without context by later commentators, geographers, or historians. Because precise information about the reception of ancient geographical speculation and theory is scarce, we can never be confident that what is preserved reflects general consensus. There are, however, some strong indications of early geographic consciousness.

The Shield of Achilles

For the Greeks (Hellenes) the human landscape was a divided one. This was already clear in the earliest extended description of human space in Greek literature, contained in the poetic *ekphrasis* on Achilles' shield in the *Iliad* (18.483–607).² The poet describes the natural world first: Earth, Sky, Sea, Sun, Moon, and

Ocean, each in their appropriate place. The gods, recognizable only by their greater size, appear together with humans. On the shield there are two cities, one at peace, the other at war. For the city in danger, the defensive wall is the most important feature for the poet to describe. In the city at peace, the *agora*, the public space reserved for the activities of males engaged in politics or exchange, catches his attention. Here, the town is separated from its countryside. In the country itself the land is divided into field, vineyard, pasture for cattle, meadow for sheep, and dancing floor for the young women and men of the community. The landscape itself is alive with human activity. We can marvel at the complexity of the scenes depicted, with details like the shepherds playing their pipes unaware of an impending ambush, or the stone benches in the *agora* polished smooth by the elders who sit there to deliberate about the settlement of local disputes. The description of the two cities ends where it began, in ring composition, with *Okeanos*, the ocean-river, flowing around the outermost rim of the shield and marking the edge of the world. The poet imagines these scenes as if from a bird's eye view. The poetry opens our eyes to the complex activities of human spaces while at the same time situating those spaces in their natural context. We see the scene as if we were looking simultaneously through both a telescopic lens and a wide-angle one, the telescopic lens isolating and focusing on an idealized local landscape, the wide-angle expanding that landscape to represent a whole world, filling the entire space encircled by the ultimate boundary of the earth's surface.

The Cosmic Hierarchy

On Achilles' shield the human community fills the natural world; gods and people mingle together; and the divine realm merges with the human. The assumption that gods and men shared the same space affected the way early poets described their world. Homer and Hesiod imagined the universe as a space arranged both vertically and horizontally. The vertical divisions represented a cosmic hierarchy that ranked the gods above mortals, and the living above the dead (*Iliad* 8.13–16). Within this universe the surface of the earth was imagined as a horizontal plain divided by rivers and seas and interrupted by mountains and valleys. The earth's surface accommodated the human community. Delphi, seat of Apollo, occupied the geographical center. The earth's surface was a vast space, bounded, like Achilles' shield, by the river of Ocean (*potamos Okeanou*) flowing around its outer edge. Ocean is described in various ways. Although considered a god, *Okeanos* was described as a perpetual stream of water at whose edge was an imaginary realm known only in fantasy and dreams. Very few could cross this final boundary and return to the world of the living. Only gods like Apollo, heroes like Heracles, or great men like Odysseus could survive the journey. Territories beyond this border included the world of the dead, the Isles of the Blessed, and the protected land of the Hyperboreans.³

Imagining the World

In reality the human environment was politically divided. Each *polis* imagined itself at the center of a conceptual map that divided one political territory from another. This image competed with another that divided the world into a series of concentric zones with Delphi at the center. Delphi protected the *omphalos* (navel of the earth) and belonged to the god Apollo. Delphi was not only the geographic center; it was the moral center as well. People traveled to the sanctuary to hear and interpret the god's word. Apollo as ultimate advisor was represented in the real world by his priestess, the Delphic Pythia. Her authority at the center was respected, because, as she proclaimed in an oracle, "I know the number of the sand and the measure of the sea" (delivered to representatives of Croesus, the last Lydian king; Herodotus 1.47).

The Delphic center, located high on the way up Mt. Parnassus, central but also remote, seemed near the gods. Human populations were imagined as arranged in zones according to ethnic groups around that center. Hellenes, sprinkled around the Mediterranean and the coast of the Black Sea, were closest to the Delphic center. Non-Greek aliens (*barbaroi*) and wild people (*agrioi*), in that order, filled the outer spaces between the Mediterranean coastal lands and the stream of Ocean. Other Greeks were foreigners (*xenoi*), but all Greeks shared the same way of life. *Barbaroi* were different. They did not speak Greek, did not practice *xenia* (hospitality, guest-friendship), and did not share in the institutions of the *polis*. *Agrioi*, those who dwelt beyond the lands of the *barbaroi*, were wilder still, creatures with outrageous customs. *Agrioi* dwelt beyond the edge of civilized populations. They were people like the nomadic Neurians, said to turn into wolves once a year (Herodotus 4.100, 105), the Budinians, who ate lice (Herodotus 4.109), or the Androphagi, who dined on a diet of human flesh (Herodotus 4.100, 106).

To the north, near the edge of the world, dwelled the Sauromatae, people whose customs marked them as different. They were descended from women whom the Scythians called *Oeorpata* (Man-Killers). Herodotus (4.110–117) reports that the females of the Sauromatae scorned traditional women's work, dressed like men, hunted on horseback, made war on their own, and could not marry until they had killed a man in battle.⁴ With a language unintelligible even to the barbarian Scythians, these women were monsters in Greek eyes, representing a way of life in every category the reverse of Greek norms and practice. This landscape of human monstrosity merged with another landscape, one inhabited by the monsters of myth, creatures like the loathed Gorgons, the Graeae, and the barkless griffins, guardians of Zeus at the edge of the world (Aeschylus, *Prometheus Bound* 791–808).

The tension between outer boundaries and a secure center animates the Homeric narrative of Odysseus' homeward journey. This narrative locates home and family at the center and sorts other populations on the outside, differentiated according to their experience of *xenia*, the Greek standard of reciprocal hospitality (Hartog 2001: 23–4, followed by Montiglio 2005: 9). Odysseus makes

his return to Ithaca, harassed on the way by wild and uncivilized creatures. He passes through the land of the Laestrygonians, most ferocious of man-eating monsters. His route takes him back through the territory of the Cyclopes, man-eating creatures ignorant of *xenia* and communal organization, who work for their living, but know neither grapevine nor grain, and who nourish themselves by pasturing animals and processing cheese. After a long journey to the ends of the earth, Odysseus's last stop before home is the island of Scheria. Here, at the edge of the earth,⁵ the Phaeacians live ordered lives in a protected, almost fairy tale city, freely rewarded with the abundance of the earth. By loading Odysseus up with gifts before sending him off on his way back home, these people exhibit the most generous expression of *xenia* encountered by the hero. They represent an ideal community in stark contrast with the completely atomized existence of the Cyclopes (compare *Odyssey* 9.105–115 with 6.1–10). The tale of Odysseus's homeward journey becomes a paradigm for the recognition of a Hellenic homeland as centrally located geographically and the Hellenes as superior to both the foreigners in the outer zones and to the dangerous aliens who dwell on an imagined, further geographic periphery (Hartog 2001: 25 with the paradigm). The world of Odysseus's experience reflects the ideology of the early Hellenic city-state.

The *Polis*

The model *polis* consisted of a nucleated center, *astu*, and its surrounding territory, *chōra*. The external boundaries of the *chōra*, called *horoi*, defined the extent of the city's authority and marked the edges of the land whose crops and springs fed and refreshed her people. At Athens, when young Athenians entered the course of training that would prepare them for manhood and political life, they swore the oath of the *ephebes* at the sanctuary of Aglauros below the Athenian *akropolis*, in the very center of the *astu*. Defining the territory their oath obligated them to serve, they called on divinities of agricultural productivity to witness their oath: Thallō (Thriving), Auxō (Increase), and the *Horoi* (boundaries) of the fatherland, together with the crops of the land of Attica, wheat, barley, vines, olives, and figs (Rhodes and Osborne 2003: 440–9 no. 88.16–20).

Each *polis* constructed its own mental map, one that placed itself at the center of its own political universe. The protocols of *xenia* facilitated interaction between *poleis*. Other Greeks were *xenoi*, strangers, but they were also well-known equals. Reciprocal relationships were important. With *xenoi* it was possible to exchange oaths, to create political ties of friendship (*philia*), to share feasts in the local public banqueting hall (*prytaneion*), to appoint protectors (*proxenoi*) for foreign guests, to recognize long standing ties of kinship (*sungeneia*), and in some cases even to offer the honors of citizenship. The contrast between political self and other is reflected in the oath of citizenship sworn at Chersonesus, a Greek *polis* located in the Crimea, almost as far north as any Greek city ever reached:

I swear by Zeus, Gē (Earth), Helios (Sun), Parthenos (Athena), the Olympian gods and goddesses and heroes, as many as hold the city and land and walls of the Chersonesitai: I shall act in agreement for the safety and freedom of the city and the citizens, and I shall not betray Chersonesus or Kerkinitis or Kalos Limēn, or the other fortified places, nor any of the other areas (*chōrai*) which the Chersonesitai inhabit or used to inhabit, to anyone whatsoever, either Hellene or barbarian, but I shall carefully guard the people (*dēmos*) of the Chersonesitai. I will not destroy the democracy, nor will I yield to anyone else who is betraying and destroying it, nor will I join in concealing him [who does so], but I will announce him to the *dēmiourgoi* (i.e. officials) throughout the city; and I will be enemy to anyone plotting against and betraying or encouraging Chersonesus or Kerkinitis or Kalos Limēn or the walls and land of the Chersonesitai revolt from; and I will serve as *dēmiourgos* and councilor for the city and citizens as best and as justly as possible, and I will guard [—] for the people, and I will not reveal any confidential matters to either Hellene or barbarian that would harm the *polis*; nor will I give or receive gifts for the harm of the city and its citizens; nor will I plot any unjust action against any of the citizens who has not revolted; nor will I yield to anyone engaged in a plot nor will I join with anyone in hiding someone, but I will make it known and I will decide by vote according to the laws; nor will I join in swearing a conspiratorial oath either against the Chersonesitai in common or against any one of the citizens individually who has not shown himself to be an enemy of the *dēmos*; and if I join in swearing a conspiratorial oath and if I have been bound by some oath or curse, may it be better both for me and mine if I am destroyed . . . and may neither earth nor sea bear fruit for me, nor women bear [children] . . . (*Inscriptiones antiquae orae septentrionalis Ponti Euxini Graecae et Latinae* I² 401; early third century BCE).

Hellenes and barbarians, considered potential enemies, are mentioned separately because they have different identities and require different protocols. The conjunction of land and sea is part of the curse on anyone who breaks his oath or swears an oath of conspiracy against the city. It is also part of the formula in oaths of alliance, valid on both “land and sea” (*kata gēn kai kata thalassan* (*Inscriptiones Graecae* II² 14; 395/4 BCE). When the Persians invaded Greece in 480 BCE, Greek cities had to submit to the Persian king by handing over symbolic local samples of “earth and (fresh) water” (Kuhrt 1988).

Catalogues

Originally, geographic discourse took the form of catalogues embedded in poetry. Catalogues dealt with a divided political landscape by relating inhabited geographic space to its people. The catalogues of Achaeans and Trojans in the second book of the *Iliad*, a series of itineraries organized geographically by regions, are an early example. The Achaean list of toponyms begins with Aulis, the place where the Achaean fleet assembled before sailing to Troy. After swinging through Boeotia the catalogue proceeds to Phocis, Locris, Euboea, and Athens before moving on to the Peloponnese. Beginning there with the Argolid, the catalogue

picks up the Corinthia, eastern Achaea, and the Lacedaemonian territories together with Pylos, Arcadia, and Elis before crossing the Corinthian gulf to the Aetolians. After a short inserted itinerary from Crete to Rhodes, Syme, and Cos, the roster switches back north to Thessaly, listing there a series of communities organized in a counter-clockwise orbit and ending finally at Dodona.⁶

Geographic catalogues are a feature of epic poetry, easily memorized and conveniently altered to fit any political context. Catalogues also emphasize group identities. In the *Iliad* the Trojan catalogue directly follows the roster of Agamemnon's Achaeans. Far shorter than the Achaean list, the summary of the Trojan forces nevertheless covers a broader territory that stretches all the way from Macedonia to Lycia. This list begins on Mt. Ida and moves to the Hellespont, Larissa, Thrace, the Kikones, and Paionia in Macedonia before switching back to Asia Minor and including the contingents from Paphlagonia, Mysia, Phrygia, the Maionians, Caria, and Lycia. Cutting the major boundary between Thessaly and Macedonia, the two catalogues divide the contestants between west and east and create order by recognizing identity in geographic terms.

The *Catalogue of Women*, a fragmentary work attributed to Hesiod, also testifies to a strong geographic organization in epic. Arranged according to families, this catalogue organizes narratives about the history of local dynasties by tying them to mothers of great heroes in the past. The poem constructs a mythical map based on geographically organized narratives that carve the land into local and regional territories. Catalogues like this one or the catalogues in the *Iliad* assume an audience whose mental map is alert to place names and ethnic labels, an audience that can follow accurate lists of places and peoples recited in recognizable geographic order.⁷

Catalogues arranged geographically become a fixture of administration. We can observe this by studying records of periodic travel to centrally located sanctuaries in support of the great athletic festivals. Such travel provided opportunity for interaction between city-states. Participation in regional events was limited to Greeks (Herodotus 5.22). The sanctuaries at Delphi, Olympia, and Nemea sent out special representatives, *theōroi*, to announce the agonistic festivals celebrated at regular intervals and the sacred truces that protected their participants. The itineraries of these *theōroi* can be reconstructed from inscriptions that list the local *theōrodokoi*, citizens who acted as hosts in the cities that received the travelers. These lists begin in the late fifth or early fourth century BCE. At Hermione the catalogues of *theōrodokoi* and the summaries of honors granted to them are organized regionally and locally within regions. Such lists were a reminder of Hellenic identity. Although regional headings are not always in strict geographic order, lists of local toponyms within regions follow natural routes through local landscapes in geographic order (Perlman 2000: 30–1). Other Greek administrative catalogues follow a similar practice. We can detect the same kind of order in the annual accounts published by the Athenians to record the tribute collected from their allies. Although no special order was followed in the earliest lists (454/453 BCE), by the tenth year donors were grouped geographically, and after 443/442

the lists were organized by districts with district headings, a practice that persisted as long as the tribute was collected (Meiggs and Lewis 1988: 84–5). City names rarely appear. A *polis* is defined by its population and named by its ethnic: “Lindioi,” not “Lindos,” “Olunthioi,” not “Olunthos.”

Geography Without Maps

Early geographical writing was shaped by travel. Whether about travel by land (*periodos gēs* or *periēgēsis*) or travel by sea (*periplous*), geographical writing was based on itineraries (Güngerich 1950; see also Romm, this vol.). Hecataeus of Miletus included both Europe and Asia in his *Periodos Gēs*. The first Greek *periploi* could have taken place as early as the third quarter of the sixth century BCE, when Euthymenes is said to have described a trip under sail down the west coast of Africa (Cary and Warmington 1963: 61–2; Dilke 1985: 131 and n. 6). Those who traveled by sea were interested in describing new coastlines and determining distances between settlements, and they were especially interested in foreign populations. A *periodos gēs*, “a tour around the world,” was not really a description of the earth, but a description of the inhabited earth (*oikoumenē gē*). Greek geographers, who paid more attention to ethnography than to description of the natural world, were not interested in unpopulated landscapes (Braun 2004: 294).

The early philosophers and travelers who drew the first known Greek maps had to contend with the realm of the gods and the ends of the earth. When Aeschylus in his *Prometheus Bound* (1–2) locates Prometheus on “a distant plain” in a “desolate land” at the border of Ocean, he is not subject to any such constraints. He assigns the role of chorus to the daughters of Ocean and presents Ocean himself as a character in the play. In his travel instructions to Io, Prometheus describes continents as real places with landscapes that mix real people with magical figures (786–850). He begins by advising Io to turn toward the rising sun and travel until she comes to a land never touched by a plow. This will be the land of the Scythians, nomads who lived and traveled in wheeled shelters constructed of sticks and felt (*Airs, Waters, and Places* 18). Prometheus warns Io to avoid the Scythians with their dangerous bows and arrows and advises her to follow the shore, the border between land and sea. She must also avoid the iron-working Chalybes, abusive to strangers, and move on instead toward the high mountains of the Caucasus before turning south. Here, Prometheus says, she will find the Amazons, “women who hate men” (*Prometheus Bound* 724). They will not hate Io, however, but guide her to the crossing from Europe to Asia at the Cimmerian Bosphorus, the strait at the entry to Lake Maeotis.⁸ Prometheus describes the borderland at the crossing from Europe to Asia as a dangerous place where the divide between the continents is guarded by sharp-beaked griffins, watchdogs that do not bark. Here, where the sun never shines by day or the moon by night, Io must beware the three Graeae, but even more their sisters, the three Gorgons, for “no mortal who looks on them will have breath” (801). Io must also escape the notice

of the army of the one-eyed Arimasian horsemen before finally completing her journey and finding a secure berth in Egypt.

Io finds no comfort in the itinerary Prometheus predicts for her, but Aeschylus's audience must have been satisfied.⁹ It is even possible that the third play of the trilogy included a similar extended itinerary for Heracles, describing the route he would take to rescue Prometheus (Montiglio 2005: 122). Other dramas showcased geographical catalogues. Aeschylus's description of the Pelasgians in his *Suppliant Women* (249–70) and Clytaemnestra's beacon system in his *Agamemnon* (181–316) read like maps. World traveling characters in plays like Sophocles' *Triptolemus* and Euripides' *Bacchae* and *Iphigeneia among the Taurians* generated geographic catalogues, too (Hall 1989: 75–6; Romm 1992: 30).

Early Maps

Prometheus' prophecy of Io's travels creates a linear itinerary in a real landscape. We may not be able to find the golden griffins, but we can figure out where Prometheus thought they should be located. Maps are more complex than geographic catalogues, ordered lists of places, or expanded itineraries like Io's. Maps also require recognition of the relationship between a two-dimensional image and a real three-dimensional space. Finally, maps assume the ability to understand the symbolic representation of geographic space drawn to scale. These are skills that must be learned.

The first Greek maps, introduced from Ionia, were created in the service of philosophical and geographical speculation.¹⁰ Anaximander of Miletus, an important early Greek philosopher of the sixth century BCE, is said to have been the first Greek to draw a map. Agathemerus says that Anaximander drew the inhabited earth on a *pinax*, a board or metal plate that provided a surface for writing or inscribing. There was no special word for map in ancient Greek. *Pinax* for Anaximander referred to the physical object on which a map could be drawn, not to a map's symbolic status as a representation. Early maps inscribed on metal or wood would not have been practical for everyday use. People did not carry them around to plan a trip or to find their way when lost. Maps were drawn by specialists for other specialists, to make an argument about the shape of the world itself.¹¹

Diogenes Laertius describes Anaximander's map as a perimeter of land and sea (2.1–2), a description reminiscent of Io's journey along the boundary created by the shore. Hecataeus of Miletus, mythographer and geographer, is credited with producing a map "on a *pinax*" that made "striking" improvements on Anaximander's (Agathemerus *FGrH* 1 T12a). We can only imagine what this map looked like. In his written work Hecataeus divided the world into Europe, Asia, and Libya and retained the traditional image of inhabited continents surrounded by ever-flowing Ocean.¹² We do not know how Anaximander dealt with divine beings or whether he included the circulating water of Ocean, but we can guess that his map constituted a philosophical statement. The later report that Anaximander's

cosmology was geocentric, with the earth a sphere (Diogenes Laertius 2.1–2) seems to be an anachronism.

Maps challenged traditional ideas about myth and reality. Herodotus found it amazing that people could believe in a stream of Ocean flowing around the whole earth (Herodotus 2.21). The issue comes up in the context of his refutation of the argument that explains Nile floods by the water flowing into the river from Ocean. He states quite strongly: “It is not possible to refute the man (Hecataeus) who speaks about Ocean by referring to an obscure story. For I do not know of any river Ocean, but Homer or some one of the earlier poets, I think, discovered the name and put it in his poetry” (2.23). He does not doubt that the earth appears in some places to be surrounded by water, but he is contemptuous of the poets and scoffs at the many “who draw maps of the world” and “draw Ocean flowing around the earth, in a circle as if [drawn] by compass.” He also complains that these people “make Asia and Europe the same size” (4.36). Herodotus is right about Ocean, but he turns out to be wrong about Asia, which he assumes is smaller than Europe. Until the campaigns of Alexander, lack of experience of eastern Asia kept everyone in the dark on that issue. The idea of a river of Ocean encircling the earth, on the other hand, had a long history. Although held up to criticism by Aristotle in the fourth century BCE (*Meteorology* 362b15), it was an idea that nevertheless persisted throughout antiquity (see Romm 1992: 124–71 on the later stages).

Herodotus criticized maps that showed Ocean as the boundary of the earth’s surface because he realized that the Caspian Sea was bounded by land on the north, and therefore reasoned that the water of the outer ocean was not contiguous everywhere. After criticizing Hecataeus, he announces that he will demonstrate the size of each continent and how each should look in writing. Here he means the writing of maps (4.36). He goes on to list the areas of the known world in an order based on the major rivers that flow through them. Although he recognizes that the major land divisions are not all the same size, he nevertheless imagines a certain symmetry between north and south. He describes three continents, with the length of Europe equal to the length of Libya and Asia together (4.41). Rivers mark internal boundaries. The Danube matches the Nile, flowing south for the last part of its length on the same longitude as the Nile flowing north (Dilke 1985: 58 fig. 8). Herodotus’s ethnographical survey of northern Europe assumes a continent divided into symmetrical parallel regions bordered by rivers, with local populations matched to specific types of landscapes.

Reading a Map

The use of maps requires an audience that can read them. Because maps are symbolic representations of physical space, readers must be trained. This is clear from a story told by Herodotus. Maps seem to have been still new in the first years of the fifth century BCE when Aristagoras of Miletus took one to Sparta to convince Cleomenes, the Spartan king, to join the Ionians in an expedition against

Persia. Herodotus reports that Aristagoras showed Cleomenes a map of the world, expecting to confuse him about the distance between Ionia and Susa. At first Cleomenes was puzzled by the scale of the map, but when he learned that the journey would require three months, he grasped it and sent Aristagoras home, clearly insulted by the suggestion that Lacedaemonians would tolerate a journey three months traveling time away from the sea (5.49–50).

Aristagoras not only knows how to use a map, he is also ready to exploit a map to confuse his audience. His attempted ruse indicates his sophistication in recognizing the possibilities of representation. He is actually using a map in an extraordinary way: not to show Cleomenes the route to Susa, but rather, to deceive him about the distance. This anecdote may have been told originally to reinforce the Spartan reputation for illiteracy, but it also shows the challenge of Cleomenes' own unschooled sagacity.

In the very next chapter, immediately after the story about Aristagoras and Cleomenes, Herodotus launches into a detailed description of the Persian road system. His account, more detailed than the one Aristagoras gave to Cleomenes, translates the Persian road system into an itinerary. The lands between Ephesus and Susa, the Persian capital, are divided into segments according to the number of places provided for official stopovers (111) where a messenger could conveniently spend the nights on a journey between the sea and Susa. Herodotus estimates that the journey would take at least 93 days. He calculates and reports the total distance, but converts distance to time, because he realizes that his audience understands the measurement of time more easily than the measurement of distance.

Cleomenes is not the only one who has a hard time understanding the representation of distance. When Strepsiades – one of Aristophanes' comic characters in an Athenian comedy of 423 – sees a map for the first time, he is baffled. The map in question is one of several technical devices associated with the figure of Socrates, here represented as a philosopher who dabbles in scientific inquiry. Strepsiades, a country bumpkin, is upset when shown Athens and Sparta, currently enemies at war, on the same map. Miniaturization confuses him, and he asks to have Sparta moved farther away (Aristophanes, *Clouds* 202–17). The joke would not have been funny if the whole audience was as geographically illiterate as Strepsiades himself. Even so, maps seem to have been associated with specialists in the fifth century, and they were not very common until the fourth. By the time of Alexander, a series of coins minted by the Persian satrap of Ephesus could suggest that maps had become more widely used, if these coins are correctly interpreted as depicting a tiny relief map in birds' eye view of the city and its hinterland, complete with local mountains and rivers (Johnston 1967; for doubts, Brodersen 1995: 141–2).

Mapping Difference

Herodotus describes Aristagoras' map as a bronze *pinax* with “a circuit (*periodos*) of the whole earth engraved on it, and every sea and all rivers” (5.49). There

is no mention of Ocean, although the only geographical features Herodotus notices are bodies of water. Plato said that the Greeks lived around the Mediterranean like ants and frogs around a pond (*Phaedo* 109b); but if Cleomenes' retort to Anaxagoras means anything, the Greeks really believed that the coastal regions of the Mediterranean and its adjoining waters had been destined for them. For Herodotus, the Mediterranean lay at the center of the spaces occupied by the continents. Aristotle, who counts Asia and Africa as one continent, takes pride in this central position and recognizes it as a condition of Hellenic political superiority:

We have already spoken about the size of the citizen body, where the political boundary should lie; now let us speak about what sorts they [the citizens] should be with respect to natural qualities. As a matter of fact, one could almost determine this by looking at the famous *poleis* [cities] of the Greeks and at the whole inhabited world as it is divided into ethnic groups. Those ethnic groups in cold places and those in Europe are full of energy, but they are lacking in intellectual capability and technical skill. Therefore, although they continue to be more or less free, they have no political organization and are unable to rule their neighbors. The peoples in Asia, with regard to the soul, have intellectual and technical capacities, but they are without energy. Therefore they continue to be enslaved and ruled by others. The Hellenes, because they are located geographically in the center, have a share in both. For they are both energetic and intellectually sharp. Therefore, they continue to be free, to be governed in the best way possible, and able to rule all peoples, because they have achieved a single form of government (Aristotle, *Politics* 1327b18–33).

The prominence of rivers in Herodotus' plan indicates how important they were to his view of the world. His geography includes few other natural features because his interest in reporting extends only to the inhabited world, the *oikumenē gē*. The landscape is meaningful to him only in its relationship to the people who inhabit it. Rivers are important not because of any inherent qualities, but because they often mark the boundaries separating one ethnic group from another. Of the peoples who inhabit this world, Herodotus focuses only on those whom he calls barbarians. He assumes that the culture and customs of the peoples he calls Hellenes are uniform, so his ethnography concentrates instead on those who are obviously different from Greeks.¹³ Moreover, in spite of his preference for autopsy, Herodotus is not able to visit every site he describes; he therefore follows a pattern similar to that of the itineraries in early poetry, stringing together individual ethnic groups arranged in geographical order.¹⁴ Because he ties ethnography to geography, geographic order becomes the basis for his construction of a hierarchy of populations.

The primary division on a global scale is that between inland territory and shore (Herodotus 4.101; Asheri 1990: 140). Herodotus considers those living nearest to the geographic center to be by and large the most developed, those on the peripheries the least. We can chart difference by tracking the categories he recognizes. These include, among other things, the way people eat, dress, choose their sexual partners, raise their children, worship their gods, arrange their funerals, and control their women. When he compares the northern Scythians with their

1	2	A	3	4	TREELESS MARSHLAND	5	6	7	C	D	E
UNEXPLORED LAND											
NEURIANS Scythian customs; annual term as wolves				UNINHABITED DESERT				LAKES AND MARSHLANDS			
SCYTHIAN FLOWERS Agricaturalists; sell all their grain		ANDROPHAGI eat humans; most savage of all; no idea of right and wrong						THE BLACK CLOAKS; have Scythian customs but are not Scythian	TYRCAE; hunt from trees		
ALIZONES similar to the Scythians; eat bread from the grain they grow		LANDS WHERE NOTHING GROWS							THYSSAGETAE hunters		
CALLIPPIDAE Greek-Scythian; grow grains and eat bread		SCYTHIAN AGRICULTURALISTS							7 day stretch of empty land		
		FORESTS							BUDINIANS Nomadic, Scythian; eat lice; wooded land		
					SCYTHIAN NOMADS				GELONIANS Greek-Scythian; worship Greek gods; grow grain and eat bread		
								ROYAL SCYTHIANS	SAUROMATAE Scythian-Amazons in a wild land; do not cultivate		

OLBIA <-----North Shore of the Black Sea-----> <-----Lake Maeotis----->

Dark columns are rivers:
1 = RIVER TYRAS
2 = RIVER HYPANIS
3 = RIVER BORYSTHENES
4 = RIVER PANTICAPES

Lettered columns are tribes:
A = FARMERS
B = SCYTHIAN NOMADS
C = ARGIPPAEI
D = TRIBE WITH GOATS' FEET
E = ISSEDONES

Figure 13.1 Herodotus's Scythian "map." Adapted from Chart 1 in Shaw 1982: 10

neighbors, both Greeks and barbarian, Herodotus lays difference out on the landscape as if he were unfolding a huge map (Dewald 1998 on 4.101; see Figure 13.1).

The Scythians occupied the land to the north and east of the Black Sea in the cold climate of the Ukrainian steppes. Herodotus imagines a square Scythia, with seven parallel regions delimited by seven rivers flowing from north to south between the river Tyras (Dneister) on the west and the area east of the Tanais (Don) on the east. Brent Shaw explains that we should imagine a grid of tribes matched to a crosshatched landscape extending west to east from the best land to the worst, and south to north from the more civilized tribes along the coast to the uncivilized in the hinterland.¹⁵ Herodotus returns to the coast each time he begins a new, graded list.

Variety in the landscape determines variety in food and influences variety in customs and lifestyle. The major contrast is that between nomad and agriculturalist.¹⁶ Herodotus begins with the tribes between the rivers Tyras (4.51) and Hypanis (4.17) and targets first those Scythians who live closest to Olbia, a city on the coast founded by Greeks from Miletus. This tribe is the Callippidae, its people identified as “Greek” Scythians because they are the Scythians most like the Greeks.¹⁷ Their northern neighbors are the Alizones, agriculturalists and vegetarians who raise and eat grain, onions, garlic, lentils, and millet. The next tribe to the north sows grain, but only to sell, not for local consumption. Directly north, in an area infested with snakes, live the Neurians. These are the people who turn into wolves once a year (4.105). Beyond them, the land is empty.

Between the Hypanis and the Borysthenes rivers, agriculturalists inhabit the territory immediately to the north of a wooded area along the coast, with empty land beyond (4.53). Proceeding eastward Herodotus describes a land between the Borysthenes (4.53) and the Panticapes farmed by Scythians (4.54). This territory is buffered against the Androphagi to the north by a tract of empty land. Herodotus observes that these people have “the wildest characters of all, recognize no system of justice, and follow no laws” (4.106). They dress like Scythians but speak a different language and, what is more, they eat human flesh (4.18). Beyond the Androphagi the land is totally uninhabited.

From the Panticapes to the Hypacyris and beyond to the Gerrhus (4.56), Scythian nomads roam in barren, treeless territory, where no crops are sown (4.19). Between the Gerrhus and the Tanais rivers Herodotus locates the Scythians of the Scythian kingdom, who believe other Scythians to be their slaves (4.20). The Black Cloaks come next. Although they wear Scythian clothing, they are not themselves Scythian. Moving northward, their territory is the last inhabited space before a stretch of desolate marshland. The Tanais marks the eastern border of the Scythian lands. Thus far the soil is adequate and good, but between the Tanais and the next geological obstruction, a mountain range, the soil is thin and full of rocks. The Sauromatae live here in a territory along the barren coast of Lake Maeotis. The Gelonians, Greek traders who settled to the north, are “tillers of the earth, eaters of grain, and have gardens” (4.109). They speak a mixed dialect of Scythian and Greek, have a wooden-walled town, and worship Greek gods with Greek

rituals (4.108). Their northern neighbors, the red-haired Budinians, are nomadic and eat lice (4.100, 109). Budinian territory is rich in trees and shrubbery (4.21) and bounded by a tract seven days in extent, completely empty of inhabitants. The tribes north of this empty land, the Thyssaetae and the Iyrcae, are hunters who do not till the soil.

Herodotus' Scythian ethnography of the territory north and east of Olbia correlates the roughness of inhabitants with the roughness of the landscape. East and north of the Scythian territories, the arid land is home to groups with unusual characteristics. The Argippaei with pug noses, big chins, and heads with no hair, live under trees, do not use weapons, and do not cook their food (4.23). Their eastern neighbors are reported to have goat's feet, and the Issedones, even further to the east, eat the flesh of dead relatives. Categories between Scythian and Greek, between Scythian and other non-Greek barbarians, and even between Scythian and Scythian are strictly defined by the food they eat. Diet is determined by access to land suitable for agriculture. Elsewhere in his Scythian narrative, Herodotus represents the Scythians as a uniform group, universally nomadic animal herders nourished by a diet based on the milk of herded cattle (4.2). As Shaw points out (1982–3: 11), Herodotus explains the cruel treatment by Scythians of prisoners taken in war by their status as nomads. Here he takes all Scythians as a group and thereby contradicts his own description of a landscape divided ethnographically when he says: "Since they have no towns or strongholds, but carry their homes around with them on wagons, since they are all expert in using bows and arrows from horseback, and since they all depend on cattle for food rather than on cultivated land, how could they fail to be invincible and elusive?" (4.46; trans. Robin Waterfield). In the context of Darius's invasion of Scythia, Herodotus emphasizes the superiority of the nomadic Scythians because a nomadic lifestyle enabled a successful strategy for exhausting the Persians. In his ethnographical sections, however, he discusses Scythians who were not nomads, Scythians who had Greek customs, other barbarians who used Scythian customs, and Greeks who occupied agricultural land within Scythian territory.

Herodotus begins his "map" at Olbia, a Greek *polis* founded by Miletus. Olbia is not far from the entrance to Lake Maeotis (the Sea of Azov). Chersonesus, the Greek *polis* where young men swore to protect their city and land from hostile Greeks and barbarians, is closer still. These are the Greek populations to which Herodotus compares the Scythians. Olbiapolitans were so well acquainted with their local barbarian neighbors to the north that Greek traders needed seven interpreters for the seven languages spoken in the Scythian countryside (4.24). The Scythians themselves were also a source for many of the Scythian stories that Herodotus himself had no way to confirm (4.32).

In reality, Scythians were no threat to their Greek neighbors. When Greeks settled Olbia, in the seventh century, coastal regions had been empty. During the early centuries of Greek development, Scythian nomads occupied the steppes and Greek settlements hugged the shore. After Olbia began to expand in about 500 BCE, new Greek settlements clustered around the Greek city, and relations

between Greek and Scythian seem to have been favorable.¹⁸ Ariapathes, a Scythian king, could even make a dynastic marriage with a Greek woman. Scyles, offspring of this union, learned Greek at his mother's knee, and when he inherited the kingship, had no problems in participating in Greek cultural and religious life in Olbia. It was the Scythians, not the Greeks, whom he failed to satisfy. His decapitation by a rival half-brother, on the grounds that he "performed rites to the gods according to the customs of the Greeks," suggests that Scythian violence was more likely to be directed against other Scythians than against their Greek neighbors (Herodotus 4.78–80).¹⁹

How great were the differences between Hellene and Scythian? Herodotus and his Scythian informants project a model that exaggerates difference and schematizes the ethnographic landscape, largely by identifying those Scythians nearest the Greeks as the most advanced and those groups farthest inland as the least accessible to Greek influence. Herodotus's narrative assumes that the most civilized Scythians are the Callippidae, the Scythians closest to Olbia on the sea and therefore the most Hellenic. Conversely, he represents as the least like the Greeks the red-haired Budinians, nomads far inland to the east and north who live on a diet of lice (Herodotus 4.109). His own account, however, suggests that Greek and Scythian were economically dependent on each other. Was it possible to bridge their differences? Greeks would have resisted Scythian customs. As Herodotus describes them, Scythians fought on horseback, and a warrior drank from the blood of the first enemy he killed in battle (4.64). For a share in the booty warriors donated to their king the skulls of defeated combatants and displayed the scalps on the bridles of their own horses as a record. They also used the skin of the right arm of victims ("finger nails and all") to cover their quivers. Herodotus, who misses nothing, remarks, "Human skin, apparently, is thick and shiny-white, shinier, in fact than any other skin" (4.64; trans. Waterfield). Would the Greeks from Chersonesus, accustomed to their own oath ritual, be able to swear an oath with a Scythian tribal leader who accepted scalped skulls from his troops? Scythian ritual is said to have required oath takers to contribute their own blood to the shared wine drunk in ceremony to seal an oath (4.70).

Distance from the sea in one direction and distance from the nearest Greek city in another strengthened difference and emphasized what Greeks interpreted as monstrous. Herodotus accepts most of the data he collects about the territory between the River Tyras and the bald people beyond the Tanais. Yet, when the Argippaei report that there are people with goat's feet living in the mountains and that beyond the mountains there is a tribe that sleeps six months out of the year, his credulity reaches its limit. He makes no comment, however, on the practices of the Issedones, even the funeral ritual that included a shared meal of chopped sacrificial meat mixed with the diced remains of the corpse (4.26).

Although Herodotus could find no one who had traveled inland any farther than the Issedones, he reports what others had heard about what lay beyond. After the Issedones (besides the people with goat's feet and the tribe who alternated six months of sleep with six months of wakefulness), there were the Arimaspians

who had only one eye, then the gold-guarding griffins, and finally, the Hyperboreans, who, Herodotus says, lived beyond the north wind in a land extending all the way to the northern sea (Herodotus 4.13, 27, 32; see Bridgman 2005). Herodotus reports that every year the Scythians received sacred objects from the Hyperboreans to be sent on, via Dodona, to Apollo at Delos (Herodotus 4.33). Herodotus himself is uncertain about the actual existence of Hyperboreans (4.36), but the itinerary he gives for their offerings is an important indicator of the need to claim a connection between the northern reaches of the world and a Mediterranean center. Even though Herodotus is right to be wary of reports about one-eyed people and golden griffins (4.25), such creatures are part of the standard catalogue of monsters at the outer limits of the earth. Pliny, a Roman observer of the first century CE, still lists the Gelonians, Thyssagetæ, Budinians, Agathyrsæ, Sauromatæ, and Arimaspians as real people. However, he has doubts about the happy Hyperboreans “at the hinges of the world,” where six months of sunlight alternate with six months of darkness (*Natural History* 89–90). Strabo, a Greek geographer who lived about two generations before Pliny, is more skeptical still. He has no confidence in the existence of Sauromatæ, Arimaspians, or Hyperboreans (1.3.2; 11.6.2–3). Tales about such peoples, however, give us a glimpse of a Hellenic view of other cultures, sorted hierarchically with customs matched to particular landscapes; meanwhile, the Greeks themselves, with the best climate, are situated comfortably at the center.

Like the river of Ocean, we have now come full circle and returned to the one-eyed Arimaspians and the sharp-beaked, barkless griffins of Prometheus’s warning to Io. The Amazons who help Io to cross from Europe to Asia are the ancestors of the man-killing women of the Sauromatæ. Io crosses the waters of the Cimmerian straits, an area of transition in two directions, one between Europe and Asia and the other between the edges of the earth (*hai eschatiai*) and the unknown area beyond. In myth there is no sharp division between divine beings and the real world. Io’s journey, the struggles of Prometheus, and Herodotus’s narrative all bring these spaces to Greek attention. Apollo himself would have had to pass through Scythian territory on his annual roundtrip winter journey to the Hyperboreans from Delphi. Graeae and Gorgons may have hovered around the passage, but they only made the journey more mysterious and more marvelous.

Notes

- 1 The bibliography for this project is immense. I have therefore limited citations to recent literature. All translations, other than those acknowledged, are my own. The title of the chapter is taken from a Delphic oracle to the Lydian king, Croesus, quoted below (Herodotus 1.47).
- 2 Dilke 1985: 55–60 provides an introduction to early Greek maps.
- 3 Romm 1992: 9–44 on descriptions (not always consistent with each other) of the boundaries.

- 4 The Hippocratic *Airs, Waters, and Places* 17, which places strong emphasis on the relation between customs and climate, shares similarities with Herodotus's account. See Thomas 2000: 86–98 and Chiasson 2001.
- 5 Nausicaa calls the Phaeacians *eschatoi* (the outermost): *Odyssey* 6.206. Dougherty 2001: 87–101 discusses Golden Age imagery in the account of the Phaeacians and charts the spatial organization of the contrast between civic identification and experience of the “other.”
- 6 This summary follows the maps in Hope Simpson and Lazenby 1970.
- 7 West 1985: 146–50, 165–8 for a reconstruction that is organized geographically.
- 8 Although Prometheus's directions are precise, they are not accurate. He locates the Caucasus east of Lake Maeotis (Sea of Azov); see Romm 1992: 30 n. 62 for earlier scholarship. Montiglio 2005: 122, comparing Prometheus to an “Ionian cartographer,” does not recognize the error.
- 9 On the “global scope” of Prometheus's narrative, see Romm 1992: 30 and n. 62; Montiglio 2005: 123. On the influence of Hecataeus, Hall 1989: 75.
- 10 The words that refer to an image or a diagram of the land (*chōrographia*, *katagraphē*, *pinakographia*, and *diagramma*) are compounds, post-classical, and rarely used to mean “map.” The term *geōgraphia*, used by Hecataeus for a description of the earth, was used for “map” in the first century BCE (Geminus Astronomicus, *Elementa Astronomiae* 16.4). Dilke 1985: 196–7 discusses related terms.
- 11 Montiglio 2005: 128: “their aim was to provide a geometrical model of the earth.”
- 12 Following Braun 2004: 294 and 296–302, summarizing the literature on the “boundaries of the earth.”
- 13 Herodotus defines four characteristics common to all Hellenes: blood, language, common rituals and sanctuaries, and the same way of life (8.144). For the importance of Herodotus in recognizing fifth-century distinctions between Hellene and barbarian, see Hall 1989: 50–60.
- 14 Dewald, in Waterfield and Dewald 1998: 647 compares Herodotus's descriptions to itineraries.
- 15 Shaw 1982–3: 8–21, esp. 11; see Hartog 1988: 350–7 for Herodotus as surveyor.
- 16 Shaw 1982–3: 8–12 emphasizes the polarization between nomad and agriculturalist.
- 17 Greek goods are found in Scythian territory along the Borysthene (Dnepr) River; Murzin 2005: 35.
- 18 Kryzhitskiy 2005: 124–30 summarizes the archaeological evidence.
- 19 Braund 1999: 528 argues for a positive evaluation of the Scythians, a people in tune with their natural environment. See Bylkova 2005: 132–42 for settlement patterns of the Lower Dnepr, and, in general, Ivantchik 2005, for Greek views of the nomads of the steppes north of the Black Sea.

References

- Asheri, D. 1990. “Herodotus on Thracian Society and History.” In G. Nenci (ed.), *Hérodote et les peuples non grecs*, 131–63. Geneva.
- Braun, T. 2004. “Hecataeus' Knowledge of the Western Mediterranean.” In K. Lomas (ed.), *Greek Identity in the Western Mediterranean*, 287–347. Leiden.
- Braund, D. 1999. “Greeks, Scythians and Hippake, or ‘Reading Mare's Cheese’.” In G. R. Tsetskhladze (ed.), *Ancient Greeks West and East*, 521–30. Leiden.

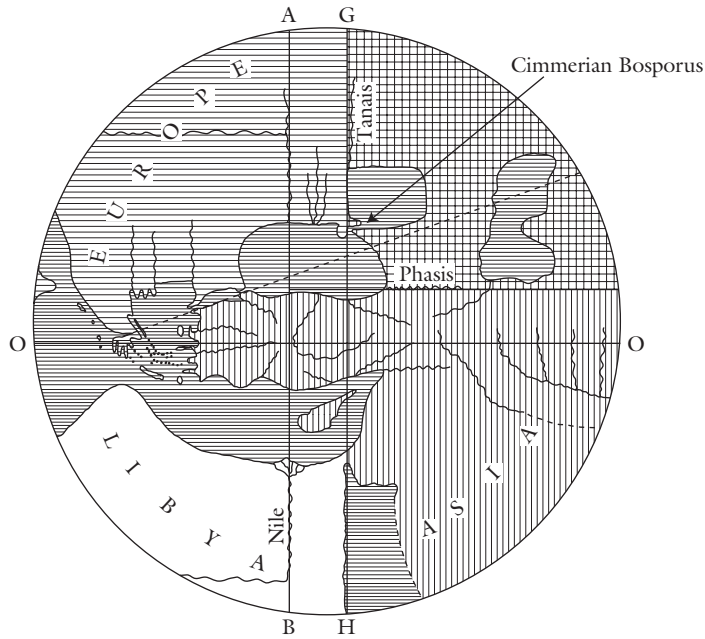
- Bridgman, T. P. 2005. *Hyperboreans: Myth and History in Celtic-Hellenic Contacts*. New York and London.
- Brodersen, Kai. 1995. *Terra Cognita. Studien zur römischen Raumerfassung*. Hildesheim.
- Bylkova, V. 2005. "The Lower Dnieper Region as an Area of Greek/Barbarian Interaction." In D. Braund, (ed.), *Scythians and Greeks: Cultural Interactions in Scythia, Athens and the Early Roman Empire*, 131–47. Exeter.
- Cary, M., and E. H. Warmington. 1963. *The Ancient Explorers*. Rev. edn. Baltimore.
- Chiasson, C. 2001. "Scythian Androgyny and Environmental Determinism in Herodotus and the Hippocratic *Airs, Waters, and Places*." *Syllecta Classica* 12: 33–73.
- Dewald, C. 1998: see Waterfield and Dewald 1998.
- Dilke, O. A. W. 1985. *Greek and Roman Maps*. Ithaca NY.
- Dougherty, C. 2001. *The Raft of Odysseus: The Ethnographic Imagination of Homer's Odyssey*. Oxford.
- FGrH. *Die Fragmente der griechischen Historiker*. Ed. F. Jacoby. 1923. Oxford, then Leiden.
- Güngerich, R. 1950. *Die Küstenbeschreibung in der griechischen Literatur*. Münster.
- Hall, E. 1989. *Inventing the Barbarian: Greek Self-Definition through Tragedy*. Oxford.
- Hartog, F. 1988. *The Mirror of Herodotus: The Representation of The Other in the Writing of History*. Berkeley.
- Hartog, F. 2001. *Memories of Odysseus: Frontier Tales from Ancient Greece*. Chicago.
- Hope Simpson, R., and J. F. Lazenby. 1970. *The Catalogue of Ships in Homer's Iliad*. Oxford.
- Ivanchik, Askold. 2005. *Am Vorabend der Kolonisation. Das nördliche Schwarzmeergebiet und die Steppennomaden des 8.–7. Jhs. v. Chr. in der klassischen Literaturtradition. Mündliche Überlieferung, Literatur und Geschichte*. Berlin and Moscow.
- Johnston, A. E. M. 1967. "The Earliest Preserved Greek Map: A New Ionian Coin Type." *Journal of Hellenic Studies* 87: 86–94.
- Kryzhitskiy, S. D. 2005. "Olbia and the Scythians in the Fifth Century BC: The Scythian 'Protectorate'." In D. Braund, (ed.), *Scythians and Greeks: Cultural Interactions in Scythia, Athens and the Early Roman Empire*, 123–30. Exeter.
- Kuhr, A. 1988. "Earth and Water." In A. Kuhrt and H. Sancisi-Weerdenburg (eds.), *Achaemenid History, III: Method and Theory*, 87–99. Leiden.
- Meiggs, R., and D. Lewis. 1988. *Greek Historical Inscriptions to the End of the Fifth Century BC*. Rev. edn. Oxford.
- Montiglio, S. 2005. *Wandering in Ancient Greek Culture*. Chicago.
- Murzin, A. Yu. 2005. "Key Points in Scythian History." In D. Braund (ed.), *Scythians and Greeks: Cultural Interactions in Scythia, Athens and the Early Roman Empire*, 33–8. Exeter.
- Perlman, P. 2000. *City and Sanctuary in Ancient Greece*. Göttingen.
- Rhodes, P. J., and R. Osborne (eds.). 2003. *Greek Historical Inscriptions 404–323 BC*. Oxford.
- Romm, J. S. 1992. *The Edges of the Earth in Ancient Thought*. Princeton.
- Shaw, B. D. 1982–3. "Eaters of Flesh and Drinkers of Milk: The Ancient Mediterranean Ideology of the Pastoral Nomad." *Ancient Society* 13–14: 5–31. Repr. in B. D. Shaw, *Rulers, Nomads, and Christians in Roman North Africa*, ch. 6. Aldershot 1995.
- Thomas, R. 2000. *Herodotus in Context: Ethnography, Science and the Art of Persuasion*. Cambridge.
- Waterfield R., and C. Dewald. 1998. *Herodotus, The Histories*. Oxford.
- West, M. L. 1985. *The Hesiodic Catalogue of Women: Its Nature, Structure, and Sources*. Oxford.

Continents, Climates, and Cultures: Greek Theories of Global Structure

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“I cannot understand,” says Herodotus in the *Histories* in a discussion of world geography, “for what reason three-fold names have been put onto an earth which is all one . . . and the Egyptian river Nile and the Colchian Phasis have been set as boundaries on it (though some claim the Maeotian river Tanais and the Cimmerian Bosphorus), nor have I been able to learn the names of those who divided them” (4.45.2). The “three-fold names” of Libya (roughly, our Africa), Europe, and Asia, he goes on to show, cannot be etymologized with any confidence, at least not in such a way as to connect them to the landmasses they designate; they seem to him to have been imposed arbitrarily by some ancient and anonymous source.¹ What is more, even the boundaries of these landmasses are in dispute, as Herodotus acknowledges in his parenthetical note. While some use the Phasis to divide Europe from Asia, a river thought to flow due west into the eastern end of the Black Sea, others adopt the Tanais (roughly, our Don), flowing due south into the Sea of Azov, and the Cimmerian Bosphorus (Straits of Kerch) located on the same axis as the Tanais mouth (Figure 14.1). Thus the unknown artificers who carved the earth into continents did not even do an effective job, from Herodotus’ point of view, in that they left behind no consensus as to whether Asia lay primarily to the south, or to the east, of Europe. Herodotus ultimately decides to forgo further inquiry and rely in his *Histories* upon the “customary” names of the continents; nonetheless his brief moment of skepticism and confusion provides unique insight into the complexities surrounding global structure in his era, the late fifth century BCE – the era when the Greek world map first attained a stable and enduring form.

We can take this important passage as our introduction to the topic of how the Greeks, and later the Roman and Jewish thinkers whom they influenced, divided the earth into segments, either by continents or by climates, and what impact



IONIAN MAP, SHOWING THE SECOND STAGE OF THE
“PHASIS-TANAIS CONTROVERSY.”

Three *quadrant* continents, and the fourth quadrant assigned by
Hecataios to Asia ||||; by Herodotus to Europe ≡.

Figure 14.1 The three continents as envisaged by Herodotus, according to J. L. Myres in *Geographical Journal* 8 (1896) page 627

they thought these divisions had on the development of human cultures. For these geocultural divisions were a prime concern, not only to geographers and cartographers but to writers and thinkers of many stripes, throughout all of antiquity and on into the Middle Ages as well. Our focus will be primarily on the later fifth century BCE, a time when, as indicated by Herodotus above, the Greek world map was evolving quickly and new problems were being raised as to how it should be structured. But in order to fully understand that era we need to start by looking at the archaic maps that preceded it, and to ask the questions that Herodotus himself felt ill-equipped to answer, as to who first divided the continents and what their names signify.

Early Greek Geography: The Ionians (Sixth and Early Fifth Centuries BCE)

Originally, it seems that the terms “Europe” and “Asia” were used by the Greeks merely to denote the west and east coasts of the Aegean; the names themselves

probably derive from Semitic words meaning “sunrise” and “sunset.”² But this initial east-west polarity soon gave way to one of North and South, as the scientists of the Ionian enlightenment became increasingly interested in the opposition of cold and hot temperatures at extreme latitudes, and also began using the observed positions of sunrise at the solstices (the “winter rising” and “summer rising,” in their terminology) to mark the northern and southern boundaries of the habitable world (Gisinger 1929: 552–3; Heidel 1937: 8–20). With the increase in exploration of the West, moreover, the early Greeks came to regard the Mediterranean as aligned primarily east-west, forming a lateral line or “equator” between these northern and southern extremes (Heidel 1937: 53–5). The Mediterranean thus early on replaced the Aegean as the Greeks’ primary continental divide, with the Black Sea, and the Phasis river thought to flow westward into it,³ extending that divide eastward as far as the earth itself extended (see Figure 14.1).

The first Greek known to have drawn a map of the world was Anaximander of Miletus, in the early sixth century BCE; later in that century another Milesian, Hecataeus, improved on that map in his geographical treatise *Periōdos gēs* (“Circuit of the Earth”). Almost nothing is known of the first, and the second can be reconstructed only vaguely from fragments of the lost treatise, but scholars have taken a famous critique of early Greek maps, written by Herodotus in the next century, to refer either to one or the other, or perhaps to both (Lloyd 1975: 126; Kirk, Raven, and Schofield 1983: 104–5). Herodotus says: “I laugh at those who draw maps of the earth in a perfect circle, as though sketched with a compass, and who make Asia the same size as Europe” (4.36). We note in this satirical description the circular and symmetrical structure of the earth with its two bipolar continents, and the absence of any mention of Libya, a landmass that would have disrupted this symmetry had it been included.⁴ This bipolar structure is of a piece with the scientific thought of Anaximander, who is said to have explained the properties of all matter on the basis of the antinomies hot/cold and dry/wet; since the North was considered by the Greeks to be climatically cold and wet, the South hot and dry, a two-continent world-map would have striking resonance with his larger theories. But Hecataeus may also have portrayed the earth as divided into two equal continents, since his treatise was apparently divided into two books, “Europe” and “Asia” (with “Libya” probably marked off as some sort of subsection within “Asia”).⁵ The question of who Herodotus was principally aiming at, Anaximander or Hecataeus, or perhaps even their fifth-century successors (Thomas 2000: 80), need not be resolved here; the main point is that thanks to his critique we have a unique description of the prevailing early Greek world-map, which we can hereafter refer to as the Ionian map since it clearly derives from the community of scientists and philosophers centered around sixth-century Miletus.

The Ionians were great theoretical thinkers and lovers of polar oppositions, but many were also great empiricists. Greek contact with Egypt in the archaic period revealed to them the special characteristics of the Nile, not just its enormous size but its unique pattern of summertime flooding. At some point, possibly before even Hecataeus’ time, some began using the Nile as a continental boundary to

divide a third continent, Libya, from Asia, on the supposition that such a large and anomalous river must have its source in Ocean itself (Jacoby 1923: 323, 368). To our modern eyes, long accustomed to seeing Africa end at the Isthmus of Suez and Red Sea, such a division may seem perplexing, but three points may be raised in explanation. First, the Greeks found borders formed by water to be more solid and better defined than those located vaguely on expanses of land,⁶ and Suez as yet had no canal cutting through it. Second, though reports in the fifth century began to suggest the true extent of the Red Sea and the circumnavigability of Libya, some Greeks before that time were prepared to believe that the Red Sea was in fact an enclosed body of water and that Asia was connected to Libya by a land bridge further south.⁷ The Nile with its source in Ocean, on the other hand, was thought to cut clear through to the edge of the earth. Finally we must consider the issue of symmetry: Since an Ocean-derived river, the Phasis, had been adopted as the line between Europe and Asia, it made sense to the early Greeks, with their inherent fondness for pairings and antinomies, that another such river served the same function in the case of Libya.

Herodotus (Late Fifth Century BCE)

The use of the Nile as a continental boundary was still a new enough idea in Herodotus' day to be the focus of controversy. In a famous polemic against the schemes of earlier geographers, here identified variously as "the Ionians" and "the Greeks," Herodotus inveighs against this idea on two grounds: First, the "divisions" (*moria*) of the earth would have to be counted as four, not three, since the Nile delta, standing between branches of the river's mouth, would fall neither into Libya nor Asia (2.16); second, the Egyptian nation, which straddles the Nile, would arbitrarily reside half in Libya and half in Asia (2.17). His own opinion is that the "land inhabited by the Egyptians," that is the entire Nile valley, should be considered the border between Asia and Libya; however he neglects to say to which continent this land belongs.⁸ I believe this astonishing omission is not just an oversight on Herodotus' part, but an indication of his larger uncertainties and cognitive problems regarding the division of continents. In a long geographic excursus in Book 4, for example, Herodotus twice labels Libya an *aktē* or peninsula of Asia (4.41)⁹ – exactly the conception of the two-continent Ionian maps – and also claims, despite all he had said earlier about "the land inhabited by the Egyptians," that this *aktē* begins at a physical boundary, the isthmus of Suez. Finally, at the end of that excursus, he confesses his skepticism about *all* continental boundaries, as we have seen: "I cannot understand for what reason three-fold names have been put onto an earth which is all one . . . and the Egyptian river Nile and the Colchian Phasis have been set as boundaries on it (though some claim the Maeotian river Tanais and the Cimmerian Bosphorus)" (4.36). His efforts to revise the Nile boundary in Book 2 seem largely moot when set against this all-encompassing objection.

The dispute Herodotus refers to in his parenthetical comment here, between those adopting the Phasis as a continental boundary and those preferring the Tanais, shows that the question of the Europe–Asia border was evolving in his day just as was that between Asia and Libya.¹⁰ Indeed the two debates were undoubtedly moving forward in tandem, since, as a glance at Figure 14.1 reveals, the Tanais (approximately the modern Don) was assumed to flow due south, perpendicular to the axis of the Mediterranean, and therefore to form an ideal counterpart to the Nile; the two together cut off the Asian landmass in what could be imagined as a continuous longitudinal line. Indeed this Nile–Tanaïs scheme became canonical in the era after Herodotus and straight through Hellenistic and Roman times,¹¹ so as to be transmitted to the Middle Ages in the so-called Macrobian or T-O maps (Figure 14.2 p. 230).¹² Herodotus however, while aware of the new Tanais “school,” himself subscribes to the old Phasis boundary (4.42), and in fact improves it by giving the Phasis a new eastward extension in the river he calls the Araxes (4.40), such that his “Europe” extends all across the northern portion of the inhabited world. By doing so he effectively endorses the North–South map he himself had scornfully laughed at (4.36), and it turns out, as he explains in some detail, his objection to it has nothing to do with bipolarity but rather with its underestimation of Europe’s true size (4.44).¹³

Herodotus’s preferences, on numerous occasions,¹⁴ for the division of the earth into North and South, and (in 4.41 at least) for keeping Libya attached to Asia in a continuous landmass, are just two of the ways in which he remains rooted in Ionian antinomies regarding climates, continents, and cultures. A few prominent examples will briefly illustrate the pattern, though it bears much more extensive discussion.¹⁵ One of the most prominent instances comes, curiously enough, in the sentence just prior to the attack on the Ionian world map: After a long discussion of the Hyperboreans, or “Men beyond the North Wind,” Herodotus claims that if such people exist, then so must Hypernotians or “Men beyond the South Wind” (4.36), though no legend has ever spoken of them. Earlier he had imagined these two opposing winds, Boreas and Notos, trading places across the axis of the Mediterranean, so as to produce symmetrical climatic effects over the Nile river and the Ister or Danube (2.26); and these two rivers are then presented as an antinomic pair, with the upper Nile, which remains beyond the reach of exploration, assumed to flow in a westward direction merely because the upper Ister does (2.33). From these oppositions between winds and rivers, moreover, Herodotus derives oppositions in the cultures of the peoples affected by them. Thus the Egyptians, who live under a different “sky” (meaning weather) and beside an anomalous river, exhibit “backward” patterns of behavior: their women go outdoors to the shops while the men stay indoors weaving, and even in their weaving they push the loom down instead of up; they write from right to left instead of left to right as the Greeks do, and so on (2.35). (Though Herodotus does not explicitly refer to North–South symmetry in this last example, it can be inferred from the parallels he has drawn, in the passage immediately preceding, between the Nile and the Ister.) It is noteworthy that an interest in climate undergirds all

these passages; the basic opposition of cold and hot, correlating with the winds Boreas and Notos and the landmasses of Europe and Asia/Libya, stands out for Herodotus, as it seems to have done for Anaximander and Hecataeus before him, as the defining axis of global structure.¹⁶

Indeed there are hints, in Herodotus' many accounts of military confrontations, of a Montesquieu-like pattern in which colder/European races are destined to triumph over warmer/Asian ones. We must of course bear in mind that for Herodotus the category "Europeans" includes Scythians and Massagetae as well as European Greeks, and these are indeed the three peoples who successfully withstand determined onslaughts of the Persians (Books 1, 4 and 8–9), whereas none of the inhabitants of Libya/Asia do.¹⁷ The case of the Ionian Greeks, sprung from European stock but inhabitants of Asia, seems to support this pattern: Herodotus specifies that they possess the best climate of any place on earth (1.142), and, in the very next chapter, that they form the weakest subgroup of the Greek people (1.143). But, like so many patterns in the *Histories*, that of the relationship between climate and military strength is only inchoate and not fully elaborated or consistently carried through.¹⁸ Indeed Herodotus is more inclined to talk about wealth and poverty as sources of weakness and strength than about the influence of climate; in his concluding anecdote, which ends with the apothegm "soft lands make soft men," he is concerned not with weather but with rocky mountain terrain versus fertile plains (9.122). If the Greeks, as he believes (3.106), belong to the temperate, central regions of the globe, this affects their development primarily because such regions lack the precious natural resources found at the extremes; poverty is their inheritance, as Demaratus says to Xerxes in an explanation of Spartan fortitude (7.102).¹⁹ Nevertheless Herodotus clearly has assimilated the lessons of the Ionian world map with its strong link between continents and climates, and has begun to think, in a tentative way at least, about how culture, and in particular military prowess, relates to both.

The *Airs Waters Places* (Late Fifth Century BCE)

If the link between climates and continents, and the impact of both on the development of cultures, is not yet systematically or consistently developed by Herodotus, other Greek thinkers of the fifth century BCE were moving very much toward such systematization. A medical treatise that seems nearly contemporaneous with Herodotus' *Histories* but independent of it,²⁰ the *Airs Waters Places* by an unknown author (quite possibly the physician Hippocrates of Cos), deals centrally with the effects of geography on human health and human culture, and understands that geography principally in terms of climate. All who have dealt with this curious treatise have recognized it as a crucial document in the history of Greek understanding of global structure, though just how it imagines that structure is harder to pin down – not least because of a large lacuna disrupting a crucial portion of the text.

Already with the basic question of which geographic model this author espoused, the world of two continents or of three, we find ourselves on slippery ground. Asia, he says definitively at 13.1, is separated from Europe by the Palus Maeotis (Sea of Azov), out of which the Tanais river was thought to flow; so we appear to be in the Tanais-Nile boundary scheme which divides the earth into three parts. However, from chapter 12 to the end of his text, about half the entire treatise, the author engages in an extensive comparison between the peoples of “Europe” and those of “Asia,” clearly constructing these as antithetical landmasses and generally speaking as though no third term existed. In only one sentence does he mention Libya, and that sentence raises far more problems than it solves. At the end of chapter 12, a chapter which almost entirely concerns the perfect climate of Asia and its effect on Asian peoples (to be further discussed below), the author concludes: “This is how it seems to me to be concerning the inhabitants of Egypt and Libya,” and then passes on to a new topic. Because the concluding sentence bears no relation to what precedes, it is generally assumed that some portion of text, containing an ethnography of Libya, has been lost prior to this point. But no one can say for sure what this text contained or how long it was, so that experts can disagree on whether it represented Libya as a third continent or merely as a subdivision of Asia.²¹

Another source of complexity is that, although this author differentiates Europe and Asia principally by climate, he does not envision a bipolar, North-South split between them. Asia, he says, enjoys a “mixture (*krēsis*) of temperatures, because it lies midway between the winter and summer risings of the sun” – that is, between the extremes of North and South – “toward the East, and farther away than Europe is from the cold” (12.3). The phrase “farther away from the cold” would seem the equivalent of “farther *south*,” yet the defining cardinal direction is instead said to be *east*; whereas the idea of a “mixture” of temperatures, as well as the median location between the solar risings, seems to place Asia right in the *middle* latitudes of the globe. The *krēsis* remark has led some commentators, notably W. H. S. Jones in the Loeb edition,²² to suppose that by “Asia” this author really means only Asia Minor, but this seems unlikely given that he mentions the Palus Maeotis as its boundary with Europe. Moreover he goes on in chapter 12 to discuss “Asia” as a composite of different regions, of which only one is said to lie “in the middle between the hot and the cold,” so that obviously the entire continent cannot be said to occupy this position and hence to enjoy climatic *krēsis* (see Jouanna 1999: 220).

But then what does give “Asia” its ideal climate, according to this author? The answer lies in the second and third of the mysterious phrases that define his zone of *krēsis*: “toward the East and farther from the cold.” We must look to the first half of the *Airs Waters Places*, the section concerned with the effects of climate on health, to fully understand this formulation. Here the author supposes, naturally enough, that hot winds blow from the South and cold winds from the North, such that cities whose climates are governed by these winds will be predominantly hot or cold. But surprisingly, cities facing the East winds and those facing the

West experience entirely asymmetric climatic effects. The East wind creates a moderate range, *metriotēs*, of temperatures, “similar to springtime” (5.5), since it does not bring mists, and therefore the morning sun can warm the land before losing its radiance in the afternoon; whereas the moist West wind instead brings an alternation of temperature extremes, “similar to autumn regarding the changes during a day’s time, in that there is a huge variation between the morning and the afternoon” (6.4) – because the sun is blocked by fog in the morning but burns with full intensity after midday. Behind this contrast lies a deeply-rooted Greek conception that the morning rays of the sun are felt more fully in the East and are more healthful and fructifying than the scorching heat of the western, setting sun,²³ coupled with observations about the greater humidity of the West wind and about the role of sunlight in dispelling mist. In both cases, the East is regarded as the site of moderate temperatures and beneficent winds – more clearly the earth’s climatic ideal than is the central position between North and South. Indeed when we read in chapter 12 that “Asia” enjoys a “moderation (*metriotēs*) of temperatures” which is “closest to springtime,” we hear a close verbal echo of the description of East-facing cities in chapter 5, suggesting once again that the author’s primary conception of “Asia” is that of the eastern, rather than central, portion of the globe.²⁴

The *metriotēs* or moderateness of the Asian climate produces plentiful crops, large and healthy animal stocks and tall, beautiful peoples, according to the author of *Airs Waters Places*. But after describing this environmental paradise, he abruptly reveals it to be a political and cultural wasteland, for, as he says at the end of the important but lacunose twelfth chapter, “Courage, hardiness, industriousness and spiritedness cannot arise in such an environment, either among natives or transplanted peoples; rather, pleasure must be dominant.” There follows the aforementioned lacuna where some Libyan material has dropped out of the text, and it is impossible to know for certain whether the “pleasure must be dominant” sentence belongs to the preceding discussion of Asian mores or to the lost section on African wildlife that follows.²⁵ This is a difficult problem for interpreters but need not detain us here, since it is clear at least that the main idea of the passage, the lack of moral strength and initiative among inhabitants, pertains to the temperate climate of Asia.²⁶

The author goes on to elaborate on his contrast between continental climates in chapter 16, where he makes clear that his definition of “mixture” or moderation relates not to an average of temperatures, as is normally implied by the term *krēsis*, but rather to the degree of variation in temperatures, the feature which most distinguished East from West in his earlier analysis. “Regarding lack of spirit among men and lack of courage,” he now says, “and the fact that Asians are less successful in war and more tractable in their character than Europeans, the climate is principally responsible; for it does not show great changes [in Asia] either toward cold or heat, but is constant” (16.1). Wide temperature swings, associated here with Europe (though by his thinking they would also be found in West Africa), deliver shocks to the mind and body, rousing them from self-contented

torpor and inducing energy, ferocity, high-spiritedness – qualities explicitly linked here, for the first time in the treatise, to military strength. This physician (if such he was) clearly has more on his mind than mere bodily health; he is pondering, as well, the reasons for the Greek ascendancy over the Persian empire in the fifth century and for the different political cultures among the two peoples.

But lest we be tempted to assume a cause-and-effect relationship – Greek pluralism and rejection of monarchy arise *because of* the climatic extremes found in Europe – the author quickly defeats that expectation. Asians are weak and passive due to the sameness of their weather, he says, and in addition (*proseti*) because monarchy is the prevailing form of government on that continent, and people living under kings and not fighting for their own interests are prone to be shirkers in war. The proof, he says, is as follows: those few Asians who live not under a king but under self-government, whether Greeks or non-Greeks, are in fact the *most* courageous in battle of all men, despite having been reared in a land of even temperatures (16.5). So political culture, which was later regarded as a *product* of environment, is here cast instead as a parallel influence contributing to European supremacy over Asia. Given a similar climate, human moral character will develop either well or poorly based on differences in political regime; just as, given a similar political culture (as the author says explicitly at the end of chapter 16), differences in character can be explained by greater or lesser degrees of temperature variation. Most Asians are unfortunate enough to have both factors working against their development of moral energy and initiative, whereas most Europeans, in particular the Greeks, have both factors working *for* them (Jouanna 1999: 221–2).

Such are the complexities, both external (resulting from the break in the text of the crucial twelfth chapter) and internal, besetting this first-ever Greek attempt to link the climates, continents and political structures of the earth into a single comprehensive system. Its admirable effort to depict variations in human culture as the result of an interplay between climatic and political influences was never to my knowledge extended by later writers, who tended to depict the latter as the product of the former. Nor did his intricate climatic model, which took account of the effects of East and West winds along with the traditional opposition between North and South, find favor among his successors in global geographic thought, who increasingly focused on heat, cold, and the intermixture of the two as the principal determinants of both climate and culture. In their schemes, as we shall see next, it was the Greeks rather than Asians who enjoyed the blessings of *krēsis* or climatic moderation, and these were now regarded as the source of political and moral virtue rather than weakness and enervation.

Plato, Aristotle and Isocrates (Fourth Century BCE)

By the latter half of the classical era, the fourth century BCE, the Greeks seem to have become satisfied with their tripartite division of the world at the Tanais and

Nile rivers. At least, we find no further debate over the continental question in this period, nor indeed any geographic thinking on the same macroscopic scale as that found in Herodotus' *Histories* and the Hippocratic *Airs Waters Places*. But in its place came a new approach to defining global structure, founded in part on an increasing sense of Hellenic, or in some cases Athenian, exceptionalism. In important passages of their philosophic works, Plato and Aristotle both constructed map-like schemata placing the Greeks in the climatic center of the earth, and used these schemata as ways of explaining the unique virtues of Greek political life. This central global position, for them, plays exactly the opposite role as it had in the *Airs Waters Places*, fostering political virtue and military strength rather than indolence and passivity.

Turning first to the *Republic* of Plato, we find, in a passage of Book 4 (435e), Socrates claiming that the globe is divided into three cultural zones with different ethical qualities predominating in each: In the North (or what Plato calls "the upper region"), *to thumoeides*, the quality of high-spiritedness or aggression found in the Thracians and Scythians, holds sway; next, the "knowledge-loving" quality that typifies the Greeks; and finally the materialism or acquisitiveness of races like the Egyptians and Phoenicians. These last two zones are not given geographic co-ordinates as is the first, but it is a fair surmise that Plato means us to think of them as the central and southern zones; Egypt and Scythia had long been paired as opposites in schemes based on North-South symmetry,²⁷ and Phoenicians were as prevalent in Libya (Carthage) as they were in the Levant. Indeed Plato seems here to be adapting the climate-based, bipolar world map of the Ionians by establishing the Greeks as a kind of middle term, belonging neither to North nor South.

Moreover, Plato here allows Socrates to define Greek culture not according to the idea of *krēsis* or mixture of two extremes, but rather by way of an intellectual capacity wholly separate from both. It seems that he is attempting to superimpose onto an inherited climatic construct his own tripartite model of the soul, which is just about to emerge in the subsequent section of the *Republic* – the division into intellect, appetite, and the spirited or martial element Plato calls *thumos*. The three cultural zones Socrates describes on his imaginary globe correlate very closely with these three parts, especially since the "northern" quality characterizing the Thracians and Scythians, *to thumoeides*, forms a close verbal anticipation of *thumos*. Thus it appears that Plato here imagines the three-layered earth to be essentially a human soul blown up to macroscopic proportions, just as the ideal city of the *Republic* is constructed as a soul writ large, with its three classes of citizens defined by the part of the soul predominating in each. According to this analogy of course the Greeks are identified with the intellect, the part of the soul regarded as divine and the part endowed, in a healthy human being or a healthy world order, with supremacy over the other two.

Elsewhere in his writings Plato recurs to more traditional climatic models to explain why Athens, out of all Greek cities, had excelled in philosophy, politics, and military affairs. In the *Timaeus* for example (24c–d), he tells, through the persona of an Egyptian priest, a myth whereby Athens had been founded by a

goddess at a place where the climate was “well blended” and therefore most productive both of wise men and of warriors. In the *Laws* (747d–e), in another discussion of where cities should be founded, he abandons talk of “mixture” and invokes a set of other criteria, reminiscent of the *Airs Waters Places*: winds, waters, soil quality, and exposure to sunshine will all influence the moral development of the inhabitants. The *Epinomis*, a dialogue framed as a sequel to the *Laws* but generally thought not to be by Plato himself, traces Athenian exceptionalism more directly to climatic *krēsis*: “Every Greek must understand,” says an Athenian speaker, “that we possess the place most nearly best in regard to virtue . . . midway between winter and summery weather” (987d). The privileged spot, in which Herodotus had placed the Ionians and which the *Airs Waters Places* had given to Asians generally, is here reserved for the Athenians and is credited with their development of moral excellence.

So centrality between North and South, for Plato and his school, explained both why Greeks excelled over barbarians and Athenians over other Greeks. Aristotle took the former contrast one step further in the *Politics*, adopting a *krēsis*-based ethnographic scheme as a way of explaining Hellenic virtues but also bringing in the additional element of continental geography. “Those who dwell in a cold climate *and in Europe*,” he says (my emphasis), possess high-spiritedness but little intelligence, while “the natives of Asia” are just the reverse; only the Greeks, situated in the center of the globe, possess *both* spirit and intellect, and are thus best governed and militarily strongest. Plato’s tripartite scheme has here been combined, somewhat awkwardly, with the Ionian two-continent world map, such that the Greeks end up inhabiting neither Europe nor Asia but an imagined intercontinental space.²⁸ Aristotle has at the same time skillfully adapted the idea of climatic *krēsis* to the moral realm, resulting in a scheme by which centrality on the globe produces the “virtue as a mean between extremes” explored at length in works such as the *Nicomachean Ethics*. The association of *thumos* with the North is maintained from Plato, but the South is now defined by its lack of *thumos*, and intelligence is made to accompany *thumos* in inverse proportions; political excellence is defined chiefly as a correct balance between these two qualities. Such balance is also equated with military strength, moreover, since, as Aristotle famously goes on to say, the Greeks would be able to dominate all other races could they unite under a single political regime.

One other fourth-century figure deserves to be mentioned here, since he too concerned himself closely with Greek political and military supremacy over the barbarians. The Athenian orator and essayist Isocrates took little interest in geography as a science but played on notions of continental identity in his speeches agitating for a Greek war against Persia. Time and again in his fiery *Panegyricus* he virtually identifies the Persian empire with the continent of Asia, in an effort to dramatize the threat posed by this geopolitical entity to the opposing land-mass of Europe. In order to dramatize the arrogance of the Persian king, Isocrates at one point conjures up a strongly dualistic world picture, imagining that “the whole world that lies under the heavens has been divided into two

portions, one called Asia and the other called Europe,” and that the king has seized one of these two halves as though by divine right (*Panegyricus* 179). This type of “worlds in collision” rhetoric, of course, predates Isocrates and endured in various forms long after him; indeed it still enjoys wide currency today. In antiquity it typically drew heavily on the myth of the Trojan War, perceived as the first great Euro-Asian war, and tended to racialize intercontinental conflicts by associating “Europe” closely with Greek (later Roman) civilization and “Asia” with the barbarians.²⁹ It was thus based on a political and ideological construct more than a geographic one, but it undoubtedly continued to influence geographic thought as it echoed down through the centuries.

Hellenistic and Roman Geography (Third Century BCE through Second Century CE)

It is interesting to find both Aristotle and Isocrates talking in bipolar or North-South terms about continental geography, and ignoring global structures their era was fully cognizant of: the continental status of Libya and the division of Europe from Asia at the Tanais river rather than the Phasis. The old Ionian two-continent or North-South map, based as it was on climatic structure and on the principle of antithesis, served their political ideologies better than the more complex tripartite map which had subsequently emerged. A similar phenomenon can be observed in the writings of Greek thinkers of the Hellenistic and Imperial periods, the eras to which we now turn. As geographers began to focus increasingly on *climata* or climatic zones in drawing maps and analyzing cultures, the old North-South structures of the Ionians enjoyed a new relevance, even when they clashed with the tripartite model of the continents. The surviving textual record of geography in these eras is much broader than in the classical age, far too broad for a survey like this one to take account of all the major texts; but let us at least look at a few highlights to get a sense of the survival and adaptation of the old North-South scheme following the conquests of Alexander the Great.

First, there is the intriguing case of Alexander himself, a man who could not help but interest himself in questions of continental division; he was after all a European leader who proclaimed himself “King of Asia” after achieving the defeat of the Persian empire, and who contemplated (if we believe in the report given by one historian of the “Last Plans” found after his death) the forced transplantation of Europeans into Asia and Asians into Europe. But how did Alexander define the places he called “Asia” and “Europe”? We have one important clue: a note by Strabo that when Alexander came to the river Jaxartes (also sometimes known by Alexander historians as the Araxes), the east-west-flowing stream that became the northern boundary of his empire, he identified it as the Tanais – the north-south flowing stream that had served most Greek thinkers before him as the Euro-Asian boundary. This error, like all of Alexander’s geographic

misconceptions, had a basis in strategy and propaganda, as Strabo is quick to point out: by fusing these two streams into one, Alexander fixed his own imperial boundary at the limits of a continent, reinforcing his claim as “King of Asia” to have sovereignty over that entire realm.

Alexander’s attempt to recreate a Phasis-type boundary, dividing the earth once again into northern and southern continents, did not in the end take hold, as the Tanais continued to flow north-south in Hellenistic geographies. However, river boundaries in general were fading in prominence in this period, when new mathematically-based approaches were drawing new kinds of lines on the earth’s surface: the *climata* or climatic zones now broke it into segments and theoretical lines of latitude, and longitude were used to measure its length and breadth. Already in the fourth-century BCE, Dicaearchus, as we are told by a later geographer (Agathemerus 1.5), relied on an equator drawn from the Pillars of Heracles through the middle of the Mediterranean, rather than on traditional water boundaries, to divide and structure the earth. This line, later to be known to Greek science as the *diaphragma*, was carried across Asia by way of a great mountain chain, the Taurus Mountains, thought to run precisely east-west to the edge of the continent – taking the place, that is, of the old Araxes and Phasis rivers. The main purpose of this *diaphragma*, which appears as a prominent feature in the subsequent treatises of Eratosthenes, Hipparchus, Posidonius and others, was to supply a median axis along which the inhabited world could be measured; but given that the line followed prominent physical barriers along most of its length, including the straits separating Europe from Africa in the far West, it inevitably came to take on a more than merely mathematical significance. The earth as split by the *diaphragma* was once again divided into northern and southern halves, with Libya and southern Asia again paired up, as in the Ionian map, into a single region.

An even more dramatic step backward toward the old Ionian North-South scheme came at the end of the evolution of Greek geographic thought, with the reattachment of Africa and Asia to form a single “down under” continent. As we have seen there were those among the Ionians who espoused such an idea, and Alexander the Great fell briefly under its spell when, by the banks of the Indus, he thought he had found the upper Nile. But the notion of an Asia-Libya land bridge had disappeared from Greek geographic thought for several centuries after that,³⁰ giving way to increasingly reliable reports (already credited by Herodotus, 4.43) of the circumnavigation of Africa.³¹ So it is surprising to find Ptolemy making this idea a central point of his world map in the second century CE (*Geography* 7.5.2–5), especially since it so completely lacked empirical support. What can have motivated this great scientist so to commit himself to the fusion of Africa and Asia into a single mega-continent? Perhaps a conviction that these two landmasses were essentially the same, just as Europe was essentially different from both – a return, in other words, to an antithetical world picture, a division of the earth into “us” and “them.”

The *Book of Jubilees* (A Jewish Text Incorporating Greek Elements, Second Century BCE)

What we have seen thus far of the Greek geographic and cartographic traditions suggests a complex interplay between a climate-based North-South construction of the earth and a division into continents employing physical boundaries. At the outset the two schemes were neatly conjoined in the maps drawn by the Ionians, where North and South correlated neatly with Europe and Asia. But in the fifth century and beyond, new models of continental division employing north-south axes, the Tanais and Nile, disrupted this correlation and brought a tripartite world map into prominence even while the bipolar North-South scheme continued to exert strong influence. An original antithesis between Europe and Asia, which the Greeks found appealing in the era of their conflicts with the Persians, was similarly disrupted by the emergence of Libya as a third continent, though some, like Ptolemy, persisted in attaching this land to Asia despite evidence to the contrary.

It was an entirely different approach, however, coming from Judaic writings arising out of the Hebrew Bible, that achieved a reconciliation between the climate-based scheme of the North-South map and the three-continent world of empirical geography. In the final segment of this survey, let us look briefly at how Jewish thinking about the three sons of Noah and their offspring, the inheritors of the empty earth in *Genesis* 10, intersected with Greek thinking about the continents to produce a synthesis which went on to become the primary world map of the Middle Ages. The evidence for such an intersection is found in a most obscure place: the apocryphal *Book of Jubilees*, a retelling of the early books of the Bible by an unknown Jewish author of the Hellenistic era, originally written in Hebrew but preserved in complete form only in an Ethiopic translation (see also Scott, this vol.).

It is the section of *Jubilees* dealing with *Genesis*' "table of nations," portions of chapters 8 and 9, which concern us here, for this is where the author advances his ideas about global continental structure. The myth of the sons of Noah provided a natural opportunity to do so, and indeed it is possible that the *Genesis* authors themselves had some vague three-continent scheme in mind when they described the three portions of the earth assigned to Shem, Ham and Japheth.³² But in *Jubilees* this inchoate scheme becomes fully articulated and systematized, in a way that attests to the author's familiarity with Greek writings on global geography. First, the author follows the Greek continental scheme in making the Tanais ("Tina") and Nile ("Gihon") the boundaries of the three territories settled by the three sons of Noah, dividing these by water boundaries in a way that *Genesis* had not. Second, and more strikingly, he imports the Ionian climatic scheme, based on an opposition between North/cold and South/hot with a zone of *krēsis* or "mixture" in between, into his adaptation of the Biblical narrative. Thus he defines Shem's portion as "the center of the earth," with Japheth's portion to the north and Ham's to the south, and asserts in one important passage: "[The land of Japheth]

is cold, and the land of Ham is hot, and the land of Shem is neither hot nor cold, but it is of blended cold and heat" (8.30). Shem, as the eldest son to whom the richest inheritance is due, here is assigned not the wealthy East, as seems to be the case in *Genesis*, but rather the desirable central portion, the zone of *krēsis*, in a world divided into longitudinal zones just as it was in the climate-based schemes of the Greek geographers.³³

This longitudinal scheme may at first glance seem out of harmony with the use of the Tanais and Nile as territorial boundaries. But because the *Jubilees* author, like his contemporaries, identified the Nile with the Gihon river of *Genesis*,³⁴ he was able to draw this river running nearly east-west, so as to bring it from its reported source in Eden (*Genesis* 2:13) to its known mouth in the Mediterranean. He then went a step further and imagined the Tanais paralleling the Nile, creating two mirror-image streams in opposite halves of the globe (just as Herodotus had done with the Nile and the Ister). As Scott's Figure 12.2 shows (this vol.), the result is an earth made up of three continents aligned primarily east-west, corresponding roughly to the three climatic zones discussed by Plato and Aristotle – a remarkable resolution of the tension between *climata* and continents that had caused such difficulties for Aristotle, as we saw above, and many of his successors.

The strict link *Jubilees* constructs between Noah's heirs and the Greek continental landmasses was not without its own difficulties, however. The table of nations in *Genesis* 10 organizes humanity according to political and cultural, not geographic, groupings. Thus Madai, the ancestor of the Medes, is listed among the sons of Japheth, presumably because of the close connection between Iranians and the nomadic peoples of the Eurasian steppes; while Canaan, whose name places his progeny quite unmistakably in the Levant, is said to descend from Ham, not Shem, because of Egypt's early domination of that region. Translating this politically-organized genealogy into the framework of a continent-based map leaves the author of *Jubilees* with these two obvious dislocations. But he has dealt expertly with the dilemma, noting later in his text (10:27–34, 35–36) that both Madai and Canaan eventually emigrated from the lands assigned to their fathers and settled instead in the portion of Shem.³⁵ Canaan's migration, interestingly enough, is described as a violent transgression against the order established by Noah, and an unlawful invasion of territory given to Shem's son Arpachshad – the distant but direct ancestor, as it happens, of the Hebrew patriarch Abraham. So the territorial contests that plagued the land of Canaan throughout its early history, and that still rage today, are here traced to an original violation of Noah's settlement with his sons, in an account clearly intended to justify Jewish possession of the region.

The geography of the table of nations in *Genesis* was later dealt with by the historian and essayist Josephus in a different manner than that of *Jubilees*.³⁶ Here Asia Minor is assigned to Japheth and parts of the southern Near East to Ham, thereby creating an Asian landmass which bordered both Africa and Europe at the Euphrates. His discussion, while not correlating as neatly with the Greek continental scheme as did *Jubilees*, nonetheless helped reinforce the notion in the



Figure 14.2 T-O Map. In Saint Isidorus [Bishop of Seville], *Etymologiarum sive originum libri XX*. Augsburg, Gunther Zainer, 1472

Greco-Roman world that the table of nations in *Genesis* constituted a world map and that the realms of the three sons could be assigned definite boundaries and limits. The same idea was taken up by other early commentators on *Genesis*,³⁷ and later medieval Christian writers such as Isidore of Seville and Beatus Rhenanus returned to the notion that the three classical continents constituted the lands assigned to the three sons of Noah. The earliest surviving medieval maps (of the seventh and eighth centuries CE), when they take the form of the T-O type (Figure 14.2), often show the three continents labeled with the names Ham, Shem and Japheth.³⁸

The social and political implications of this mythicized system of geography were huge, in part because the “curse of Ham” pronounced by Noah in *Genesis* 9 now became available to all those who sought to justify the exportation of African slaves either to Europe or to Asia – or even, later, to the New World (Braude 1997, and now Goldenberg 2005). But that is another story that takes us to other times and places. Our survey of Greek thinking about world structure ends here, with the surprisingly successful fusion wrought by the author of *Jubilees* of Hellenic continental/climatic theory and Judaic Bible commentary. Thanks to his ingenuity, the post-classical European world at last solved the riddles first posed

by Herodotus: How were the continents divided and why does the earth, though all one land, bear three names? In the absence of empirical evidence, the genealogical legends of *Genesis* were called upon to supply the answers. The division of the world at the Nile and Tanais could henceforth be traced back to the earliest stratum of human history, and to a text purporting to be the very word of God.

Notes

- 1 See Thomas 2000: 84–5 for a fuller discussion of the issue of naming in this passage.
- 2 How and Wells 1912: 320–1; Lukermann 1961: 271; for a different theory, see Ninck 1945: 18–19. The Greek word *Europe* occurs first in extant literature in the *Homeric Hymn to Pythian Apollo* (250–1), where it refers to the mainland portion of European Greece as opposed to the islands or the Peloponnesian peninsula. “Asia” perhaps occurs in an adjectival form already in Homer’s *Iliad* (2.461), but is first found as a noun in Pindar, *Olympian* 7.18. “Libya,” apparently derived from a North African tribal name (Thomson 1965: 12), is also found first in Homer (*Odyssey* 4.85), but refers there only to the region west of Egypt, not to an entire continent.
- 3 The Phasis was thought by Hecataeus to have its origins in an eastern Ocean (Jacoby 1923: 1 F18; see Gisinger 1929: 555), and so divided Asia from Europe all along the length of both landmasses. Later, after the Phasis was known to have its source inland, Herodotus added the Araxes as an eastward extension of the Asia-Europe boundary (see below).
- 4 See Gisinger 1929: 552; Heidel 1937: 11–12; Dilke 1985: 24; Aujac 1987: 135.
- 5 The question of Hecataeus’ continent divisions is rather more complex than can be fully explored here. Bunbury (1883: 145 f.) admitted to his perplexity as to whether Hecataeus should be credited with two continents or three, and observes that the book divisions of the *Periodos gēs* do not necessarily reflect continental divisions. Nonetheless the consensus of modern commentators favors two continents; see Ninck 1945: 34–40; Lloyd 1975: 129 (but see also 1976: 83); Aujac 1987: 134 and fig. 8.5; Thomas 2000: 81.
- 6 Strabo (1.4.7) relates a lost discussion by Eratosthenes contrasting isthmus boundaries with those formed by bodies of water; from this discussion it appears that there were some in his era who preferred the former.
- 7 Berger 1903: 76–77; Gisinger 1929: 558; Lloyd 1976: 109. Admittedly, the evidence of such a theoretical land bridge is slight, consisting principally of one mention in Strabo (1.3.1) of a theory of Damastes, and the fact that Io, in Aeschylus’ *Prometheus Bound* (lines 807–9), is said to pass from Asia to Ethiopia without crossing water; but Finkelberg (1998: 129) believes this in fact dates the play to the fourth century BCE. See Thomson 1965: 82 and n. 1.
- 8 How and Wells (1912: 167–8, 317) think it probable that Herodotus meant to assign Egypt to Africa; Tozer (1897: 82) thinks the opposite, but comes closer to the mark when suggesting that Herodotus “leaves uncertain” the answer to the question. Thomson (1965: 66) says that “Herodotus seems to prefer the isthmus” of Suez to the river boundary, apparently on the basis of 4.41.2.
- 9 The crucial note by How and Wells is found not *ad loc.* but in a discussion of 4.39.2 (1912: 317), where the issue arises of which continent Egypt belongs to: “As

- [Herodotus] thought Africa a continuation of the *aktē* of Asia, the exact position of Egypt seemed to him of little importance.”
- 10 Correctly observed by Thomas 2000: 76. Another sign of that evolution is the fact that Aeschylus refers in the *Prometheus Bound* (line 724–5) to the Tanais/Cimmerian Bosphorus axis as the boundary of Europe and Asia, while in the fragments of the *Prometheus Unbound*, the Phasis serves this function (fr. 791 Radt); see Bunbury 1883: 150; Finkelberg 1998: 133–34; Podlecki 2005: 205.
 - 11 Thomson 1965: 59, 254, with valuable references in the notes.
 - 12 Such maps neatly realigned the symmetry of the Ionian maps described by Herodotus, making Asia rather than Europe the double-sized landmass counterbalancing the combination of the other two; see Augustine, *City of God* 16.17.
 - 13 Correctly perceived by How and Wells 1912: 318, 43.
 - 14 Thomas (2000: 78, 85) correctly observes that Herodotus does not embrace the principle of North-South symmetry universally, and that he seems torn in places between the neatness of this construct and the less tidy evidence of empirical data.
 - 15 In an extensive article (Romm 1989) I attempted to show that Herodotus’ belief in North-South symmetry is more pervasive and firm than has been acknowledged. See also Myres 1896: 608–9; Lloyd 1971: 342–5, with special reference to the Nile/Ister analogy.
 - 16 It might be added that the two longest ethnographies of the text, those dealing with Egypt (2.1–98) and Scythia (4.1–82), form a paired opposition between the “archetypal” peoples of the northern and southern continents (Lloyd 1975: 168; 2002: 415; Thomas 2000: 78). The prominence of Boreas and Notus in Greek thought, as compared with other winds, can be judged by the words of Strabo at 1.2.21: “There are some who claim that only two principal winds exist, Boreas and Notus, and that all the others are distinguished from these by small increments of direction.” See also Aristotle, *Politics* 1290a 13ff.; *Meteorologica* 362b 30ff., and Lloyd 1971: 362.
 - 17 The Macrobian Ethiopians (3.17–25) may perhaps be an exception, though they never have the chance to demonstrate their vaunted superiority; the Persian army collapses before making contact with them. Nonetheless it could be argued that the Ethiopians are here portrayed as a race which has the capacity to defeat Persia.
 - 18 Thomson puts the case well (1965: 107): “Herodotus . . . [is] aware that a nation is not the product of climate alone, or of race alone, but of complex factors including culture and tradition.”
 - 19 See Jouanna 1981: 13–15, where Herodotus’ views in this regard are contrasted with those of Hippocrates.
 - 20 For the relationship between the two authors, neither of whom seems to have known the work of the other, see Jouanna 1999: 225–31.
 - 21 Desautels (1982: 67–70) believes the missing discussion treated Libya as a third continent, while Jouanna (1996: 55 n. 79; 1999: 219, 225) rejects this view. Sassi (2001: 108) seems to side with the latter view.
 - 22 Jones 1923: 105 n. 1; similar note by Gagarin, in Gagarin and Woodruff 1995: 164 n. 145.
 - 23 Desautels 1982: 77–8; Jouanna 1996: 266; Sassi 2001: 108.
 - 24 I am assuming, along with most scholars, the unity of the work; for full discussion of the problem, see Jouanna 1996.

- 25 See the discussion by Jouanna 1996: 299–300, who shows that the placement of the lacuna before this clause is the consensus of modern editors, though W. H. S. Jones in the Loeb edition opts to insert it after. The subject of the lacuna is vexed and incapable of resolution, as Jouanna indicates: “Rien n’est totalement assuré dans le détail, sauf l’existence d’une importante lacune” (299).
- 26 In chapter 23 the author summarizes his points about the contrast between Europe and Asia and refers once again to the “spiritedness” (*thumocides*) and “hardiness” (*talaiḗpōria*) which fail to arise in the east, using the same terminology as in chapter 12.
- 27 For example by Herodotus in Books 2 and 4 of the *Histories*; similarly the Ethiopians and Scythians, Heidel 1937: 16–18.
- 28 Jouanna 1992: 327–9; Thomas 2000: 93. This intercontinentality is at variance with the standard conception, adopted by Aristotle himself in an earlier section of the *Politics* (1285a): “The barbarians are more slavish by nature than the Greeks, and the Asians more than the Europeans,” where Greece and Europe are aligned with one another by the terms of the analogy.
- 29 An identification first made by the Persians, according to Herodotus (1.4), liberally promoted by Isocrates (see Momigliano 1933), and later cropping up as well in Augustan Rome (Hardie 1986: 311–13 and n. 29).
- 30 An apparent recurrence in Polybius (3.38.1) has been explained otherwise; see Walbank 1957: 370.
- 31 See Berggren and Jones 2000: 22 n. 23, where the emphasis is laid, incorrectly in Herodotus’ case, on Greek skepticism about such circumnavigations.
- 32 Debates on this question are cited by Scott 1995: 22 and n. 60; see Alexander 1992. Braude 1997: 108–10 rejects all idea of geographic coherence in *Genesis* 10.
- 33 Greek influence is assumed by all recent commentators on this text, though its degree is debated. Alexander’s view of an almost wholesale adoption of Ionian cartographic concepts (“*Jubilees*’ ‘map’ is basically the old Ionian world map accommodated to the Bible,” 1992: 980) has been judged excessive by Scott 1995: 16–23; compare Schmidt 1999; Scott 2002: 32–4; Frey 1997: 280–2. Braude (1997: 111 and n. 14), in an extensive discussion of the Sons of Noah tradition, mysteriously claims that *Jubilees* made no connection between the sons and the continents.
- 34 See Alexander 1992: 979–80 for the identification of the Gihon with the Nile; this was not an inevitable link, given the vagaries of *Genesis*, and indeed the fourth of Eden’s rivers, the Phison, later took its turn as the Biblical Nile.
- 35 Alexander 1982: 200 and 1992: 982; see also the objection by Scott 1995: 22–3.
- 36 *Jewish Antiquities* 1.122–47; contrasted with *Jubilees* by Alexander 1992: 982–3; Schmidt 1999: 126–9.
- 37 The relevant texts are collected and translated by Scott 2002: 35–43.
- 38 Woodward 1987: 334, with typical illustrations p. 302; Edson 1993: 173–4.

References

- Alexander, Philip. 1982. “Notes on the ‘Imago Mundi’ of the *Book of Jubilees*.” *Journal of Judaic Studies* 33: 197–213.
- Alexander, Philip. 1992. “Early Jewish Geography.” In *Anchor Bible Dictionary*, II: 977–88.

- Aujac, Germaine. 1987. "The Foundations of Theoretical Cartography in Archaic and Classical Greece." In J. B. Harley and David Woodward (eds.), *The History of Cartography, I: Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean*, 130–60. Chicago.
- Berger, Ernst Hugo. 1903. *Geschichte der wissenschaftlichen Erdkunde der Griechen*. Leipzig.
- Berggren, J. Lennart, and Alexander Jones. 2000. *Ptolemy's Geography: An Annotated Translation of the Theoretical Chapters*. Princeton.
- Braude, Benjamin. 1997. "The Sons of Noah and the Construction of Ethnic and Geographic Identities in the Medieval and Early Modern Periods." *William and Mary Quarterly* 54: 103–42.
- Bunbury, E. H. 1883. *A History of Ancient Geography*, I. 2nd edn. London. Repr. New York, 1959.
- Desautels, Jacques. 1982. *L'image du monde selon Hippocrate*. Quebec.
- Dilke, O. A. W. 1985. *Greek and Roman Maps*. Ithaca, NY.
- Edson, Evelyn. 1993. "The Oldest World Maps: Classical Sources of Three VIIIth Century *Mappaemundi*." *Ancient World* 24: 169–84.
- Finkelberg, Margalit. 1998. "The Geography of the *Prometheus Vincitus*." *Rheinisches Museum* 141: 119–41.
- Frey, Jörg. 1997. "Zum Weltbild im Jubiläenbuch." In M. Albani, J. Frey, and A. Lange (eds.), *Studies in the Book of Jubilees*, 261–93. Tübingen.
- Gagarin, Michael, and Paul Woodruff (eds.). 1995. *Early Greek Political Thought from Homer to the Sophists*. Cambridge.
- Gisinger, F. 1929. "Geographie." *Realencyclopädie des classischen Altertums*. Supp. 4: 521–685.
- Goldenberg, David. 2005. *The Curse of Ham: Race and Slavery in Early Judaism, Christianity and Islam*. Princeton.
- Hardie, Philip. 1986. *Virgil's Aeneid: Cosmos and Imperium*. Oxford.
- Heidel, William A. 1937. *The Frame of the Ancient Greek Maps*. New York.
- How, W. W., and J. Wells. 1912. *A Commentary on Herodotus*, I. Oxford.
- Jacoby, F. (ed.). 1923. *Die Fragmente der griechischen Historiker*, I. Berlin.
- Jones, W. H. S. (ed., trans.). 1923. *Hippocrates*, I. Cambridge, MA.
- Jouanna, J. 1981. "Les causes de la défaite des barbares chez Eschyle, Hérodote et Hippocrate." *Ktéma* 6: 3–15.
- Jouanna, J. 1992. *Hippocrate*. Paris.
- Jouanna, J. (ed.). 1996. *Hippocrate*, II: *Airs, Eaux, Lieux*. Paris.
- Jouanna, J. 1999. *Hippocrates*, trans. M. DeBevoise. Baltimore.
- Kirk, G. S., J. E. Raven, and Malcolm Schofield. 1983. *The Presocratic Philosophers: A Critical History with a Selection of Texts*, 2nd edn. Cambridge.
- Lloyd, Alan B. 1975. *Herodotus Book II: Introduction*. Leiden.
- Lloyd, Alan B. 1976. *Herodotus Book II: Commentary 1–98*. Leiden.
- Lloyd, Alan B. 2002. "Egypt." In E. Bakker, I. J. F. De Jong, and H. van Wees (eds.), *Brill's Companion to Herodotus*, 415–36. Leiden.
- Lloyd, G. E. R. 1971. *Polarity and Analogy: Two Types of Argumentation in Early Greek Thought*, 2nd edn. Cambridge.
- Lukermann, F. 1961. "Europe: How Far?" *Geographical Journal* 127: 270–2.
- Momigliano, Arnaldo. 1933. "L'Europa come concetto politico presso Isocrate e gli Isocratei." *Rivista di Filologia e d'Istruzione Classica* n.s. 11: 477–87. Repr. in A. Momigliano, *Terzo contributo alla storia degli studi classici e del mondo antico*, I: 489–97. Rome 1966.
- Myres, John L. 1896. "An Attempt to Reconstruct the Maps Used by Herodotus." *Geographic Journal* 8: 605–31.
- Ninck, Martin. 1945. *Die Entdeckung von Europa durch die Griechen*. Basel.

- Podlecki, A. J. 2005. *Aeschylus: Prometheus Bound*. Warminster.
- Romm, James. 1989. "Herodotus and Mythic Geography: The Case of the Hyperboreans." *Transactions of the American Philological Association* 119: 97–117.
- Sassi, Maria Michela. 2001. *The Science of Man in Ancient Greece*. Trans. G. E. R. Lloyd. Chicago.
- Schmidt, Francis. 1999. "Jewish Representations of the Inhabited Earth during the Hellenistic and Roman Periods." In A. Kasher, U. Rappaport, and G. Fuks (eds.), *Greece and Rome in Eretz Israel*, 119–34. Jerusalem.
- Scott, James M. 1995. *Paul and the Nations: The Old Testament and Jewish Background of Paul's Mission to the Nations with Special Reference to the Destination of Galatians*. Tübingen.
- Scott, James M. 2002. *Geography in Early Judaism and Christianity: The Book of Jubilees*. Cambridge.
- Thomas, Rosalind. 2000. *Herodotus in Context: Ethnography, Science and the Art of Persuasion*. Cambridge.
- Thomson, J. Oliver. 1965. *History of Ancient Geography*. New York. Reprint of 1948 edn. Cambridge.
- Tozer, H. F. 1897. *A History of Ancient Geography*. Cambridge.
- Walbank, F. W. 1957. *A Historical Commentary on Polybius*, I. Oxford.
- Woodward, David. 1987. "Medieval *Mappaemundi*." In J. B. Harley and David Woodward (eds.), *The History of Cartography*, I: *Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean*, 286–358. Chicago.

The Geographical Narrative of Strabo of Amasia

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To write (*graphein*) a description of the earth (*gē*): this was both the goal and the essence of ancient Greek geographical works. No charts, no diagrams, probably no maps accompanied these works;¹ they were composed entirely of words and ideas. This, then, was the undertaking of the authors: to express and explain the concrete and sometimes quantitative facts of the physical world through words, that is, to narrate geography.

As an intellectual field, ancient Greek geography developed along two lines differing in focus, terms, and methodology. Scientific geography, which also contributed to cartography, used astronomy, arithmetic, and geometry to establish coordinates of sites, distances between points, and shapes and sizes of regions in terms of length, width, or circumference. Descriptive geography, on the other hand, usually provided an appendix to historiographical discussions and did not apply exact calculations and empirical research, but dealt with descriptions of regions and sites according to the author's tendencies and aims. The basis was usually a description of the site's appearance, its nature and its topographical, botanical, and zoological characteristics. Descriptive geography might sometimes include mathematical details but never engaged in calculating them. The Greeks thus developed two styles of written geography.²

Strabo of Amasia, a first century CE man of letters, began his career as a historian but gained a reputation through his extensive descriptive geographical survey of the entire inhabited world (*oikoumenē*) known in his time.³ In a work comprising seventeen units (about 500,000 words in all), he began with an extended introductory section on methodology and the history of geography. He then surveyed the world, moving in a circular order around the Mediterranean, starting with Iberia and Lusitania and concluding, in Book 17, with Egypt, Ethiopia, and North Africa.

Most of the *Geographies* written prior to Strabo had a somewhat limited orientation and scope. Eratosthenes, Hipparchus, and Poseidonius focused on the scientific aspects of their subject and dealt mainly with astronomy and physics. Artemidorus was interested particularly in distances and coordinates, and Polybius concentrated on historiography.⁴ Introducing his section on the Greek part of the world, Strabo makes a brief reference to earlier geographical descriptions:

This subject was first treated by Homer, and then, after him, by several others, some of whom have written special treatises entitled *Harbours* or *Coasting Voyages* (*periploi*) or *General Descriptions of the Earth* (*periodoi gēs*), or the like, and in these is comprised also the description of Greece. Others have set forth the topography of the continents in separate parts of their general histories, for instance, Ephorus and Polybius. Still others have inserted certain things on this subject in their treatises on physics and mathematics, for instance, Posidonius and Hipparchus. (8.1.1)⁵

Strabo's main innovations were his focus on geography as his main theme and the broad scope of his survey, encompassing the known world and its limits from end to end. He attempted to provide facts and details beyond toponymic and cartographic annotations and he thus combined a detailed description with a universal context. In this sense, Strabo's work presents a new approach when compared with his predecessors: it is neither a monograph on a certain theme, nor a chapter or a book in a historiographical survey, nor part of a scientific treatise. The final result in the *Geography* was an elaborated and original presentation, and not only because of the up-to-date information it contained.

Why write geography at all? Here, Strabo follows the approach of his predecessor, the Hellenistic historian Polybius. Polybius, who dealt with pragmatic history (*pragmatikē historia*), composed his historical survey in order to benefit politicians and leaders (Walbank 1948, 1972). Strabo also intends to benefit his readers. Who then might profit from a geographical survey, and whose needs and interests would such a work satisfy? Strabo gives some examples from the past for the correlation between familiarity with topography and military success, and concludes that geography and the various branches of knowledge it incorporates pertain to rulers and to generals on the battlefield. Geography also contributes to positive results in hunting, a leisure activity of the same social elite. This pragmatic scope is the filtering agent designed to sift the vast amount of information available to an "oikoumenic" geographer: "The geographer need not busy himself with what lies outside of our inhabited world, and even in the case of the parts of the inhabited world the man of affairs need not be taught the nature and number of the different aspects of the celestial bodies, because this is dry reading for him" (2.5.34).

Strabo's pragmatic orientation aims at a wide public including men eager for knowledge or men with practical aspirations. Just as the ideal statesman has to be educated, so the potential reader should be interested in the world and the various phenomena it presents. Strabo's ideal audience consists of statesmen, men in high

social positions, practical men, and educated men. Educated Greeks on the one hand and practical Romans on the other suit both of Strabo's expectations from his future readers.

The ideal geographer, says Strabo, must first and foremost be a philosopher, as any competent scholar and scientist should be. Thus he announces at the very beginning of his major endeavor:

The science of geography, which I now propose to investigate, is, I think, quite as much as any other science, a concern of the philosopher. And the correctness of my view is clear for many reasons. In the first place, those who in earliest times ventured to treat the subject were, in their way, philosophers . . . In the second place, wide learning, which alone makes it possible to undertake a work on geography, is possessed solely by the man who has investigated things both human and divine – knowledge of which constitutes philosophy. And so, too, the utility of geography . . . presupposes in the geographer the same philosopher, the man who busies himself with the investigation of the art of life, that is, of happiness. (1.1.1)

In this context, the title of “philosopher” does not refer to a person dealing with abstract ideas or theories but to a man with wide knowledge who aspires to benefit humankind. Accordingly, a geographer should acquire a broad and encyclopedic education including knowledge of astronomy, geometry, zoology, botany, mathematics, physics, as well as history and mythology. His work would be the outcome of wide-based learning as well as practical experience.

Knowledge of the world in ancient times could be acquired mainly through conquest and trade. Thus, a geographer's ability to describe the world depended also on the extent of his own travels. In a sort of competitive motivation in relation to his predecessors, Strabo emphasizes the extent of his journeys:

I have travelled westward from Armenia as far as the regions of Tyrrhenia opposite Sardinia, and southward from the Black Sea as far as the frontiers of Ethiopia. And you could not find another person among the writers on geography who has travelled over much more of the distances just mentioned than I. Those who have travelled more than I in the western regions have not covered as much ground in the east, and those who have travelled more in the eastern countries are behind me in the western, and the same holds true in regard to the regions towards the south and north. (2.5.11)

Although he had hardly been personally present in the entire *oikoumenē* and his descriptions rely mainly on earlier written surveys, Strabo nevertheless takes pride in his travels (Dueck 2000: 15–30 offers a detailed discussion). This emphasis demonstrates the importance of seeing with one's own eyes (*autopsia*), which has been an essential issue in modern assessments of ancient texts since the geographical and ethnographical descriptions of the fifth-century BCE historian Herodotus. At the same time, it shows the significance of autopsy for the ancients themselves (Marincola 1997: 63–86).

Strabo's focus, then, is the *oikoumenē*, which he defines according to tradition: "We call *oikoumenē* the world which we inhabit and know" (1.4.6). Thus, by definition, this world is determined by the human factor of habitation, and it has the potential to change according to the extent of our knowledge. Strabo holds that this world is vast but has clear limits. It is a large land-mass surrounded by the Ocean. It contains various countries and nations and tribes, all differing from each other in their histories and their customs. The limits of the *oikoumenē* known to men are traditionally determined by the surrounding Ocean, by deserts and uninhabited regions, and by unexplored areas (Romm 1992). Strabo is well aware of these limits of information and the obscurity of data on certain places near the boundaries of the *oikoumenē* (Figure 15.1). This situation influences his survey when he admits that he is short of further information, for instance regarding Taprobane (Sri Lanka) or southern Africa.

Strabo accepts the traditional earlier Greek division of the *oikoumenē* into three continents, Europe, Asia, and Libya (the smallest), reflecting the extent of contemporary knowledge. He also adopts the traditional division of the globe into latitudinal climatic zones. According to this division, the torrid zone lies in the centre of the globe, on both sides of the equator; two temperate zones lie parallel to each other on either side of the torrid zone; and an arctic zone lies at either pole (Figure 15.2). Therefore, the *oikoumenē* straddles different climates which affect the extent of habitation in each zone. In the coldest and hottest regions, that is towards the northern pole, and close to the equator, habitation is very sparse. The climate also affects the fauna, the flora, the sources of water, and the entire nature of the various countries, as well as the ability of the inhabitants to govern.

The earliest sailors and explorers always kept the coastline in sight in their circumnavigations of continents and islands. This habit reflected safety considerations, since weather conditions were unpredictable and sailing vessels were primitive (Casson 1991, 1994). At the same time, the habit shaped the first geographical descriptions in Greek, which were arranged according to coastlines and included lists of harbors, ports, and islands. The outcome was a sort of catalogue that contained hardly any elaborated narrative sections. The typically Greek *periploi*, as they are called, figure repeatedly in the *Geography* of Strabo, in both terminology and arrangement.⁶ The basic advantage of *periploi* descriptions is the linear order created either by a coastline or a river channel. These lines serve the geographer as a basis of reference for the topographic and ethnographic features situated near them.⁷ Strabo speaks of voyages by boat or describes regions according to the order of the coastline before going on to the hinterland; he also gives references to distances in terms of days of sailing.

Strabo thus surveyed the centuries-old history of the Greek geographic discipline, referring at length to its earlier traditions and acknowledging that some of his predecessors had already done similar things. Nevertheless, he was certain that there was room for his own project: "since it [the subject] stands in need of so much correction and addition" (2.4.8). Strabo's contribution, of course, is not confined to mere "correction and addition": it presents a fresh approach to a traditional theme.

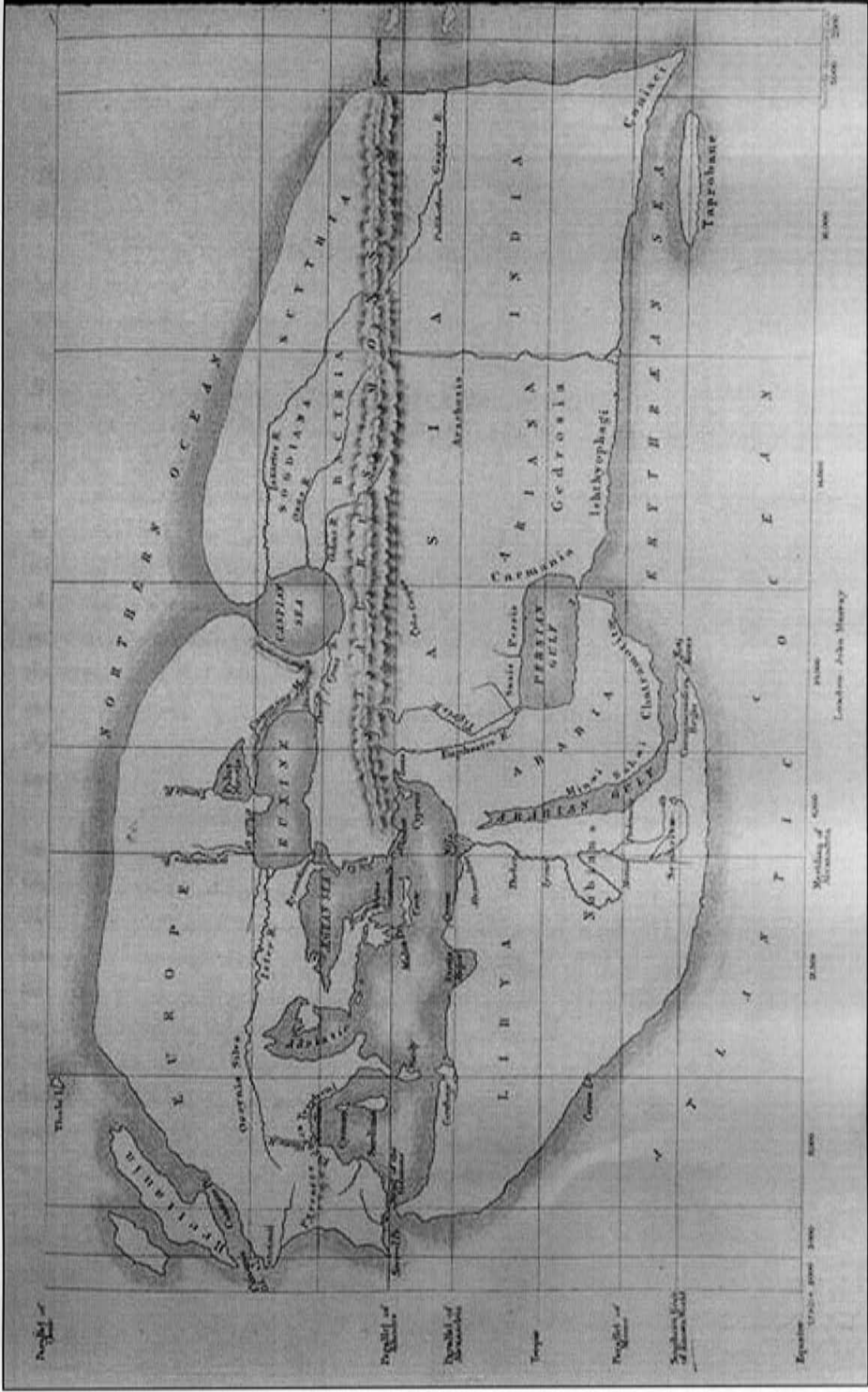


Figure 15.1 World Map according to Strabo. E. H. Bunbury, *A History of Ancient Geography among the Greeks and Romans from the Earliest Ages till the Fall of the Roman Empire*. London, 1879

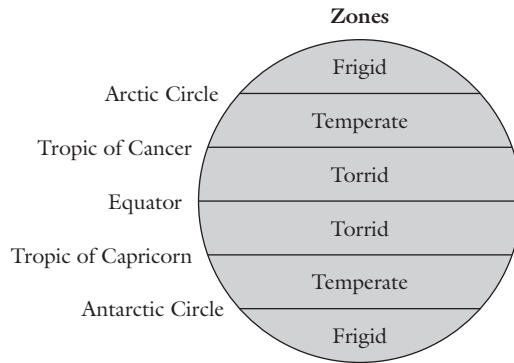


Figure 15.2 Traditional division of the globe into latitudinal climatic zones

Strabo was fully aware that one of his major achievements was the updating and supplementing of details and facts unknown to, or overlooked by, his predecessors. In this task he moved between two extremes: fear of omitting important information, and concern not to digress or drift away from his main theme. His awareness of these two dangers derived from a well-defined and well-planned program of writing. Several principles influence Strabo's decisions to include or exclude certain details:

- 1 *Utility and pragmatism*: what is not profitable to the reader is superfluous, but omission of vital information would damage the utilitarian effect of the whole. Details of lesser benefit are matters pertaining to uninhabited regions, to dubious mythological stories, or to ancient and chronologically remote themes. All things which are distant from the reader, geographically, realistically or chronologically, do not benefit him and have no place in the work.
- 2 *Size and significance*: smaller entities and insignificant matters should be omitted: "I would not pass by anything important, while as for little things, not only do they have merely slight value if known, but their omission escapes unnoticed, and detracts not at all, or else not much, from the completeness of the work" (6.3.10).
- 3 *Reverence towards Homer*: anything mentioned by this great poet ought to be considered; Strabo in fact crowns him "the founder of geography" (1.1.2).
- 4 *Place and time of composition*: Strabo wrote his *Geography* in the first years of Tiberius's rule in a Rome still deeply influenced by the atmosphere of the Augustan age. This is clearly shown, for instance, in the description of settlements in Campania: "I am thus going into detail, within due bounds, because of the glory and power of Italy" (5.4.11). Strabo's willingness to expand and go into detail here derives from the role of Italy in the formation of Roman domination.

Strabo's primary intention was to produce an updated description and documentation of the *oikoumenē* on the basis of the traditional concept of it. He aspired to

describe both accurately and simply the topographical layout of the world, the boundaries of the various countries and the natural phenomena within them. At the same time he was very much aware of another sort of changeable boundary: the human change of political and ethnic organizations.

This awareness of change also influenced Strabo's notions about the relativism of the geographical point of view. He commented on the fact that a geographer's position and origin would necessarily determine his point of view and his knowledge of remote places, and would therefore characterize his geographical description:

[E]ven if the whole inhabited world formed one empire or state, it would hardly follow that all parts of that empire would be equally well known . . . but the nearer regions would be better known . . . [T]herefore it would not be remarkable even if one person were a proper chorographer⁸ for the Indians, another for the Ethiopians, and still another for the Greeks and Romans. (1.1.16)

On this basis, following earlier Greek notions, Strabo made a distinction between Greeks and Barbarians. In referring to "savage" tribes, mainly in the northern and western regions of Europe, such as Germany, Iberia, and Britain, Strabo spoke of "our mode of life," taking the Greek and the Roman civilizations together. His concept depicts "us" – the Greeks and Romans, against "them" – the rest of the world. Accordingly, Roman conquest confers civilization, law, and peace on Barbaric peoples. However, parallel to this picture, which is an outcome of the political developments of his time, Strabo makes a decided distinction between the Greeks and the Romans. The Greeks, in his opinion, are superior to the Romans, not indeed in the political sense, but through having chronological precedence, being more ancient and culturally superior in scholarship, as well as in the making and appreciation of visual art.

Strabo's definition of "Barbarians" is based on the general failure of a stranger to speak a language other than his own:

[T]he word "barbarian" was at first uttered onomatopoeically in reference to people who enunciated words only with difficulty and raucously . . . accordingly . . . it appeared that the pronunciations of all alien races were likewise thick . . . and then we misused the word as a general ethnic term, thus making a logical distinction between the Greeks and all other races . . . and there appeared another faulty and Barbarian-like pronunciation in our language, whenever any person speaking Greek did not pronounce it correctly, but pronounced the words like Barbarians who are only beginning to learn Greek and are unable to speak it accurately, as is also the case with us in speaking their languages. (14.2.28)

Strabo thus preserves the traditional Greek distinction between Barbarians and Greeks, and rejects Eratosthenes' attempt to modify this definition.⁹ Eratosthenes claimed that humans may be divided according to their moral qualities. There are good people and bad people, just as there are bad Greeks and excellent Barbarians

such as the Indians, the Romans, and the Carthaginians. But Strabo holds that there are people who by nature are law-abiding and have socio-political tendencies, while others are the precise opposite, also by nature. And Greeks are naturally better than Barbarians.

Strabo's understanding of Barbarian behavior is influenced by his own cultural orientation and his idea of the "normal" way of life. Several instances where he refers to the unusual customs of foreign peoples reveal his notions. He defines the customs of the inhabitants of Britain as "more simple and more Barbaric (*barbarotera*)" than those of the Celti, because "although well supplied with milk, they make no cheese; and they have no experience in gardening or other agricultural pursuits" (4.5.2). He quotes the Homeric description of the people who lived near the temple of Dodona as "men with unwashed feet that sleep on the ground" (*Iliad* 16.235) taking this to mean "Barbarians" (7.7.10). Strabo regards some of the habits of the Iberians as Barbaric: "bathing with urine which they have aged in cisterns and washing their teeth with it", and "sleeping on the ground" (3.4.16). He also notes the Barbaric ornaments of the Iberian women and their ferocity, for they prefer to kill themselves and their children rather than be taken captive. They also show much courage and endurance by giving birth and then continuing to work in the fields (3.4.17). Equally, to Strabo the nature of the inhabitants of Corsica is wild and brutish (5.2.7). As for the Indians, he does indeed admire their simple habits and their moral standards, but deplors their custom "of always eating alone and of not having one common hour for all for dinner and breakfast . . . for eating in the other way is more conducive to a social and civic life" (15.1.53).

To Strabo, culture thus means sophistication and order, whereas a nomadic and wild life means simplicity and ignorance. Sophistication is measured by the ability to make cheese, to grow vegetables, or to produce manufactured goods, and order is manifested not only in political and social organizations, but also in fixed eating hours and a well-trained army.

These notions form a systematic tool for describing geographical space. Just as the order of geographical description depends on linear grounds formed, for instance, by *periploi* or Roman roads and thus progresses according to coastlines or paved routes, so do the ethnographical descriptions lie along a sort of imaginary line between Barbarism and civilization. The account always begins with the more civilized peoples of a certain region and ends with the more Barbaric (Thollard 1987: 59–84).

The *Geography* is full of references to Roman political superiority in the world, and to the benefits brought to Barbaric peoples by Roman conquest. At the same time, Strabo does not conceal his criticism of the Romans, emphasizing the cultural superiority of the Greeks. The Greek world, we saw, is richer than the rest in artistic production and scholarly endeavors. This circumstance is compared with the ignorance of the Romans and their habit of stealing works of art and carrying them off to Rome. Culturally, then, Strabo thinks the Greeks are much superior

to the Romans. In referring to geographical research and writing, for instance, he presents the Romans as mere imitators of the Greeks. They do not initiate contributions to information on newly acquired regions, and the key to new knowledge is still in the hands of the Greeks (3.4.19).

Strabo's attitude to the Romans is based on an expression and concept formulated by Eratosthenes: the Romans are, in fact, "refined Barbarians" (1.4.9). They are indeed Barbarians because they are not Greek, but they are also refined because they live according to laws, order, and civilized leadership. Strabo's attitude to Rome and the Romans is thus one of respect and admiration combined with a sense of Greek self-esteem and superiority. His view of the relationship between civilization and wilderness puts the Greeks at the top of the world pyramid of civilized societies, but at the same time they share with the Romans a superiority over the rest of the nations in the world. Politically, however, superiority clearly belonged to the Romans.

In his work Strabo also exposed his political views. These were affected by recent developments, above all the age of Augustus, during which, at the end of almost a century of internal and external wars and conquests, the Roman Empire reached unprecedented size and achieved peace on most of its frontiers. Strabo's contacts with Romans and the time he spent in Rome enabled him to absorb the atmosphere at the centre of the Empire. He shows how the vast Roman conquests – and with them the expansion of the Empire to the ends of the inhabited earth, establishing the position of Rome as a world power – contributed to the broadening of geographical knowledge.¹⁰ Imperial might induced changes in the political map of the world and in the cultural character of remote Barbaric tribes who adopted the Roman way of life. Internal feuds were brought to an end and external security was enhanced. At the same time Strabo expresses criticism of what he considers to be the immoral consequences of the Roman conquests.

The end of Book 6, devoted to Italy, presents the natural advantages of the Italian peninsula, which contribute to its function as the ideal centre of an empire. Strabo first enumerates the geographical and physical advantages of Italy, which was "a base of operation for the universal hegemony." These advantages include natural fortifications, Italy being a peninsula surrounded by seas and mountains; the small number of harbors, which adds to its security but also favors commerce and the navy; climatic variety producing a wide range of fauna and flora; the topographical alternation of mountains and plains, which offers the advantages of both; the many rivers, lakes and beneficial springs; the existence of various mines; abundant food supply for men and beasts. Finally, the natural position of Italy in the middle of the *oikoumenē*, together with its topographic, climatic, hydrologic and agronomic conditions, contributes to its power. Altogether, Strabo lists many nations around the world, creating the image of an empire reaching the four cardinal points whether by actual presence or by respectful recognition. The general outcome is an impressive image of Roman power.

At the end of Book 17, in his closing remarks to the entire *Geography*, Strabo gives a summary of the Roman provinces (17.3.24):

Since the Romans occupy the best and the best known portions of the *oikoumenē*, having surpassed all former rulers of whom we have record, it is worth while, even though briefly, to add the following account of them . . . [O]f the continents, being three in number, they hold almost the whole of Europe . . . [O]f Libya the whole of the coast on our sea is subject to them, and the rest of the country is uninhabited or else inhabited only in a wretched or nomadic fashion . . . [O]f Asia also, the whole of the coast on our sea is subject to them . . . [S]ome further portion is constantly being taken from these peoples and added to the possessions of the Romans. (17.3.24)

The implicit conclusion and recurrent idea is that the limits of the Empire are the limits of the *oikoumenē*. Regions which are outside the Empire are deserted or inhabited by nomads and pirates.

Strabo is aware of earlier attempts to distort geographical detail for propaganda purposes. The historians of Alexander “moved” the boundaries of the *oikoumenē* in order to promote his fame:

The stories that have been spread far and wide with a view to glorifying Alexander are not accepted by all; and their fabricators were men who cared for flattery rather than truth. For instance, they transferred the Caucasus into the region of the Indian mountains . . . which is more than thirty thousand stadia distant from India . . . for these were the most distant mountains towards the east that were known to writers of that time . . . [I]t was a more glorious thing for Alexander to subdue Asia as far as the Indian mountains than merely . . . to the Caucasus, yet the glory of the mountain, and its name . . . led writers to suppose that they would be doing the king a favour if they transferred the name Caucasus to India. (11.5.5)

The effect of Strabo’s own geographical descriptions is similar to the message of Alexander’s historians: Rome, ruled by Augustus, appears as a powerful Empire reaching unknown regions of the *oikoumenē*, with a fame that has spread to almost the whole of humankind. This vision is reminiscent of the propaganda presenting Alexander as a conqueror who reached new and unprecedented horizons.¹¹

In the Latin literature of the Augustan period Rome is usually depicted as a great Empire bringing peace and prosperity to the *oikoumenē*, and ruled by a great and benevolent leader, Augustus.¹² Strabo no doubt absorbed much of this atmosphere during his long stay in Rome and through his social relations with Romans. Numerous allusions to the Emperor are scattered throughout the *Geography* and clearly display a positive attitude. The Emperor is depicted as a conqueror who restored cities and bestowed tranquility on extensive regions, a man whose fame reaches the boundaries of the earth from which envoys are sent to him with gifts of honor, a beneficent ruler who initiated building projects both in Rome and elsewhere, a faithful worshipper of the gods who also respected human beings. The last lines of the short historical survey of Rome in book 6 reflect a special image of Augustus:

It were a difficult thing to administer so great a dominion otherwise than by turning it over to one man, as to a father . . . [N]ever have the Romans and their allies thrived in such peace and plenty as that which was afforded them by Augustus Caesar from the time he assumed the absolute authority, and is now being afforded them by his son and successor, Tiberius, who is making Augustus the model of his administration and decrees. (6.4.2)

The nations mentioned by Strabo as paying special tributes to Augustus all signify typically remote races who, according to Greek tradition, dwelt at the edges of the world. The Indians representing the east, the Ethiopians the south, the Germans the north, and even the Britons from the west, are not just polite and impressed envoys, but symbolize the entire *oikoumenē* acknowledging Augustus' greatness.

Until recently it was quite common to regard Strabo's *Geography* as a mere, even if large, compilation of earlier sources. Strabo was pictured as a sedentary man who sewed together pieces of a literary nature within a very general plan. Scholars also tended to exploit this encyclopedic composition for various details and points, ignoring the work as a unified whole. However, Strabo employs his geographical narrative technique in the sense of a well-planned composition. Beside numerous indications throughout the work that he had a fixed plan for his project, literary and linguistic features are clearly employed in order to convey information to the reader without dwelling on bare essentials or merely listing names and distances.

Strabo's *Geography* is indeed a compilation of numerous pieces of information taken from various sources. His ambition was to present them in a coherent and interesting way. Several literary dangers are evidently inherent in such a composition, especially when it follows a similar outline for each region: reiteration of details, monotonous catalogues, ambiguous and unclear accounts. Strabo avoided these dangers by the use of several literary features which seem to show that he had a fixed plan of composition and that he enriched his writing to produce a coherent geographical narrative.

One of these devices is the incorporation of poetry relevant to geography or to other pieces of information (Dueck 2005a). Quotations from Homer and 51 other poets appear in the *Geography* in 252 contexts. They serve various purposes: to demonstrate geographical phenomena, to illustrate historical events, or to embellish the narrative. Thus, some literary value is added to the mere presentation of information.

Strabo had several reasons for including poetic citations in his *Geography*. Since early times Greeks had considered poetry a higher form of human expression, deriving from divine inspiration. They admired the wisdom of poets and ascribed to them the ability to teach. Strabo followed a tradition of quoting poets in non-poetic texts, such as speeches and philosophical discourses. However, he was unique in using poetry in a geographical work. Verse is particularly appropriate for citation because it is brief, condensed, and easy to remember due to the metre.

Poetic quotations also have an operative function, expressing points in a shorter, neater way. Quoted poetry indicates that the author is well educated and well versed in literature, his self-presentation as an intellectual being enhanced by the way in which he quotes the poets (Dueck 2000: 8–15). The interaction between author and audience also affects the use of poetry. Inclusion of poetic citations may appeal to both uneducated and educated readers. The former would find the more serious matters easier to digest, so to speak, and the latter, who are interested in the serious matters in the first place, would appreciate the added value of entertainment and the gentle implied flattery.

Another literary feature, similar to the use of poetry in both application and effect, is the incorporation of proverbs (Dueck 2004). Strabo inserted almost 40 proverbs and proverbial expressions in his *Geography*, all connected to geographical sites. These are “geographical proverbs,” that is, proverbs including a geographical reference (a toponym or an ethnonym) which refer to specific local circumstances at a given period of time. To most of the proverbs Strabo attaches an explanation and a background story. Although they are not presented systematically as part of a fixed and structured descriptive plan, they form distinct thematic and literary units with stylistic and structural characteristics.

Such proverbs may reflect local traits of geographical sites or their inhabitants, that is, they convey geographical and ethnographical details. Particular sites become symbols for great abundance or exceptionally bad conditions, and certain people are proverbial for typical characteristics. For example, about an unattractive location Strabo says: “Scolus is a village in the Parasopian country at the foot of mount Cithaeron, a place that is rugged and hardly habitable. From this rose the proverb ‘neither go to Scolus yourself nor follow another there’” (9.2.23). By contrast, on the island of Samos Strabo reports that it “is not altogether fortunate in regard to wines, but in all other respects it is a blessed country, as is clear from the fact that it became an object of contention in war, and also from the fact that those who praise it do not hesitate to apply to it the proverb ‘it produces even bird’s milk,’ as Menander somewhere says” (14.1.15). Here the unusual wealth of Samian resources is expressed in a comic remark which is universally understood as an exaggeration because birds do not give milk. The application of proverbs in the *Geography* is an important part of Strabo’s narrative technique. Like the numerous poetic citations, the proverbs help enrich the long and detailed surveys with pleasing and sometimes humorous details.

A third literary trait in Strabo is the application of similes to define shapes (2005b). As explained above, ancient Greek geography was limited to verbal descriptions. Early geographers needed some pictorial images in order to transmit visual impressions through words, thus establishing a sort of verbal cartography that mostly relied on previous experiences, particularly in using familiar objects or sites to describe unfamiliar ones. Geographers needed to find a method – either based on earlier written and graphic sources or their own – to communicate a coherent idea of shape to their audience.

Strabo presents his idea of defining the shape and size of countries as follows:

A country is well defined when it is possible to define it by rivers or mountains or sea, and also by a tribe or tribes, by a size of such and such proportions, and by shape where this is possible. But in every case, instead of a geometrical definition, a simple and roughly outlined definition is sufficient. So, as regards a country's size, it is sufficient if you state its greatest length and breadth . . . and as regards shape, if you liken a country to one of the geometrical figures . . . or to one of the other well known figures . . . (2.1.30)

Strabo thus offers several methods for defining a country: through the natural and ethnic properties which form its boundaries; through measurements of its size; through a comparison to geometrical figures; and through a comparison to well-known shapes. He accordingly uses a set of geometrical shapes to define for instance Sicily as a triangle, India as a rhomboid and Gallia Narbonensis as a parallelogram. Among non-geometric forms, we find the likening of geographical features to shapes borrowed from natural elements such as human body organs, animals, plants, and astronomical figures. Another group, of culture-dependent similes, exploits shapes of objects originating in a certain social and cultural context. These are garments, domestic tools, weapons, naval vessels, architectural features, and letters. All of these reflect the world of the author and his expected audience. Without the assumed common cultural background of both parties, the similes would be meaningless, as they must be for a person unfamiliar with the shapes of the objects evoked. Beside the didactic motivation, there may also have been a stylistic consideration of enlivening the geographical narrative.

How to define geographical shapes through words? First one has to describe the contours of a region, then its approximate form. The existence of a graphic two-dimensional presentation of the world in some map-like form would help. Did Strabo look at a map while composing his *Geography*, and did he attach a map to accompany the finished work? Two speculative answers to these questions have been proposed: one claiming that the geographer neither used a map nor composed one, the other strongly supporting these possibilities.¹³ Both are mere conjectures with no evidence in the text.

I think that Strabo probably saw some map or other which enabled him to grasp the general two-dimensional shape of regions and countries. His references to various shapes of maps and their projections, whether on a flat surface or on a miniature globe, also indicate his probable familiarity with such cartographic endeavors. At the same time it seems less evident that his own *Geography* included a map, for Strabo does all he can to draw with words a visual picture of shapes of countries and topographical features. He probably expected his readers to be able to grasp the shapes without an actual map.

In conclusion, geography by definition does not deal with abstract ideas but with concrete matters. To limit its presentation to text only may tend towards a somewhat dry cataloguing of factual details of border outlines, river routes,

topographical features and distances, and so on. Strabo's *Geography*, however, was far richer than this would imply. It included, following Greek tradition, a wider range of information that would not necessarily be considered geographical in modern practice, such as local histories and mythologies, ethnography and politics, calling for a more elaborated narrative. But Strabo conveyed even traditional geographical information in a literary way, using literary devices, and thus creating a unique geographical narrative.

This overall attitude to his task is expressed in another characteristic passage which seems to sum up the issues discussed here:

[J]ust as in my historical work only the incidents in the lives of distinguished men are recorded, while deeds that are petty and ignoble are omitted, so in this work also I must leave untouched what is petty and inconspicuous, and devote my attention to what is noble and great, and what contains the practically useful, or memorable, or entertaining. And just as in judging the merits of colossal statues we do not examine each individual part with minute care, but rather consider the general effect . . . so should this book of mine be judged. For it, too, is a colossal work (*kolossourgia*), in that it deals with the facts about large things only, and wholes, except as some petty thing may stir the interest of the studious or the practical man. (1.1.23)

Notes

- 1 On Greek (and Roman) maps, see Dilke 1985; Harley and Woodward 1987: 130–76; Brodersen 2004.
- 2 On developments and trends in Greek geography, see Van Paassen 1957 and some interesting comments in Clarke 1999.
- 3 Surveys of Strabo and his work include Engels 1999; Clarke 1999: 193–336; Dueck 2000; Dueck, Lindsay, and Pothecary 2005. On his relevance to modern geography, see Koelsch 2004.
- 4 On these authors the relevant entries (with bibliog.) in the *Oxford Classical Dictionary* (3rd edn. Oxford, 1996) and *Der Neue Pauly: Enzyklopädie der Antike* (12 vols. Stuttgart, 1996–2002. Engl. trans. in progress: *Brill's New Pauly: Encyclopaedia of the Ancient World*. Leiden 2006 ff.) offer basic information and a good starting point.
- 5 My translations of Strabo are based on that of H. L. Jones in the Loeb Classical Library edition.
- 6 On the nature of these accounts and on specific *periploi*, see Diller 1952 (1986): 102–46; Janni 1984: esp. 41–9, 120–30; Dilke 1985: 130–44. For a preserved example, see Casson 1989. See also Cole, this vol.
- 7 Compare Strabo's use of Roman roads as a linear basis for geographical descriptions, especially in the Italian region. See also Talbert, this vol.
- 8 *Chōrographia* is the detailed geography of specific regions (*chōrai*). It is more detailed than geography of the entire world.
- 9 On Barbarians in Greek views and in Strabo, see Thollard 1987; Hall 1989; Almagor 2005.
- 10 On geography and politics in the Augustan age, see Nicolet 1991.

- 11 Dion 1973: 478 accuses Strabo of similar geographical distortions arising from flattery of the Romans and Augustus.
- 12 On the literary evaluation of Augustus, see Gabba 1984: 61–88; Griffin 1984: 189–218; Raaflaub and Samons 1990: esp. 436–47, concluding that there was little political or intellectual opposition to Augustus.
- 13 See Aujac 1966: 213; Dilke 1985: 173, 175: perhaps Strabo consulted more than one map.

References

- Almagor, E. 2005. "Who is a Barbarian? The Barbarians in the Ethnological and Cultural Taxonomies of Strabo." In D. Dueck, H. Lindsay, and S. Pothecary. *Strabo's Cultural Geography: The Making of a Kolossourgia*, 42–55. Cambridge.
- Aujac, G. 1966. *Strabon et la science de son temps*. Paris.
- Brodersen, K. 2004. "Mapping (in) the Ancient World (Review Article)." *Journal of Roman Studies* 94: 183–90.
- Casson, Lionel 1989. *The Periplus Maris Erythraei. Text with Introduction, Translation, and Commentary*. Princeton.
- Casson, Lionel. 1991. *The Ancient Mariners: Seafarers and Sea Fighters of the Mediterranean in Ancient Times*. Princeton.
- Casson, Lionel 1994. *Ships and Seafaring in Ancient Times*. Austin.
- Clarke, K. 1999. *Between Geography and History. Hellenistic Constructions of the Roman World*. Oxford.
- Dilke, O. A. W. 1985. *Greek and Roman Maps*. London.
- Diller, A. 1952. *The Tradition of the Minor Greek Geographers*. New York. Repr. Amsterdam, 1986
- Dion, R. 1973. "La géographie d'Homère inspiratrice de grands desseins impériaux." *Bulletin de l'Association Guillaume Budé* 4(4): 463–85.
- Dueck, D. 2000. *Strabo of Amasia. A Greek Man of Letters in Augustan Rome*. London.
- Dueck, D. 2004. "Bird's Milk in Samos: Strabo's Use of Geographical Proverbs and Proverbial Expressions." *Scripta Classica Israelica* 23: 41–56.
- Dueck, D. 2005a. "Strabo's Use of Poetry." In D. Dueck, H. Lindsay, and S. Pothecary (eds.), *Strabo's Cultural Geography: The Making of a Kolossourgia*, 125–49. Cambridge.
- Dueck, D. 2005b. "The Parallelogram and the Pinecone: Definition of Geographical Shapes in Greek and Roman Geography on the Evidence of Strabo." *Ancient Society* 35:17–55.
- Dueck, D., H. Lindsay, and S. Pothecary. 2005 (eds.). *Strabo's Cultural Geography: The Making of a Kolossourgia*. Cambridge.
- Engels, J. 1999. *Augusteische Oikumenegeographie und Universalhistorie im Werk Strabons von Amaseia*. Stuttgart.
- Gabba, E. 1984. "The Historians and Augustus." In F. Millar and E. Segal (eds.), *Caesar Augustus: Seven Aspects*, 61–88. Oxford.
- Griffin, J. 1984. "Augustus and the Poets." In F. Millar and E. Segal (eds.), *Caesar Augustus: Seven Aspects*, 189–218. Oxford.
- Hall, E. 1989. *Inventing the Barbarian*. Oxford.
- Harley, J. B., and D. Woodward (eds.). 1987. *The History of Cartography*, I. Chicago.
- Janni, P. 1984. *La mappa e il periplo*. Rome.
- Koelsch, W. A. 2004. "Squinting Back at Strabo." *The Geographical Review* 94: 502–18.
- Marincola, John. 1997. *Authority and Tradition in Ancient Historiography*. Cambridge.
- Nicolet, C. 1991. *Space, Geography and Politics in the Early Roman Empire*. Ann Arbor.

- Raaflaub, K. A., and L. J. Samons. 1992. "Opposition to Augustus." In K. A. Raaflaub and M. Toher (eds.), *Between Republic and Empire: Interpretations of Augustus and His Principate*, 417–54. Berkeley.
- Romm, J. S. 1992. *The Edges of the Earth in Ancient Thought*. Princeton.
- Thollard, P. 1987. *Barbarie et civilization chez Strabon. Etude critique des Livres III et IV de la Géographie*. Paris.
- Van Paassen, C. 1957. *The Classical Tradition of Geography*. Groningen.
- Walbank, F. W. 1948. "The Geography of Polybius." *Classica et Mediaevalia* 9: 155–82.
- Walbank, F. W. 1972. *Polybius*. Berkeley.

The Roman Worldview: Beyond Recovery?

RICHARD J. A. TALBERT

Among premodern peoples, Romans' skills and achievements are impressive, and the surviving testimony to both is relatively rich and varied. The nature of Romans' worldview is rendered all the more puzzling and intriguing as a result, therefore. Romans' creative ability to place their distinctive and indelible mark upon a landscape is not in doubt. In plenty of urban communities the checkerboard pattern established by them still influences the street pattern today (Figure 16.1).¹ In the countryside, too, in cultivable areas, the same type of Roman division – or “centuriation” – on a far larger scale remains visible from the air, especially in Italy's Po valley and in North Africa. Roads that link the principal centers of settlement established or recognized by Rome are integrated into this pattern of land division from the outset (Figure 16.2).² Romans, in short, used highly visible means to reconfigure large parts of the landscapes they acquired. Roman land divisions were marked by boundary stones of one kind or another – very tangible, immovable objects (see Figure 16.3) (Campbell 2000: App. 4; overview in Talbert 2005) – and similarly conspicuous milestones confirmed the courses of many of their roads (Rathmann 2003, with focus on the West) (Figures 16.4 and 16.5). Under Roman rule, too, many communities and regions acquired new, Latin names; it was these that were invariably used for official purposes in speech and writing, displacing the earlier nomenclature of indigenous languages.³

While such transformations are undeniable, it is as well to recognize that the actual means by which Romans accomplished them remain far from clear. Unusually for Roman society, surveyors were an acknowledged professional group, although their recruitment, their social standing and their training are all obscure to us. A body of technical writings by land surveyors does survive, but it is devoted to the resolution of special problems and disputes. If they ever wrote basic training manuals too, these are lost (Campbell 2000: esp. ch. 4). At the same time we are



Figure 16.1 Aerial view of modern Verona (Italy) in a loop of the Adige river, showing the continued importance of the Roman street-grid. J. B. Ward-Perkins, *Cities of Ancient Greece and Italy: Planning in Classical Antiquity*. New York, 1974, plate 58

not altogether sure of how the Roman surveyors' instrument, the groma, was constructed, simple tool though it may seem (Lewis 2001: ch. 5). We may certainly marvel, however, at the precision of the linework marked out by an instrument liable to be rendered useless even by a light breeze.

As to the urban surveyors, we have next-to-no insight into how they performed their work, although stunning testimony to their capacity survives in the so-called Marble Plan of Rome dating to around 200 CE.⁴ This was engraved on 150 slabs measuring overall 18 meters wide by 13 high. It records at a consistent scale of about 1:240 the base linework of seemingly every built feature throughout the city, including walls, doorways, steps, columns and fountains (Figure 16.6). It is unlikely that any new surveying was undertaken in order to create the Marble Plan. Rather, the data (preserved on, say, papyrus) was already available from regular surveys. It was then mosaiced together – and in some respects consciously simplified – in order to create this amazing monumental synthesis for display. The surviving random fragments represent no more than 12 percent of the original, however.

Romans of even limited education, it seems, would not have been baffled by the sight of the Marble Plan. Admittedly, they could not have examined it in any



Figure 16.2 Checkerboard pattern of Roman land division (“centuriation”) as seen from the air near modern Pula (Croatia) in the Istria peninsula. (*Barrington Atlas* map 20A5.) Roads form an integral component. The basic unit here is typical, square in shape, with each side 20 Roman *actus* in length (= approximately 700 meters). J. Bradford, *Ancient Landscapes: Studies in Field Archaeology*. London, 1957, plate 40; reproduced by license from UK Office of Public Sector Information

detail, because the bottom was as much as 4 meters or so up the wall to which the Plan was clamped, and of course the Plan then extended 13 meters further up from there. The hall where the Plan occupied one endwall was 24 meters long, so viewers could stand very far back to gain a full impression. To plenty of them, the general nature of the object they were looking at would have been familiar enough. In particular, Roman law required that any community whose cultivable land had been officially surveyed and divided must publicly display, on durable material like stone or bronze, a copy of the map or plan recording what the survey had determined (Figure 16.7).⁵ To be sure, this was a land survey map, and a localized, large-scale one of territory already familiar at firsthand to the people who traversed it regularly. Even so, such conspicuously visible objects must have accustomed many Romans to at least one form of mapping.

Another type of map that many would have seen is a “world” map, of which the most famous is the lost one commissioned by the emperor Augustus’ principal



Figure 16.3 Stone marking the boundary between the territories of Aquileia and Emona, retrieved from the bed of the Ljubljanica river (Slovenia). M. Šašel Kos, “The boundary between Aquileia and Emona.” *Arheološki vestnik* 53 (2002) 373–82 at 375; reproduced with the author’s permission

associate Marcus Agrippa. It was finished after Agrippa’s death in 12 BCE, and placed on permanent display in a portico (unlocated as yet) in the city of Rome. Otherwise we have no more than a few oblique references to it, so there is no hope of being able to reconstruct what the map looked like – not that this obstacle has deterred scholar after scholar from trying. It is certain, however, that the scope was the “world” or *orbis terrarum* (whatever that might comprise exactly), and that the image was a visual one, a map of some kind.⁶

World maps could evidently be seen on display elsewhere too, and we are offered a description of one, which is instructive even though the map itself is lost and the description part of a highly rhetorical speech. It was delivered in the 290s CE during the Tetrarchy or “Rule of Four,” and the speaker, Eumenius, is addressing a provincial governor in Gaul. As the new, highly paid head of a rhetorical school at Augustodunum (modern Autun) which has suffered damage, he seeks permission to rebuild it at his own expense.⁷ He outlines what a beneficial institution it would be again after the disruption from within and without suffered by the empire during the previous half-century. One feature that is already in place,



Figure 16.4 Milestone originally from the Roman province of Noricum, today preserved in Salzburg (Austria). The names and titles of the reigning co-emperors (Septimius Severus and his son Caracalla) dominate. *Corpus Inscriptionum Latinarum* XVII.4.1. Berlin, 2005, 90, with permission from Corpus Inscriptionum Latinarum at the Berlin-Brandenburg Academy of Sciences and Humanities

and will be of lasting pedagogic value, is a world map, as well as (it would seem) associated regional ones. Eumenius explains to the governor in the climax to the speech:

In [the school's] porticoes let the young men see and examine daily every land and all the seas and whatever cities, peoples, nations our most invincible rulers either restore by affection or conquer by valor or restrain by fear. Since for the purpose of instructing the youth, to have them learn more clearly with their eyes what they comprehend less readily by their ears, there are pictured in that spot – as I believe you



Figure 16.5 Two-dimensional reproduction of the milestone's Latin text – which no observer would be able to read in full on the stone from a stationary position. *Corpus Inscriptionum Latinarum* XVII.4.1. Berlin, 2005, 90, with permission from Corpus Inscriptionum Latinarum at the Berlin-Brandenburg Academy of Sciences and Humanities

have seen yourself – the sites of all locations with their names, their extent, and the distance between them (*omnium cum nominibus suis locorum situs spatia intervalla descripta sunt*), the sources and mouths of all the rivers, the curves of all the coastline's indentations, and the Ocean, both where its circuit girds the earth and where its pressure breaks into it.

There let the finest accomplishments of the bravest emperors be recalled through different representations of regions, while the twin rivers of Persia [Euphrates, Tigris] and the thirsty fields of Libya and the convex bends of the Rhine and the fragmented mouths of the Nile are seen again as eager messengers constantly arrive. Meanwhile the minds of those who gaze upon each of these places will imagine Egypt, its madness set aside, peacefully subject to your clemency, Diocletian Augustus, or you, unconquered Maximian, hurling lightning upon the smitten hordes of the Moors, or beneath your right hand, Constantius, Batavia and Britannia raising up their grimy heads from woods and waves, or you, Maximian Caesar [Galerius], trampling upon Persian bows and quivers. For now, now at last it is a delight to examine a picture of the world, since we see nothing in it which is not ours (*iuvat orbem spectare depictum, cum in illo nihil videmus alienum*).⁸

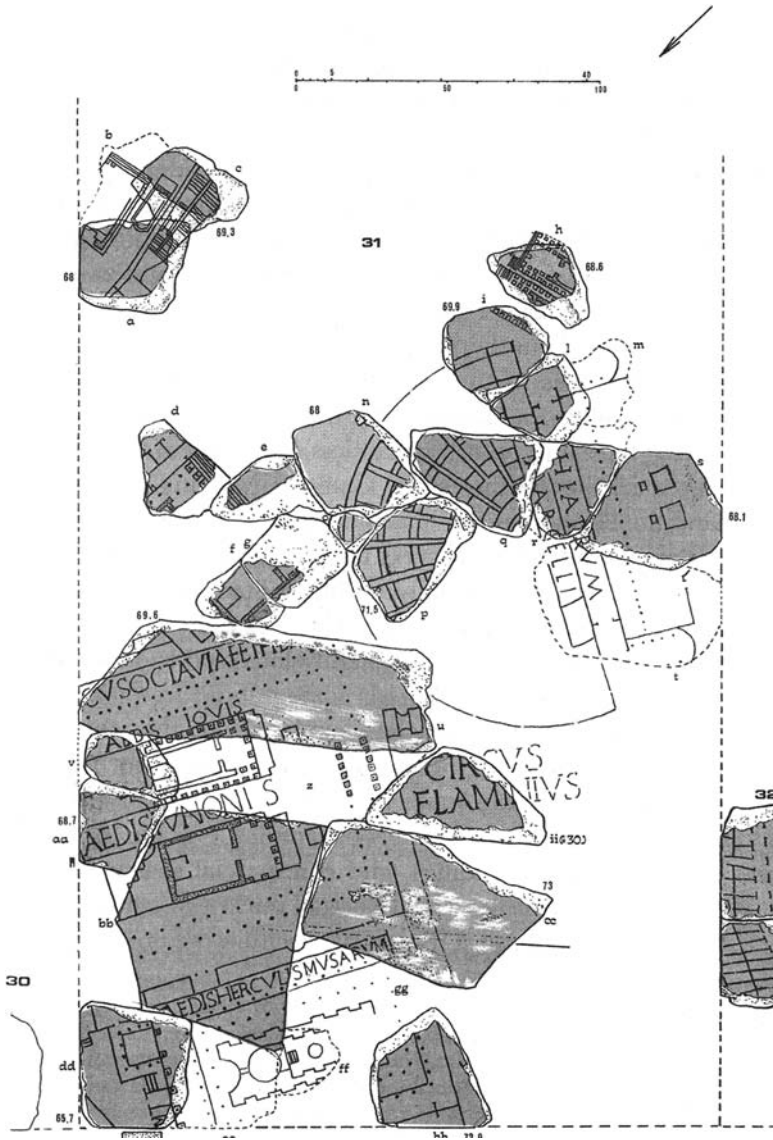


Figure 16.6 Reconstructed section of the Marble Plan of Rome, reflecting its large scale (1:240) and extraordinary level of detail. E. Rodríguez-Almeida, *Forma Urbis Marmorea. Aggiornamento Generale 1980* (Rome, 1981), vol. II plate XXXVII; reproduced with the permission of Edizioni Quasar

In such a rhetorical passage, the complete absence of any technical mapping terminology need hardly be a surprise. Not even once is a word equivalent to “map” used. Instead, the image is described as a “picture of the world” (*orbis depictus*). The passage does in fact fairly reflect a wider lack of terminology and of norms that underlines Roman society’s limited engagement with maps. In antiquity the



Figure 16.7 Reassembled fragments from a survey map on stone erected at Arausio (today Orange, France) during the late first century CE. A tributary of the Rhône river flows between top and bottom, intersecting with a road that the centuriation has evidently curtailed. A. Piganiol, *Les documents cadastraux de la colonie romaine d'Orange* (coll. Suppl. Gallia, XVI, Paris, 1962), plate XXI; reproduced with the permission of Revue Gallia

Latin language never develops a standard term for “map,”⁹ let alone for a set of them to comprise an “atlas,” nor the abstract concept “cartography”; even the noun *geographia* is found only in Cicero’s private correspondence.¹⁰ Equally, certain basic norms for maps – norms that Westerners take for granted today – are never established. In particular, there is no standard orientation, let alone one to the North. Rather, we might expect the West-East configuration of the Mediterranean to loom largest in the worldview of most Romans (Bowersock 2005). Nor is there the convention that a map in its entirety must adhere to a single scale, although it may do so, as evidently in the case of the Marble Plan of Rome. Missing, too, is any widespread notion that maps can and should be produced from a neutral standpoint, and then be made available for whatever purposes users may choose.

For all its rhetoric, however, what Eumenius’ description does serve to confirm is that Roman mapmakers (whoever they were) made ample use of Greek scientific geography as developed at Alexandria from the third century BCE onwards by Eratosthenes and his successors (overview in Geus 2003). These Greeks’ approach to mapmaking culminates in the eight books of Ptolemy’s *Guide to Drawing a Map of the Oikoumene* of the mid-second century CE, the work now commonly called the *Geography*.¹¹ It first offers recommendations for gathering relevant data, and then instructions on how to draw a world map both on a globe and on a plane surface, using two different projections developed by Ptolemy himself. But

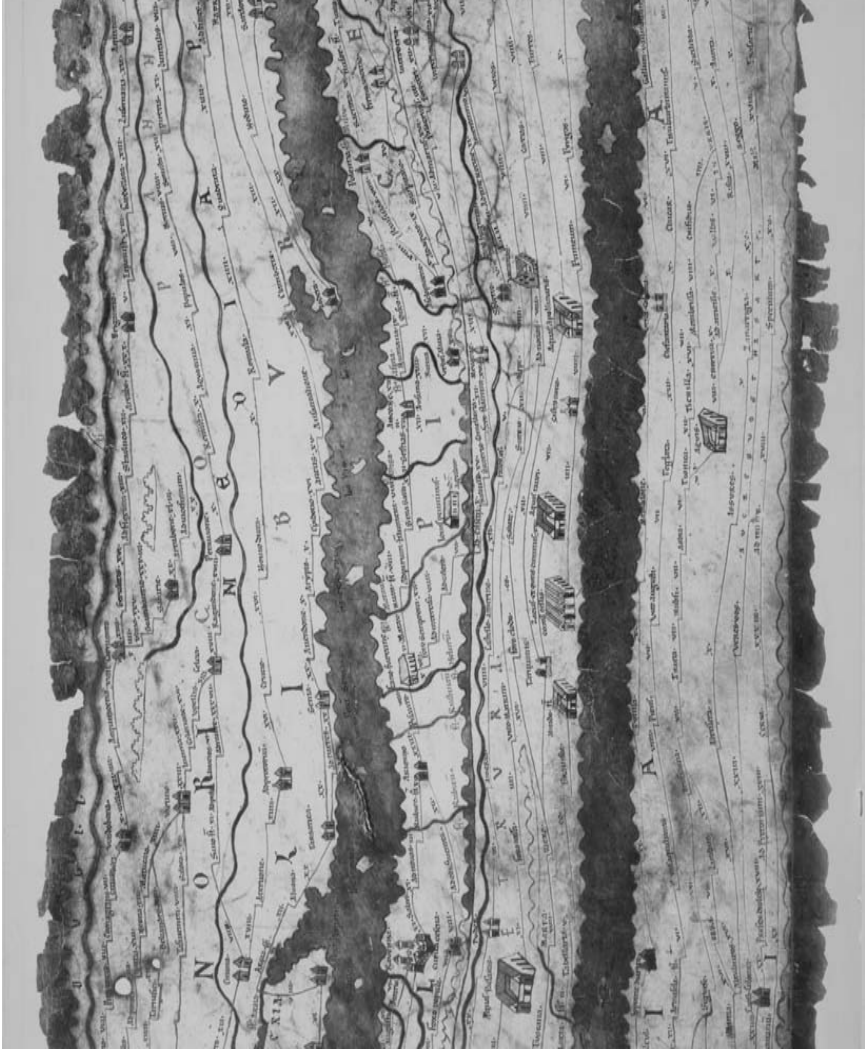


Figure 16.8 Section of the Italian peninsula south from Ravenna on the Peutinger Map, flanked by narrow channels of open water representing (above) the Adriatic Sea and (below) the Mediterranean. Central Europe and North Africa are the landmasses at top and bottom respectively. *Peutingeriana Tabula Itineraria in Bibliotheca Palatina Vindobonensi asservata nunc primum arte photographica expressa* (Vienna, 1888), part of Segmentum IV; reproduced with the permission of the Ancient World Mapping Center, University of North Carolina, Chapel Hill

the bulk of the work is an immense catalog, region by region from West to East, of the physical features, placenames and people-names to be marked on this world map, each listed with its latitude and longitude.

It is hard to believe that the worldmaps displayed in Rome and Augustodunum could have been produced without some such Greek scientific input to provide the basic elements of shorelines, principal rivers and mountain ranges, not to mention the relative locations of principal settlements. Despite the loss of these and other Roman worldmaps, we are able to study one that ingeniously, even teasingly, goes a stage further by conscious manipulation of such elements. This is the so-called "Peutinger Map,"¹² preserved only in a copy made early in the thirteenth century and missing its lefthand end,¹³ but still 6.75 meters long, although only 30 cm high. In this breathtakingly compressed frame the mapmaker places the city of Rome dead-center and then fits around it the *orbis terrarum* from the Atlantic to Sri Lanka. This feat can only be accomplished by all but eliminating a north-south dimension, by remolding and reorienting certain of the prominent landmasses, and by draining and shrinking the principal bodies of open water, most notably the Mediterranean (Figure 16.8). The more general point to appreciate, however, is that only a mapmaker with a confident grasp of some conventional, "accurate" representation of this world would have had the capacity to reshape it so deftly.

Despite the availability of such Greek expertise, and despite Romans' familiarity with at least certain types of map, the fact remains that Romans never made the "cognitive leap" to putting maps to a fuller range of uses. Maps were recognized as a valuable means of recording landholdings, and they were regarded as a marvelous artform to celebrate the extent of Roman sway worldwide, as well as the magnificence of the greatest city in the world known to the Romans. But maps seem barely to feature among the tools of the Roman general or governor or emperor, or even ship's captain, when they certainly could have. Reasons are not far to seek, some surely more convincing than others; even so, their cumulative restraining influence is not in doubt. Most powerful perhaps is the fact that only a very limited range of intellectual endeavors is considered worthy of gentlemen, confined in effect to literature and rhetoric; specialism in anything else is not to be encouraged. Moreover, Romans felt no passion to penetrate undiscovered lands, nor to extend the reach of their religion. Levels of education, not to mention literacy, were low. Much administration within the Roman empire always remained very devolved, with a more or less hereditary circle of local landowners overseeing a local area which was well known to them firsthand anyway, without the need for recourse to a map.

More broadly, it is true that Romans lacked the means to measure distance or time with precision, and that they had no form of printing with which to distribute copies of maps, let alone any very robust material on which to present maps intended to be portable.¹⁴ Even so, we should recognize that these technical obstacles in themselves are not decisive. They had certainly not prevented the earlier growth of Greek scientific geography. Ptolemy was well aware that the co-ordinates recorded in his *Geography* were by no means all accurate, but this

shortcoming did not deter him from attempting to map the world both as a whole and region by region.

Modern presuppositions underlie the repeated protests of rash observers that it would have been quite impossible for the Romans to have acquired and maintained their vast empire without constant recourse to maps. This viewpoint is duly reflected in such movies as *Monty Python's Life of Brian* (1979) and *Gladiator* (2000; Cyrino 2005: chs. 7 and 9). Even so it is false, and it is no reason to evade the challenge of identifying more realistic alternatives. One particular hypothesis advanced just over 20 years ago has attracted a surprising degree of support.¹⁵ My own reaction to it has grown more skeptical. It has merit, for sure; but I also now think that its advocates go too far in characterizing it as the primary, even the only, means by which Romans conceived space, and organized it mentally. The hypothesis bases itself upon the varied and widespread testimony to itineraries for land travel.¹⁶ Such documents are hardly a Roman invention; they can be matched in other and earlier civilizations, such as the Persian empire (Silverstein 2007: 12–17). But it does seem reasonable to imagine that itineraries were used more and more as the Roman route network expanded, above all once the empire became a vast, stable, territorially cohesive whole from the late first century BCE onwards.

The standard Roman itinerary format limits itself to bare essentials. Once the start- and end-points are settled, the intermediate stopping-points are inserted, with the mileage figure cited for the distance between each, and preferably a total mileage figure added at the end. Today's counterpart in the United States is the "AAA Triptik" supplied by the American Automobile Association. A Roman equivalent nicely decorates cylindrical silver beakers with a record (in four columns) of 107 stages on the land journey of 1,840 Roman miles from Gades (modern Cádiz in the south of Spain) to Rome itself (see Figure 16.9).¹⁷ One quite extensive collection of such itineraries survives (the so-called *Antonine Itinerary*),¹⁸ and the type of data it offers has been considered the basis for the Peutinger Map, which makes a special feature of the land routes linking the principal settlements of the Roman empire and even far beyond eastwards.

Hence follows the claim that the itinerary forms the key to Romans' mental map. As a result, Romans are said to have conceived space primarily, even exclusively, as lines, thus in linear or "hodological" terms. My current opinion, however, considers this claim to be excessive, and needlessly so. The claim assumes the surviving collection of itineraries to be merely one example of a common type; by contrast, I find reason to see it as far from typical. In my view, moreover, the land routes on the Peutinger Map, although undeniably conspicuous, are more decorative than integral to the framing of the Map. In any case, the format of the Roman itinerary consciously limits itself to places along principal routes. It does nothing to create any sense of physical geography; there is next-to-no mention of shorelines, rivers and mountain ranges. Nor is any clue offered to the spatial relationship of one region or principal settlement to another, even though this has to be a vital piece of awareness for anyone attempting to develop a vision of their wider surroundings, however sketchy.

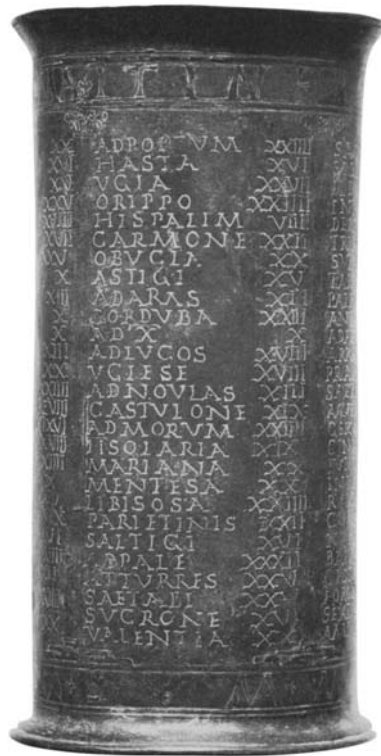


Figure 16.9 Miniature silver beaker, probably produced in the first century CE and found in a sacred spring at Vicarello north-west of Rome. Four columns list the stages on the land journey from Gades (today Cádiz, Spain) to Rome, and the distance between each in Roman miles. The first column, seen here, shows the route proceeding through Corduba (Córdoba) and reaching Valentia (Valencia). J. M. Roldán Hervás, *Itineraria Hispana: fuentes antiguas para el estudio de las vías romanas en la Península Ibérica* (Valladolid, 1975), plate XVIII (= *CIL* XI.3283); reproduced with the author's permission

Yet the point has been overlooked that the itineraries themselves do take just such a basic spatial awareness for granted. We find headings such as “itinerary from Pannonia to Gaul by inland routes,” or “itinerary from Pannonia to Gaul along the bank,” with the river left unspecified, in fact the Danube. A stopping-point is termed “the boundary of Pontus.” From Gessoriacum (Boulogne in northern France), the next entry is “ferry to Ritupae” (Richborough in southern England). In other words, the user is assumed to be already aware, for example, that one way to go from Pannonia (modern Hungary) to Gaul is to follow the river Danube, and that traveling from Gessoriacum to Ritupae requires crossing the English Channel. So a grasp, however sketchy, of the different regions that comprise Rome's provinces (plus Italy) and their spatial relationship to one another is in fact taken for granted (see, in detail, Talbert 2004b: 23).

How Romans typically acquired such an awareness remains a puzzle. The topic of what geography was taught in such schools as there were certainly seems overdue for reappraisal. Among the basic components shaping Roman awareness, I regard the principal provinces as fundamental, together with certain peoples, especially beyond the empire but even within it in some regions. For long-distance travelers by land, the boundary points at which they crossed from one Roman province to another would have been conspicuous and memorable. Authors repeatedly describe the empire in terms of its provinces. This basis for a worldview was only reinforced by the large festivals typically organized province by province to celebrate the cult of the emperor. Ironically, the growing spread and authority of Christianity served in turn to reinforce the same worldview, because Christians developed their church organization on the existing basis of Roman provinces rather than attempting to create any alternative.¹⁹

In principle, it would seem, the worldview of those Romans (a minority, admittedly) whose livelihood or inclinations involved travel may also be penetrated through an examination of public documents where geographical references are made with the evident assumption that they will prove meaningful. A case in point is the list of maximum fees for cargoes on 49 or more voyages in the Tetrarchs' Prices Edict of 301 CE (Crawford and Reynolds 1979: 184–6). Without doubt, this list is intended to be comprehensible to anyone who is able to distinguish East from West, and is familiar with the empire's principal provinces as well as with some of its most notable ports. As it happens, most of the chosen starting-points for the trans-Mediterranean voyages specified happen to be in the East.

No doubt there is much other testimony of comparable value which awaits attention in a search for widely recognized geographic references. Indeed, there would even seem to be an entire class of object which has so far escaped notice in this connection: the portable sundial. In Harley and Woodward's landmark *History of Cartography*, vol. 1 (1987), Oswald Dilke does in fact make passing mention of these sundials, describing them as "a principal aid to the well-informed traveler" along with written itineraries (Harley and Woodward 1987: 235). Because he offers no discussion, however, Dilke omits to mention that in the late first century BCE Vitruvius (*De Architectura* 9.8.1) refers to sundials (*horologia*) of just this sort, which he terms "viatoria pensilia," "hanging ones for use on a journey." Altogether, eight or more have been identified, all bronze, five of the eight inscribed in Greek, three in Latin. There really is no means to date them individually or in relation to one another with confidence, although all the Latin ones evidently predate the establishment of Constantinople in the early fourth century CE, while all the Greek ones postdate it.

Predictably enough, the features of these portable sundials that have engaged scholars' attention are how they worked, what functions they could perform, and how accurate their readings prove. Disappointing it may be in the light of all the mathematical and astronomical learning brought to bear on such matters,²⁰ but there seems no avoiding the conclusion that these objects were neither very versatile nor very accurate (Wright 2000). In calculating the time, error was all

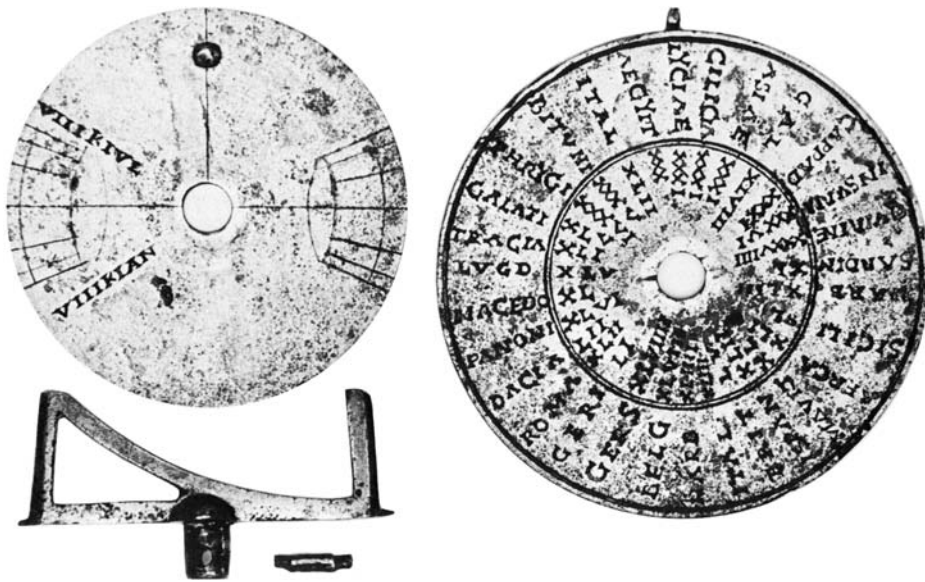


Figure 16.10 Bronze parts (two discs, the larger recessed to accommodate the smaller; a combined gnomon and hour-scale held together by a bolt) of a Roman sundial said to have been found near Bratislava (Slovakia), now in the (Ashmolean) Museum of the History of Science, Oxford (inv. 51358); diameter 6.1 cm; reproduced with permission

too likely to be caused by use of an inaccurate or miscopied figure for the user's latitude, as well as by the small size of the object itself. These sundials are so small that even the tiniest shift to one of their movable parts can produce a notable change in the reading obtained. The best preserved example, in Oxford's Ashmolean Museum, measures a mere 6 cm in diameter (Figure 16.10); the London dial, with its 13.5 cm diameter, is exceptionally large.

Attention seems not to have been drawn previously to the lists of names (each with a latitude figure) on these sundials as a potential indicator of users' geographical awareness. To acquire a portable sundial would seem pointless if the names on it, and their approximate locations relative to one another, meant nothing to its owner. Consider Table 16.1, which translates the names and latitude figures on eight sundials,²¹ and Figure 16.11, which for illustration plots on a modern base the cities and peoples identifiable on the fullest of the eight (Tischendorf), found at Memphis in Egypt. Table 16.1 simplifies the names somewhat. In the original Latin or Greek, many are not spelled out in full, others are. Some appear in the nominative, others in the genitive, at random; similar inconsistency is found in itineraries and on the Peutinger Map. The "reverse" side of the sundials (where the names invariably appear) is of course circular, and there is never a designated starting-point. Generally speaking, the listings in Table 16.1 begin from the first name far up the Nile, and simply continue on round from

Table 16.1 Names and latitude figures on eight Latin and Greek portable sundials

<i>Cr�-Chatelard dial (Latin)</i>	<i>Baldini dial, Rome (Latin)</i>	<i>Asmolean dial, Oxford (inv. 51358, Latin)</i>	<i>Rockford dial (Greek)</i>	<i>Tischendorf dial, Memphis (Greek)</i>	<i>Aphrodisias dial (Greek)</i>	<i>Samos dial (Greek)</i>	<i>London dial (Greek)</i>
Ethiopia 30	Ethiopia 30	Egypt 30	Meroe 16	India 8	Syene 23.5	Ephesus —	Constantinople 41
Egypt 33	Egypt 33	Lycia 31	Syene 24	Meroe 16.5?	Memphis 29.5	Rhodes 36	Syene 24
Spain 35	Spain 40	Cilicia 31	Thebaid 28	Syene 23.5	Pelusium 30.5	Laodicea 38	
Babylon 35	Babylon 30	Asia 31	Egypt 31	Berenice 23.5	Alexandria 31	Ancyra 39	Thebaid 28
Illyricum 37	Illyricum 37	Gall� 48	Pentapolis 31	Memphis 30	Pentapoleis 32	Nicaea 40+	Africa 31
Syria 38	Syria 38	Cappadocia 31	Africa 32	Alexandria 31	Carthage 33	Heraclia 40+	Alexandria 31
Arabia 29	Arabia 29	Syria? 36	Palestine 32	Pentapolis 31	Crete 35	Constantinople 40+	Antiochia 36
Africa 42	Africa 40	Cyrene? 39	Mauritania 34	Bostra 31.5	Athens 37	Chalcedon 40	Rhodes 36
Mauritania 40.5	Mauritania 30	Sardinia 40	Cyprus 35	Neapolis 31.66	Thessalonica 43	Nicomedia 40+	Athens 36
Bithynia 41	Bithynia 41	Narb -o/-ensis 43	Sicily 35	Caesarea 32	Cyzicus 41	Apamea 41	Sicily 36
Italy 42	Italy 42	Sicily 41	[missing] 36	Carthage 32.66	Nicomedia 42	Cyzicus 40	Thessalonica 40
Nemausus? 24	Narbon 43	Africa 41	Pamphylia 37	[missing] 32.5	Constantinople 41	Miletus 38	Rome 41
Ancona 44	Ancona 45	Mauritania 40	Greece 37	[missing] —	Galatia 42		Dalmatia 42
Gaul 48	Gaul 48	Spain 42	Spain 37	[missing] 33.66	Cappadocia 39.5		Dyrrhachium? 43
Germany 50	Germany 55	Britain 55	Tarsus 38	Gortyn 34.5	Tarsus 36.5		Caesarea 32
Britain 56	Britain 57	Italy 43	Antioch 39	Antioch 35.5	Antioch 35.33		
		Narb -o/-ensis 44	Macedonia 40	Rhodes 36	Phoenice 33.33		
		Belgica 48	Galatia 40	Pamphylia 36	Palestine 36		
		Germania Superior 49	Thessalonica 40	Argos 36.5	Cyprus 34		
		Germania Inferior 51	Thrace 41	Syracuse 37	Lycia 35.33		
		Rome 42	Rome 42	Athens 37	Pamphylia 36.5		
		Dacia 52	Italy 42	Delphi 37.66	Rhodes 36		
		Pannonia 46	Dalmatia 42	Tarsus 38	Sicily 38		
		Macedonia 40	Gaul 42	Adrianople 39	Rome 41.5		
		Lugdun -um/-ensis 45	Cappadocia 43	Asia 40	Gaul(s) 46		
		Thrace 41	Constantinople 40+	Heraclia 41.66	Burdigala 45		
		Galatia 45	Armenia 40+	Rome 41.66	Spain 42		
		Phrygia 36	Pannonia 44	Ancyra 42	Emerita 39.5		
		Bithynia 35	Bithynia _4	Thessalonica 43			
		Italy 42	Germany —	Apamea 39			
				Edessa 43			
				Constantinople 43			
				Gaul(s) 44			
				Ravenna 44			
				Thrace 41			
				Aquileia 45			

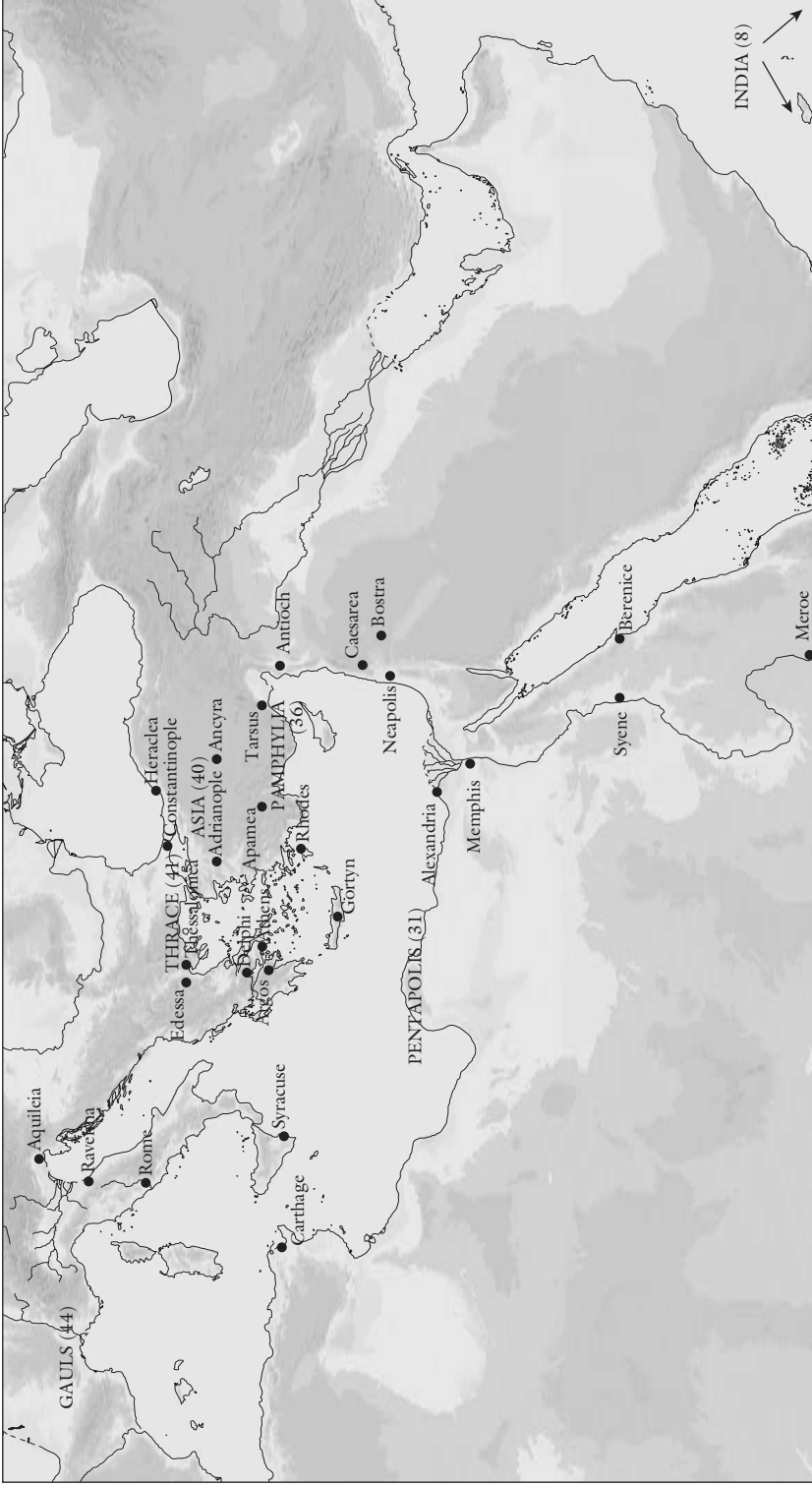


Figure 16.11 Names on the Tischendorf sundial (found at Memphis, Egypt) plotted on a modern base map. Region-names (capitalized) are placed at the latitude that the sundial's listing specifies. Where a discrepancy occurs between the known location of a city (Ancyra, for example) and its latitude as specified on the sundial, it is placed at the known location regardless

there; on the London dial there are two blank intervals. For whatever reason, the order of names may not always adhere to correspondingly ascending latitude figures. Equally, the latitude figure given for a particular name may differ from one sundial to another. Most of these differences are small, but a few are substantial; it is easier to imagine why such differences should occur in the case of a large, extended region (Gaul, for example) than in that of a city. In other instances the choice of latitude figure is vital for clarifying which city among those with a common name is meant. In Figure 16.11, for instance, consider the cases of Neapolis, Caesarea, Adrianople and Heraclea. For “India” there, however, even the figure 8 still leaves ambiguity, because it could indicate either the southern tip of the sub-continent, or part of East Africa, in modern Sudan or Ethiopia.

Altogether, there is a striking mix of cities, islands and regions (but no peoples), including several names beyond the Roman Empire to the South and East. There is no knowing how far the choice of names is standard, and how far it has been prescribed by an individual purchaser to meet personal requirements. The occurrence of the same set of names (omitting Rome itself) on the Crêt-Chatelard and Baldini sundials testifies to some standardization, eclectic though the selection is here. Without question, the names on the Samos sundial confirm that a distinctly individual set of choices could be ordered, confined to western Asia Minor in this instance. It is important to understand that, once the required names and accompanying figures to fit the space available were supplied, there was no further difficulty for the maker of any of these sundials, because the names and figures are purely for the user’s information; they do not affect the sundial’s mechanism. Not all the space available for names is necessarily filled. In some instances it would have been easy enough to accommodate further names, on the Samos sundial in particular with its mere 12 names. It is a puzzle that the 30 names on the Ashmolean sundial should fill all its space, but include Narbo, Italy and (perhaps) Galatia twice in so doing, moreover with variant latitude figures in each instance.

Vitruvius’ reference unquestionably implies that portable sundials were used on journeys, and we need not doubt that they were. Even so, they may not really have offered much improvement upon telling the time by a glance at the sun’s position.²² Some, at least, were perhaps produced more as *de luxe* ornaments for ostentatious sophisticates than as practical aides for real travelers. Hence such remote locations as Babylon, Ethiopia and India are listed, while the Crêt-Chatelard, Tischendorf and Aphrodisias sundials may appear over-meticulous in recording latitudes to a third or half of a degree. This said, the Tischendorf and Aphrodisias sundials do also reflect more practical concerns. The former lists Ravenna and Aquileia in addition to Rome; the latter lists Burdigala in addition to Gaul, and Emerita in addition to Spain. If nothing else, the traveler who made conspicuous and painstaking use of a portable sundial could in all likelihood mightily impress simple onlookers with such gadgetry.

The notion of portable sundial as showpiece or ornament is reinforced by the remarkable “pillbox” type held by the Kunsthistorisches Museum in Vienna, a mere 3.8 cm in diameter and 1.4 cm thick. Its base and lid are (or seem to be) coins

of Antoninus Pius from the early 140s CE. Inside are a dial and four thin removable discs with a “peg” to hold them in position. Both faces of each disc are inscribed with a pair of names, allowing the owner to choose one of eight different latitudes each time the sundial is put to use:

- 1a Rome Epirus
- 1b Ancona Tuscìa

- 2a Alexandria Egypt
- 2b Britain Germany

- 3a Greece Asia
- 3b Africa Mauretania

- 4a Spain Achaia
- 4b Of the first name, only N is legible (in the middle of the word); the second name is wholly illegible.

A neat, ingenious gem this medallion-type is for certain, but its miniature scale gives it even less practical value than the other known portable sundials (Buchner 1976).

In conclusion, while not discounting the claim that use of itineraries led Romans to visualize their surroundings in one-dimensional, linear terms, at the same time I see no compelling reason to privilege this outlook unduly or to imagine that it justifies the abandonment of further enquiry. The fact is that other, more complex means by which Romans viewed their world can be detected too. Above all, there was undoubtedly some awareness, albeit often sketchy, of how the principal landmasses, rivers and mountain ranges related to one another, as well as to the principal settlements and peoples, around the Mediterranean and even well beyond in certain directions. I am convinced that the immense range and variety of surviving texts, images and material objects will repay fresh appraisal in a continued quest to achieve fuller, more nuanced understanding. Recovery of Roman worldview in its intriguing variety – not all of it even detected to date perhaps – remains a work in progress.

Notes

- 1 See, for example, the photographs and plans of Roman communities (in Italy and beyond) discussed by Ward-Perkins 1974.
- 2 Note, for example, the centuriated landscapes with roads illustrated by Campbell 2000: Plates II–V and discussed in his chap. 5.
- 3 For a wide-ranging attempt to recover Celtic names through the Greek and Latin ones which displaced them, see Sims-Williams 2006.

- 4 For a full presentation, visit <http://formaurbis.stanford.edu>. Note also Trimble 2008.
- 5 See, for example, Hyginus (2), *Constitutio <Limitum>* in Campbell 2000: 159 with his important note 48 (on 397–9).
- 6 The scrappy testimony is assembled by Riese 1878: 1–8, and fully discussed by Brodersen 1995: 268–7. His provocative view that there was no map at all, but only a text, gains support from Carey 2003: chap. 3, but for the most part has been received skeptically. It is hard to doubt that there was a visual image (whose form is beyond recovery), in all likelihood somehow accompanied by text. For the portico, see Steinby 1999: 151–3 s.v. Porticus Vipsania (by F. Coarelli).
- 7 Woolf 1998: 1–3 and 12–13 recreates the scene. Nothing remains of this school, and even its site within the city has yet to be identified. See Rebourg 1993: esp. 1. 32.
- 8 *Panegyrici Latini* 9(4).20.2.–21.3 Mynors; see further Nixon and Rodgers 1994: 171–7, on whose translation mine is based.
- 9 The point underlies Gautier Dalché 2005.
- 10 *Ad Atticum* 2.4.3; 2.7.1 (= 24, 27 in Shackleton Bailey 1965–70; 1978).
- 11 The edition by Stückelberger and Grasshoff 2006 (with German translation and reconstructed maps) now supersedes all others. For English translation of the theoretical chapters, with an invaluable introduction, see Berggren and Jones 2000.
- 12 See best Weber 1976 (full-size color photographs, with concise commentary), and discussion by Talbert 2004a.
- 13 The established view of the extent and character of this missing end is reappraised by Talbert 2007a.
- 14 Silk was indeed known; but to use such exotic and costly material for drawing or reproducing maps – as the Chinese did (see Hsu, this vol.) – would have been unthinkable, despite its suitability for the purpose.
- 15 The hypothesis is advocated by Janni 1984; among its strongest supporters is Whittaker 2002.
- 16 For a range of perspectives, see Salway 2007 and Talbert 2007b.
- 17 The Roman mile (measuring approximately 1,618 yards = 1,480 m) is shorter than today’s statute mile (1,760 yards = 1,610 m).
- 18 The standard (Teubner) edition is Cuntz 1929.
- 19 For these arguments, see further Talbert 2004b: 24–35.
- 20 In general, see Evans 1998: 129–41; for mathematical concerns, Schuetz 1990.
- 21 For bibliography on each, and on a further sundial omitted from Table 16.1, see Ackermann 2003. My present observations extend those made in Talbert 2008; a detailed analysis is in preparation.
- 22 The same doubt was expressed about sundials generally. For this observation as a literary topos, see Gratwick 1979.

References

- Ackermann, S. 2003. “Light on Byzantium – A Universal Sundial in the British Museum.” In C. Entwistle (ed.), *Through a Glass Brightly: Studies in Byzantine and Medieval Art and Archaeology Presented to David Buckton*, 16–21. Oxford.
- Berggren, J. L., and A. Jones. 2000. *Ptolemy’s Geography: An Annotated Translation of the Theoretical Chapters*. Princeton and Oxford.

- Bowersock, G. W. 2005. "The East-West Orientation of Mediterranean Studies and the Meaning of North and South in Antiquity." In W. V. Harris (ed.), *Rethinking the Mediterranean*, 167–78. Oxford.
- Brodersen, K. 1995. *Terra Cognita. Studien zur römischen Raumerfassung*. Hildesheim.
- Buchner, E. 1976. "Römische Medaillons als Sonnenuhren." *Chiron* 6: 329–48.
- Campbell, B. 2000. *The Writings of the Roman Land Surveyors: Introduction, Text, Translation and Commentary*. London.
- Carey, S. 2003. *Pliny's Catalogue of Culture: Art and Empire in the Natural History*. Oxford.
- Crawford, M. H., and J. M. Reynolds. 1979. "The Aezani Copy of the Prices Edict." *Zeitschrift für Papyrologie und Epigraphik* 34: 163–210.
- Cuntz, O. 1929. *Itineraria Romana, I: Itineraria Antonini Augusti et Burdigalense*. Leipzig.
- Cyrino, M. S. 2005. *Big Screen Rome*. Malden, MA and Oxford.
- Evans, J. 1998. *The History and Practice of Ancient Astronomy*. New York and Oxford.
- Gautier Dalché, P. 2005. "Agrimensure et inventaire du monde: La fortune de 'Mappa (Mundi)' au Moyen Âge." In D. Conso, A. Gonzales, and J.-Y. Guillaumin (eds.), *Les vocabulaires techniques des arpenteurs romains*, 163–71. Besançon.
- Geus, K. 2003. "Space and Geography." In A. Erskine (ed.), *A Companion to the Hellenistic World*, 232–45. Oxford.
- Gratwick, A. S. 1979. "Sundials, Parasites, and Girls from Boeotia." *The Classical Quarterly* 29: 308–23.
- Harley, J. B., and D. Woodward (eds.). 1987. *The History of Cartography, I: Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean*. Chicago.
- Janni, P. 1984. *La mappa e il periplo: Cartografia antica e spazio odologico*. Rome.
- Lewis, M. J. T. 2001. *Surveying Instruments of Greece and Rome*. Cambridge.
- Nixon, C. E. V., and B. S. Rodgers. 1994. *In Praise of Later Roman Emperors: The Panegyrici Latini*. Berkeley.
- Rathmann, M. 2003. *Untersuchungen zu den Reichsstrassen in den westlichen Provinzen des Imperium Romanum*. Mainz.
- Rebourg, A. (ed.). 1993. *Carte archéologique de la Gaule 71/1 and 2 Autun*. Paris.
- Riese, A. 1878. *Geographi Latini Minores*. Heilbronn.
- Salway, R. W. B. 2007. "The Perception and Description of Space in Roman Itineraries." In M. Rathmann (ed.), *Wahrnehmung und Erfassung geographischer Räume in der Antike*, 181–209. Mainz.
- Schuetz, M. 1990. "Zur Sonnenuhr des Augustus auf dem Marsfeld." *Gymnasium* 97: 432–57.
- Shackleton Bailey, D. R. 1965–70. *Cicero, Letters to Atticus*. 7 vols. Cambridge.
- Shackleton Bailey, D. R. 1978. *Cicero's Letters to Atticus*. Harmondsworth.
- Silverstein, A. J. 2007. *Postal Systems in the Pre-Modern Islamic World*. Cambridge.
- Sims-Williams, P. 2006. *Ancient Celtic Place-Names in Europe and Asia Minor*. Oxford.
- Steinby, E. M. (ed.). 1999. *Lexicon Topographicum Urbis Romae*, IV. Rome.
- Stückelberger, A., and G. Grasshoff. 2006. *Klaudius Ptolemaios, Handbuch der Geographie*. 2 vols. Basel.
- Talbert, R. J. A. 2004a. "Cartography and Taste in Peutinger's Roman Map." In R. J. A. Talbert and K. Brodersen (eds.), *Space in the Roman World: Its Perception and Presentation*, 113–41. Münster.
- Talbert, R. J. A. 2004b. "Rome's Provinces as Framework for World-View." In L. De Ligt, E. A. Hemelrijk, and H. W. Singor (eds.), *Roman Rule and Civic Life: Local and Regional Perspectives*, 21–37. Leiden.
- Talbert, R. J. A. 2005. "'Vbique Fines': Boundaries within the Roman Empire." *Caesarodunum* 39: 93–101.

- Talbert, R. J. A. 2007a. "Konrad Miller, Roman Cartography, and the Lost Western End of the Peutinger Map." In U. Fellmeth, P. Guyot, and H. Sonnabend (eds.), *Historische Geographie der Alten Welt: Grundlagen, Erträge, Perspektiven* [Festschrift Olshausen], 353–66. Hildesheim.
- Talbert, R. J. A. 2007b. "Author, Audience and the Roman Empire in the *Antonine Itinerary*." In R. Haensch and J. Heinrichs (eds.), *Herrschen und Verwalten: Der Alltag der römischen Administration in der Hoben Kaiserzeit*, 264–79. Berlin.
- Talbert, R. J. A. 2008. "The World in the Roman Traveler's Hand and Head." In J. Rubio Tovar, M. Vallejo Girvés, and F. J. Gómez Espelosín (eds.), *Viajes y Visiones del Mundo*, 109–27. Madrid.
- Trimble, J. 2008. "Process and Transformation on the Severan Marble Plan of Rome." In R. J. A. Talbert and R. W. Unger (eds.), *Cartography in Antiquity and the Middle Ages: Fresh Perspectives, New Methods*, 67–97. Leiden.
- Ward-Perkins, J. B. 1974. *Cities of Ancient Greece and Italy: Planning in Classical Antiquity*. New York.
- Weber, E. 1976. *Tabula Peutingeriana, Codex Vindobonensis 324*. Graz.
- Whittaker, C. R. 2002. "Mental Maps: Seeing Like a Roman." In P. McKechnie (ed.), *Thinking Like a Lawyer: Essays on Legal History and General History for John Crook on his Eightieth Birthday*, 81–112. Leiden.
- Woolf, G. 1998. *Becoming Roman: The Origins of Provincial Civilization in Gaul*. Cambridge.
- Wright, M. T. 2000. "Greek and Roman Portable Sundials: An Ancient Essay in Approximation." *Archive for History of Exact Sciences* 55: 177–87.

The Medieval Islamic Worldview: Arabic Geography in Its Historical Context

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What did medieval Muslims think about the world around them? Although the issue of “Worldview” may be deemed elusive to historians of most pre-modern societies,¹ in the case of the medieval Islamic world the answer to this question would appear to be relatively easily accessible to us. This is primarily because medieval Islamic civilization produced a body of geographical literature that is unparalleled in its scope and size among pre-modern cultures:² of the numerous works composed in Arabic and Persian that are directly concerned with geography, over two dozen survive.³ This being so, rather than asking what the medieval Islamic worldview *was*, we should perhaps be wondering why there were *so many* of them. The question is compounded by the fact that most of these geographies were written over a relatively short period of one and a half centuries; their ubiquity can therefore not be attributed to changing political realities that rendered previous works obsolete.

In what follows, the geographies composed in the Islamic world between 850 and 1000 CE will be analyzed with the aim of determining the method by which Muslim geographers composed their works. In doing so, three questions regarding the medieval Islamic worldview will be asked: was it “medieval?”; was it “Islamic?”; and was it a “worldview?” It will be argued that although each of these terms can reasonably be applied to individual geographies, there are few works (if any) to which all three descriptions are appropriate.

Was it “Medieval?”

Even if we disregard the unsuitability of the term “medieval” with reference to non-European history and take it to mean the period between Antiquity and

Modernity, it could be argued that Arabic geographies composed during this period are more representative of “Ancient” cultures than they are of “Medieval” ones. Key aspects of Arabic geography can be traced with confidence to three ancient civilizations: Hellenistic, Iranian, and Mesopotamian.

The contribution of Hellenistic ideas to these works is readily evident in two ways: First, some Muslim geographers openly admit to having consulted, in compiling their own books, the works of such authors as Claudius Ptolemy (d. 168 CE) and Marinus of Tyre (d. 130 CE) which were translated into Arabic by the ninth century; one even goes so far as to present his geography as being an Arabic rendition of Ptolemy’s *Geographia*, although there is little resemblance between the two works.⁴ The esteem in which Hellenistic geography was held in the Near East is already apparent in the work of the seventh-century Armenian writer Ananias of Shirak, whose geography is heavily indebted to both Hellenistic and Iranian predecessors but who, strikingly, refers only to Greek writers such as Ptolemy and Pappus of Alexandria when enumerating his sources (Hewsen 1992: 28–31). The intellectual *milieu* in which early Muslim geographers produced their works was thus one that had long encouraged an association with Hellenistic geography, and the large-scale translation of Greek scientific works into Arabic in ninth-century Iraq must have made it both impressive and straightforward for geographers to draw on Hellenistic materials in their own writings.⁵

Second, such transparently Hellenistic geographical notions as the division of the habitable regions of the earth into seven “climates” (Greek: *klimata*, sing. *klima*), the existence of three continents called Asia, Libya, and Europe (cf. Qudāma, 140), the idea that the habitable earth is encircled by a “surrounding” body of water (Arabic: *muḥīt*, a calque on the Greek *Okeanos*; *ibid*: 141), and the practice of locating places by using mathematical coordinates of longitude and latitude,⁶ pervade many of the works considered here. Perhaps it is for these reasons that most studies on the origins of Islamic geography have focused on the Hellenistic input,⁷ often to the exclusion of the Iranian and Mesopotamian geographical heritages that played equally important roles in the formation of Islamic geography. The Iranian and Mesopotamian contributions to the medieval Islamic worldview deserve our attention here both because they have hitherto largely been ignored and because they had a formative influence on the content and contours of Arabic geographies.

Iranian geographical notions were known to Muslims by the late Umayyad period, if not earlier. According to al-Mas‘ūdī (d. 956), the caliph Hishām (r. 724–43) commissioned the translation into Arabic of a Persian book on geography that was discovered among the treasures of the conquered Sasanid kings (Maqbul Ahmad 1965). For the purposes of tax-collection and imperial communications within the provinces of the Islamic world that had previously been ruled by Persian dynasties, Sasanid geographies were probably used extensively by Islamic-era administrators as early as the late seventh century. And although Iranian sources are almost never mentioned by name in Arabic geographies, six centuries into the Islamic period authors were still mindful of the pre-Islamic Iranians’ reputation for having

detailed descriptions of their realms: Yāqūt (d. 1229), for instance, mentions that the Sasanids had a very detailed world map (*sūrat al-arḍ*) that took up an entire room (Yāqūt, *Muʿjam al-Buldān*, 1: 469). One Sasanid geography, the *Šabrestānīhā-ī Ērānšahr* (hereafter: Š-Ē), is extant, and offers us a unique glimpse at the type of Iranian materials that early Islamic geographers may have had at their disposal (Gyselen 1988; Daryae 2002).

The Š-Ē consists of a list of cities ruled by the Sasanids, with frequent references to the [usually Persian] rulers who are credited with their construction. The cities are arranged geographically, according to the four “directions” (Pahlavi: *kust*) with one exception: the last line of the text (Daryae 2002: 28 l. 60) mentions that Baghdad was founded by the Abbasid caliph al-Manṣūr (r. 754–75). This anachronistic reference to Baghdad in what is supposed to be a Sasanid text indicates that Pahlavi geographical works were still being circulated – and reworked – in the Abbasid period. That Baghdad is mentioned at the very end of the text, and in the section on the northern regions of the Sasanid world, rather than in the text’s coverage of the western regions (where the nearby town of Ctesiphon is treated), suggests that the Abbasid authors who were behind this interpolation were reluctant to meddle with the contents of the original text. It is therefore reasonable to assume that the rest of the work is an accurate reflection of a pre-Islamic Iranian geography.⁸

Early Islamic geographies display three traits that are common to the Š-Ē (and, importantly, dissimilar to Hellenistic geographies) and may be taken as evidence of Iranian influence on Islamic geographical notions. The first is the tendency to intersperse “historical” information on Persian kings among the geographical data on which the texts otherwise focus. This is particularly conspicuous in such works as the Š-Ē for the pre-Islamic period and Ibn Khurradādhbih’s ninth-century description of itineraries for the early Islamic period,⁹ where the authors are markedly terse in their style yet strangely keen to point out historical references nonetheless. Even in the absence of a text such as the Š-Ē it still would have been sensible to suppose that Ibn Khurradādhbih’s many references to pre-Islamic Iranian history were based on Iranian sources. What the inclusion of comparable data in the Š-Ē tells us is that these were particularly *geographical* sources.

A second feature shared by both the Š-Ē and early Islamic geographies is the tendency to begin descriptions of the world with “the East,” even though in the Š-Ē the empire’s capital was in “the West” (e.g., Ibn Khurradādhbih, 18; and Daryae 2002: 25–6). It could be argued that beginning with the East is a “universal” practice, perhaps because the sun rises there.¹⁰ Furthermore, linguistic evidence would suggest that pre-Islamic Arabians and other ancient Semitic peoples faced “East” when considering their surroundings.¹¹ However, it is important to stress that Hellenistic geographies start with the continent of “Europe” (rather than “Asia”), and that as early as the tenth century some Muslim geographers preferred to begin with “Arabia” on account of its spiritual importance, a point to which we shall return below. Thus, although early Muslim geographers clearly had alternative models with which to work, many of them chose the Iranian one.

When Ibn Khurradādhbih writes, “I will begin with mention of the Sawād [region of southern Iraq] since the Persian kings referred to it as *dil-i īrān-šahr*, that is to say ‘the heart of Iraq’” (*Masālik*, 5), he is openly acknowledging his reliance on Iranian precedents in choosing his orientation.

The third Iranian geographical notion that is present in both the Š-Ē and in early Muslim geographies is the quadripartite division of the world, a division that for our purposes is conveniently distinct from the Hellenistic divisions into either three continents or seven climates (cf. Gnoli 1985). Authors such as al-Ya‘qūbī (d. 897) and Ibn Khurradādhbih (d. 912) implicitly follow the Sasanid precedent in this regard, whereas Qudāma (d. 948) states directly that the notion is an Iranian one (*Kharāj*, 139). Ibn Rusta, however, is under the (mistaken) impression that the quadripartite division is a product of [Greek] mathematical geography (*A‘lāq*, 8), while other authors confuse the Iranian notion of four regions with the three Hellenistic continents and enumerate *four* continents instead of three.¹² The conflation of the Hellenistic and Iranian schemes for dividing the habitable world is found in the Near East on the eve of Islam in the work of Ananias of Shirak. Ananias follows a decidedly Hellenistic organization in his geography, which is presented as an elaborate discussion of the three continents of the world – Europe, Asia, and Libya. However, when describing the Sasanid provinces, he abandons his Greek sources and distinctly turns to Persian archival materials for his information (Hewsen 1992: 27–8). Accordingly, Ananias speaks of “the four parts of the world” and states that “Persia is divided into four parts” (ibid: 70, 72, 227).

Other Iranian geographical ideas permeate Arabic geographical works from this period (see Kramers 1954). For instance, the notion that the habitable world consisted of seven *kišvars* or “regions” (from the Avestan *karšvar*, “surrounded by a furrow”) competed with the Hellenistic theory of climates for primacy in Islamic geographies, demonstrating astonishing endurance considering that the notion appears as early as Zoroaster’s *Gathas* (Yasna 32.3). In ancient Iran, it was believed that six of the seven *kišvars* were uninhabitable and at their centre was the seventh, habitable region (Herzfeld 1947: 670–703). By Sasanid times, all seven *kišvars* were taken to be inhabited (*Bundahišn* 15: 27–30), but the central one was climatically favored and occupied by the land of “Iran” (broadly defined; Daryae 2002: 7–10). Although echoes of the Hellenistic climate-system are detectable in this later phase of the theory’s development (particularly the idea that a region’s geographical position affects its fortunes), there is no doubt that the general idea of the *kišvars* is an Iranian one that persisted long into the Islamic period.¹³ Other examples of Iranian influence on Islamic geographies include the use of Persian terms such as *kūra*, *ustān*, and *tassūj* with reference to various types of towns and settlements, as well as the idea found in the works of al-Iṣṭakhṛī (mid-tenth-century) and al-Balkhī (d. 934) that the world was divided into 20 political regions, which may reflect the 20 satrapies of ancient Persian empires.

The impact of Mesopotamian geographical theories on early Muslim authors is a topic as interesting as it is neglected.¹⁴ Although it is true that from the Achaemenid period (559–330 BCE) onwards, Persian and Hellenistic cultures eclipsed the ancient

Near Eastern one in the region, and although there is no evidence that Akkadian geographies would have been available (let alone intelligible) to Muslim authors, there are three reasons to suppose that Mesopotamian antecedents played a role in the formation of Islamic geography. First, it is clear that other branches of Mesopotamian knowledge managed by some means to survive into the Islamic period, sometimes through an identifiable (Persian or Aramaic) intermediary and at other times seemingly independently of other cultures.¹⁵ Second, many of the earliest specimens of Islamic geography were produced in Iraq, often drawing on local sources, and usually for the benefit of patrons who were based there, and it is inconceivable that the arrival of a new religious, political, or linguistic power could simply efface the cultural tradition that had dominated the region for two millennia. Jews who imported their culture to Babylonia came to absorb local geographical traditions,¹⁶ and there is evidence to suggest that Muslims who arrived in the region from the seventh century onwards did so too.¹⁷ Third, there are some aspects of early Islamic geography that are not traceable to Hellenistic or Iranian sources, but bear an intriguing resemblance to Mesopotamian sources, as we shall now see.

The quadripartite division of the world in Islamic geographies has been attributed above to Iranian precedents on the basis of what appeared to be persuasive evidence. However, Gignoux has argued forcefully that existing inscriptions and seals from the Sasanid period do not support the theory that the Sasanids divided the world into four. In his view, this theory is an illusion of the Islamic-era literary sources and the quadripartite division is in actual fact a vestige of Mesopotamian geographical notions.¹⁸ Whatever the case may be, there is little doubt that a quadripartite division of the world was a central theme of Mesopotamian geography.¹⁹ The notion is very prevalent in literary texts,²⁰ and – more importantly for our purposes – occurs in two Mesopotamian geographical works: the “Babylonian Map of the World” (hereafter: BMW) and the “Sargon Geography” (hereafter: SG).²¹ In the BMW, “the four corners” (*tubuqāt erbetti*) of the world are mentioned (Horowitz 1998: 32), as are “the four quadrants of the earth” (*kibrāt erbetti*) (ibid: 37, 39); in the SG, the world is described according to the four cardinal points (ibid: 90–1). Other Sumerian and Akkadian sources mention the quadripartite division of the world (ibid: 298–9, 324–5), and the concept resurfaces – perhaps under Mesopotamian influence – in the Bible (*Isaiah* 11: 12, *Ezekiel* 7: 2)²² and in rabbinic literature, where “the four extremities (*kanfōth*) of the world” are referred to (Bravmann 1968–69: 85), a point to which we shall return.

Another feature of Mesopotamian geography that is repeated in Islamic sources is the use of “double-hours” to measure distances. Both the SG and the BMW measure regions and routes using the *bēru* unit.²³ The *bēru* originally represented a distance of “over ten miles” but later came to mean “two hours”, this being the amount of time required to cover the *bēru* distance by foot.²⁴ In Islamic geographies, itineraries are often measured in terms of *barīds*. This word is taken to mean “postal stations” as the *Barīd* was the official postal system employed by rulers in the pre-modern Islamic world. The term *barīd*, however, meant more than just

“postal system”: it was used to denote postal mounts, couriers, relay-stations, and the distance between relay-stations. The multiple meanings of *barīd* confounded modern and medieval scholars alike, and numerous theories have been put forward regarding the “original” meaning of the word (cf. Ullmann 1997). According to the famed lexicographer Ibn Manẓūr (d. 1311), the term *barīd* originally meant “[a distance of] two parasangs, though others have said that ‘[any] distance between two stations is the *barīd*’” (*Lisān*, 4: 53). Ibn Manẓūr goes on to explain that couriers and postal mounts were called *barīds* because they traversed the *barīd* distance. Considering that the parasang (*farsakh*) is understood to have equaled the distance covered by foot in one hour (ibid: s.v. “farsakh”), the *barīd*, being a two-parasang stretch, was exactly tantamount to the *bēru* (Silverstein 2001). Geographers such as Ibn Khurrādādhbih and Qudāma often enumerate the number of *barīds* between two places and it is likely that when doing so they have the *barīd* distance in mind, rather than the meaning of “postal station”, for which purpose they use another Arabic term, *sikka* (pl. *sikak*). The means by which the Akkadian word *bēru* found its way into Arabic is obscure, but the absence of similar terms in Iranian or Hellenistic geographical sources makes it all the more likely that Muslim geographers were perpetuating a Mesopotamian method of measuring itineraries.

Even a superficial comparison between the SG and early Islamic geographies produces interesting results, two examples of which should suffice here. First, within Ibn Khurrādādhbih’s work, dry itineraries are occasionally peppered with verses of poetry that upset the rhythm of the work. These perplexing intrusions have generated interesting analyses by modern scholars, who have attempted to argue that the author should be considered as a litterateur (*adīb*).²⁵ Rather surprisingly, the SG, which predates Ibn Khurrādādhbih’s work by over 1,500 years, also includes literary intrusions within its otherwise methodically bland list of places and routes.²⁶ Second, a literary pattern common to both the Mesopotamian and the early Islamic geographies is to be found in the lists of itineraries. The SG presents its itineraries with the formulaic *ultu . . . adi* (“from . . . to . . .”; Liverani 1999–2001: 60), just as Islamic geographies are replete with the phrase *min . . . ilā* (“from . . . to . . .”). Admittedly, there are only so many ways to record an itinerary and the formula “from . . . to . . .” is an obvious option, but the point remains that Mesopotamian and early Islamic geographies had much in common in both general geographical notions and in points of detail.

Having surveyed aspects of Hellenistic, Iranian and Mesopotamian geographies in early Islamic ones, it must be acknowledged that disentangling these various strands of influence is a trickier task than implied thus far. In actual fact, some of the typically “Hellenistic” traits of Islamic geography may derive from Mesopotamian or Iranian sources. The division of the world into three continents, for instance, is a notion that the Greeks may have originally borrowed from the Near East (Burkert 1983: 53; 2005: 36, 49–70). Similarly, the seven *kišmars* at the centre of which Iran is located has a near-direct parallel in the Sumerian concept of the *khuršāni sibatam*, the seven foreign countries around Sumer. In other cases, a point of detail

that could potentially pinpoint the origins of a concept turns out to be so ubiquitous in the ancient world as to elude meaningful analysis. Such a case is the intriguing comparison of the universe to an egg at the centre of which is a spherical yolk (the earth). The metaphor is included in the works of Ibn Khurrādādhbih, Ibn Rusta (wr. 903–13), Ibn al-Faqīh (wr. 903), and al-Muqaddasī (wr. 985).²⁷ That Ananias also includes it suggests that it is based on a Hellenistic cosmographical notion (Hewsen 1992: 275), an assumption supported by Ibn al-Faqīh's attribution of the idea to "a philosopher" (*ba'ḍ al-falāsifa*). Some scholars, however, consider the metaphor to be indicative of a "resolutely Iranian" cosmos (Montgomery 2005: 207), while the fact that the ancient Chinese *huntian* ("celestial sphere") astronomical model repeats the same metaphor (Needham and Ling 1959: 210–19) only serves to confuse matters. A final example is that both the ancient Greeks and the Mesopotamians held that the habitable world is surrounded by a body of water – the *nāru marratum* ("bitter" or "circular water") of the latter (Herzfeld 1947: 684; Horowitz 1998: 41), the *Okeanos* of the former. To which civilization, then, do we assign the Arabic *muhīt*? The answer is that it should not really matter: what the foregoing discussion has attempted to show is that – regardless of the precise provenance of these geographical notions – there is little doubt that much of the medieval Islamic worldview was not very "medieval" at all.

Was it "Islamic?"

It is a curious fact that although during the period considered here only a small majority of the Near East's inhabitants were Muslims, and although Christians, Jews and Zoroastrians had made – and would continue to make – significant contributions to most other branches of "secular" science, all the Arabic geographers known to us were Muslims. While this detail can be explained away as being little more than a coincidence, it can also be argued that medieval Arabic geography was not as "secular" as we might have expected it to be. The following will attempt to analyze the religious character of Islamic geography by focusing on two definitions of the term "Islamic" that will be applied here.

The first definition considers as "Islamic" those geographies that are identifiably inspired by Qur'ānic verses or by ideas expounded in Muslim tradition. Many geographers from this period open their works with lengthy quotations from the Qur'ān or from Prophetic traditions (*ḥadīths*),²⁸ and most make reference to peoples and places associated with the Islamic tradition.²⁹ Moreover, some authors base their theories on geographical data derived from the Qur'ān. A clear example of this is the propensity among some geographers to assume that there are only two seas (as opposed to the five or seven seas mentioned by previous and contemporary scholars), based on Qur'ānic statements to this effect (e.g., Muqaddasī, 12–14). In one verse we are told: "He has set free the two seas meeting together" (Q. 55: 19), and another states: "He is the one who has set free the two kinds

of water, one sweet and palatable, and the other salty and bitter. And He has made between them a barrier and a forbidding partition" (Q. 25: 53). The existence of only two seas is also implied in other verses (e.g., Q. 18: 60; 27: 61, and 35: 12),³⁰ and may in fact be related to the Mesopotamian idea that there was an Upper Sea and a Lower Sea (Horowitz 1998: 76; Liverani 1999–2001: 65), though this is impossible to determine.

The second definition considers as "Islamic" those works that, in part or in whole, are the unique product of medieval Islamic civilization. The assumption here is that there are aspects of Arabic geographies that are peculiar to the Islamic cultural setting in which they were produced even if there is nothing manifestly "religious" about the material itself. This definition of "Islamic" requires that we answer two questions: what would Near Eastern geographies have looked like had Islam not emerged from Arabia (or at all), and how do Islamic geographies differ from them? In attempting to answer these we must separate the two attributes of Islamic civilization that shaped geographical writings: 1) Islam as a religion; and 2) Islam as an empire.

Islam as a religion was forced to respond to and accommodate received "scientific" knowledge, just as Judaism and Christianity did (with varying degrees of success) before it. With particular regard to geography, the idea that the centre of the world is its navel (Greek: *omphalos*) may serve as an illuminating case-study in this context as Jews, Christians, and, eventually, Muslims all adopted the notion and adapted it to their religious worldview. The concept is a distinctly Hellenistic one as the Mesopotamians appear to have lacked an equivalent notion (Horowitz 1998: 41). To most Greeks, the *omphalos* was at Delphi (Cole, this vol.), but when the idea reached Near Eastern monotheists it was reinterpreted as referring to Jerusalem (for Jews and Christians) or Mt. Gerizim (for Samaritans). The book of *Jubilees*, composed in the second century BCE (see also Scott, this vol.), states that "Zion" is the *omphalos*, perhaps echoing the Septuagint's rendering of *ṭabbūr ha-areš* (*Ezekiel* 38: 12) by the same term.³¹ By the Talmudic period, the rabbis had no doubt that Jerusalem was the navel of the earth (*Yomā* 54b), and midrashic sources express the Jewish understanding of the concept in the clearest of terms:

As the navel is set in the centre of the human body, so is the land of Israel the navel of the world . . . situated in the centre of the world, and Jerusalem in the centre of the land of Israel, and the sanctuary in the centre of Jerusalem, and the holy place in the centre of the sanctuary, and the ark in the centre of the holy place, and the Foundation Stone before the holy place, because from it the world was founded. (*Midrash Tanhūmā* on Qedoshīm, 10; see Goodman 2007: 177–8)

For Samaritans, the reference in *Judges* 9: 37 to Mt. Gerizim as being *ṭabbūr ha-areš* was an unequivocal endorsement of that mountain as the *omphalos* (rather than the Temple Mount in Jerusalem),³² and the idea thus became a central feature of Samaritan geographical thought (Ben-Zvi 1970: 40–1). Christians, for their

part, adopted the Jewish attachment to Jerusalem as the *omphalos* and medieval European maps are dominated by this concept in particular and by the geographical data of *Jubilees* in general (Alexander 1982: 211). This was also the case among eastern Christians: Ananias strongly insisted that Jerusalem was the centre of the earth, despite the conflicting testimony of Ptolemy (Hewsen 1992: 46, 70), and the idea that Jerusalem was the *omphalos* was repeated in other Armenian sources (ibid: 223). It is particularly interesting that in his *Itinerary*, Ananias records the various routes to and from the city of Dvin, Armenia's capital at the time (ibid: 281–2), indicating that there was a sort of “administrative *omphalos*” in addition to the spiritual one to which Ananias was so attached. This accommodation of distinct administrative and spiritual *omphaloi* would foreshadow the Muslims' practice of vacillating between Mecca and Baghdad (or Arabia and Iraq) in determining their own idea of the centre of the earth.

There was no consensus among Muslim authors as to the location of the *omphalos*, though the concept itself was universally known and the widespread use of the term *surrat al-ard* (“navel of the earth”) indicates that it is specifically with the Hellenistic concept that Muslim geographers were dealing. As was the case with Ananias, there were Muslim geographers who adhered to a theoretical *omphalos* in their works but in practice behaved as though another location was the centre of the earth. Unlike Ananias, however, Muslim authors tended not to pay lip-service to the spiritual centre of the world (Mecca) while, in actual fact, treating the administrative one (Baghdad) as the earth's centre; quite to the contrary, it is often the case that Muslim geographers declared a place in Iraq to be the *omphalos* but then went on to describe the routes of the world beginning with Arabia.

Al-Jāhīz (d. 868), for instance, held that Iraq (“Bābil”) is “the centre of the world and holds the same status on earth that the navel holds on a body” (quoted in Tha'ālibī, *Thimār*, 516), but focuses in his geography on the Arabian Peninsula, which he chose as his geographical centre (Heck 2002: 139). Similarly, Qudāma begins his geography with the routes to and from Arabia, though elsewhere he states that “Fārs” (in Iran) was known to be the navel of the earth (*Kharāj*, 139). Other authors also considered Iraq to be the earth's navel,³³ but from the late tenth-century onwards the concept of *omphalos* came to be fully Islamized: Muqaddasī is very aware of the belief that the earth's centre (*waṣṭ al-dunyā*) is in Fārs (*Aḥsan*, 46), but he attributes this idea to the Magians (ibid: 67) – thereby distancing himself from it – and suggests that Arabia is the spot from which “the earth extended outwards” (Q. 79: 30). Later authors take this a step further and clearly state that the Ka'ba in Mecca was *surrat al-ard*.³⁴ Accordingly, the Black Stone in the Ka'ba was the Islamic version of the *omphalos*-stone at Delphi, just as the Foundation Stone (*eben shetiya*) was the Jews' version of it. Thus, as the Jews and Christians did before them, Muslim scholars came to square received geographical wisdom with their religious sensibilities (see also King 1986).

The general evolution of Judaic geography may also help to illuminate the “Islamic” nature of Arabic geography.³⁵ Unsurprisingly, Jews initially turned to the Bible for their geographical information. Despite there being in the Bible a

few military itineraries (e.g., *1 Kings* 15: 20; *2 Kings* 15: 29; *2 Chronicles* 13: 19, 26: 6, and 28: 18), a short discussion of the Rivers of Paradise (*Genesis* 2: 10–14), and the genealogical “Table of Nations” (*Genesis* 10: 1–31), there was little material of geographical importance on which to draw. As Ananias put it: “In Holy Scripture we have found nothing definite about geography and are thus obliged to consult pagan [authors] who have developed geography by land and sea voyages” (Hewsen 1992: 42). Thus, Jewish authors came to rely on the geographical wisdom that they absorbed from the Greek and Mesopotamian cultures that pervaded the lands in which they lived. Some Mesopotamian influences are already detectable in parts of the Bible, where the earth is perceived as being a circular disc (*Job* 26: 10, 22: 7; *Isaiah* 40: 22; *Proverbs* 8: 27), which was divided into four regions (*Isaiah* 11: 12), among other ideas.³⁶ The quadripartite division of the world was probably perpetuated among the general public through its inclusion in the most important prayer of Jewish liturgy, the 18 benedictions,³⁷ as well as in other daily prayers (such as *ahava rabba*, in Scherman 1984: 90). Hellenistic notions conditioned Jewish readings of some of the geographical passages in the Bible, and when Josephus (d. c. 100 CE) refers to the Biblical Rivers of Paradise, he describes them as originating in a single *Okeanos* that encircles the earth (*Jewish Antiquities* 1.37–9).

Two works that shed fascinating light on ancient Jewish geographical conceptions are the books of *Jubilees* and *1 Enoch*. The former dates from the middle of the second century BCE, the latter from no later than the first century CE. *Jubilees* elaborates on the Table of Nations (chs. 8–9) and harmonizes Hellenistic science with Biblical notions. Accordingly, the three continents of Europe, Asia, and Libya are said to have been inhabited by the descendants of Shem, Ham, and Japheth respectively,³⁸ and the earth’s *omphalos* is transported from Delphi to “Zion” (Alexander 1982; see also Scott, this vol.). By contrast, *1 Enoch* appears to include Mesopotamian geographical notions (Grelot 1958: 64–6; Milik 1976: 15–17), which are identifiable as such despite being thoroughly Judaized: the two seas of the Mesopotamian worldview are mentioned and the earth is described as being circular (though not spherical). Thus, as the case would be with early Islamic geography, Jewish geography was exposed to both Hellenistic and Mesopotamian ideas that had to be squared with their scripture. Unlike the Muslims, however, Jewish scholars did not come to rationalize these various strands of influence in works dedicated specifically to geography.³⁹ The fact is that despite their exceptional literary productivity, Jews did not compose geographies until the twelfth century, by which point their immediate sources of inspiration were Islamic.⁴⁰ Clearly, it takes more than a literate, monotheistic culture to produce a genre of geographical writing. What medieval Muslims had that Jewish writers did not was a set of imperial motivations for producing their geographies.

Islam as an empire put geography to use in a number of ways (Heck 2002: 111–23), and the administrative needs of a sprawling state that extended some 6,500 kilometers from east to west were met through various means. An elaborate postal system allowed rulers to communicate safely and speedily with their

provincial officials, and to gather (and act on) information in a timely manner. The postal routes were registered in itineraries that were a valuable source for geographers and it is no coincidence that some of the earliest Arabic geographers had served at some point in their careers as regional postal chiefs (Silverstein 2007c: 93–7). Tax-collecting also relied on meticulously-conducted surveys of the empire’s regions, and the caliphate’s borders were carefully delineated in documents that helped rulers and generals plot their interaction with neighboring peoples. Thus, authors such as Ibn Khurradādhbih and Qudāma include both postal itineraries and lists of regional taxation-data in their geographies.

With particularly “Islamic” concerns in mind, imperial geographies contained guidance on the direction faced during prayer (*qibla*) for inhabitants of the various provinces of the Muslim world, as well as detailed itineraries on the pilgrimage routes to Mecca. On their own, *qibla*- and *hajj*-concerns probably would not have generated the quantity of geographical works that Muslims produced, and the administrative impetus to describe the lands administered probably had a decisive influence on the geographers’ output. But it should be noted that the administrative impetus on its own was probably not enough to ensure that geographies would be written. That few if any geographies were produced under the Achaemenids or the Mongols, despite the vastness of their empires, is telling,⁴¹ and it is well known that the Roman penchant for road-*building* did not result in a noteworthy corpus of road-*books* (see also Talbert, this vol.). What distinguished Islamic civilization from the Achaemenid, Roman, and Mongol ones is that it combined religious and imperial concerns to great cultural and literary effect.⁴²

Thus, a particularly “Islamic” geography is discernable, regardless of which definition of “Islamic” one chooses to apply. Moreover, Islamic geography was, by definition, also “Medieval” geography both because it was the unique product of the medieval period and because it gradually came to shed the “Ancient” baggage by which it had originally been encumbered. By the time the *omphalos* was transported from Iraq to Mecca, Arabic geographies were transported from the Ancient to the Medieval period.

Was it a “Worldview?”

The shift from Ancient geography in Arabic to Medieval Islamic geography was accompanied, perhaps even caused, by a change in geographical methodology. This change was to have a profound effect on the content of geographies in particular and on the status of the medieval Islamic “worldview” in general. Ninth- and early-tenth-century authors such as Ibn al-Faqīh, Ibn Khurradādhbih, Jāhīz and Jayhānī, were sharply rebuked for being “armchair” scholars by late tenth-century geographers who believed that only through personal observation (*mushābada*) and eye-witness accounts (*mu‘āyana*) could reliable information be obtained.⁴³ Muqaddasī summarizes the deficient method of his predecessors as follows:

You should know that many learned men and [even] viziers have applied themselves to this subject, sloppy though they have been, but most of them, or rather all of them, have done so from hearsay. However, for my part, there is not a single region (*iqḷīm*) that I have not visited . . .” (*Aḥṣan*, 43)

Admittedly, the change in methodology was neither immediate nor without exceptions: some earlier authors (e.g. Ya‘qūbī) also relied only on material gathered during travels, just as there were later geographers, such as Qudāma, who favored written sources (Heck 2002: 105); and the tenth-century Persian author of the *Hudūd al-‘Ālam* is specifically described as having been “but a cabinet scholar and not a traveller” (Minorsky 1937: xiv). But in general terms armchair scholarship came to be discredited in the tenth century.

There was also a subtle tension between those authors who accepted the testimony of *other* eye-witnesses and travelers, and those who rejected such material as being subject to exaggeration and inaccuracies.⁴⁴ The description of the route to the peoples of Gog and Magog is a good illustration of this methodological dispute. Muḥammad ibn Mūsā al-Khwārazmī was sent by the caliph al-Wāthiq (r. 842–47) to investigate these peoples, and his testimony serves as the basis for Ibn Khurradādhbih’s treatment of the topic, which is also quoted in Ibn Rusta’s work. What is interesting is how these three authors treated Khwārazmī’s account: the latter did not include it in his own work of mathematical geography; Ibn Khurradādhbih did include it without perceptible misgivings (*Masālik*, 162f.), whereas Ibn Rusta quoted the account only in order to show its confusion (*takhlīṭ*) and hyperbole (*tazayyud*), as he generally rejected the testimony of merchants and other travelers (*A‘lāq*, 149). The question as to what constitutes “evidence” was therefore answered differently by mathematical, “armchair,” and “Islamic” geographers. The former two approaches to geography drew heavily on pre-Islamic traditions and sources, whereas the latter one – in relying only on personally gathered information – was not only *able* to reject pre-Islamic geographical traditions, but it was *required* to do so.⁴⁵

What the increasingly broad popularity of this new methodology meant in practice is that only lands to which authors could travel were described in their works, and geographer-travelers such as Ibn Ḥawqal, Iṣṭakhrī, Ya‘qūbī, and Muqaddasī only covered Islamic lands in their geographies⁴⁶ at a time when travel-accounts dealing with the non-Muslim world (particularly India and China) were being composed by other writers and for other purposes (see Silverstein 2007b).

This focus on the Islamic world was a further step towards complete dissociation from “Ancient” geography. For although superficially it would appear that the Hellenistic notion of the seven climates was perpetuated even in these “Islamic” geographies, in actual fact the term *iqḷīm* was subtly reinterpreted to signify “country” and – despite its external form – came to be closer in meaning to *kišwar* than to *klīma*.⁴⁷ The *kišwar* system served the purposes of “Islamic” geographers in two ways: first, it had better propaganda potential for Muslim rulers in that it could present a specific land or people as being at the centre of the world, unlike

the system of climates in which the moderate, fourth climate was shared among all peoples who lived along this horizontal slice of the world. Second, it allowed Muslim geographers to ignore the non-Muslim world completely. The Hellenistic climate-system necessarily implied the existence of six other “sevenths” of the world, in addition to the favored central one, whereas the *kišmar* (or “new *iqḷīm*”) system could describe the Muslim world without reference to other regions. Hence Ibn al-Faqīh explains that there are seven *iqḷīms*; one in the hands of the “Arabs,” the other six being inhabited by the Byzantines, Abyssinians, Indians, Turks, Chinese, and people of Gog and Magog respectively (*Buldān*, 6). His statement that “each of these nations refrains from entering the lands of the others” may serve as an explanation for the assertion that only the Islamic world is describable (though he himself was not a traveler).

What all this means, of course, is that when Arabic geography became “Medieval” and “Islamic,” it ceased to represent a “Worldview.” Thus, those geographers who did have a worldview were not really medieval or Islamic; and those who were Islamic and, in chronological terms, “Medieval” did not – strictly speaking – have a worldview. Taken together, the Arabic geographies may allow us to arrive at something called a Medieval Islamic Worldview, but there is no single author from this period whose work can accurately claim to encompass one.

Notes

- 1 See, for instance, Talbert, this vol.
- 2 It is recognized that the terms “geographer” and “geography” are anachronistic in the context of medieval Islam. However, for the sake of convenience these terms will be used loosely throughout this chapter with reference to those authors and works that are mainly concerned with descriptions of the world.
- 3 Arabo-Islamic geography has been treated by modern scholars (Kramers 1931; Miquel 1967; Maqbul Ahmad 1995; Tolmacheva 2006; Silverstein 2007a, and others), as have the contributions of specific authors (Jwaideh 1959, on Yāqūt; Collins 1974, on Muqaddasī; Shboul 1979, on Mas‘ūdī; Heck 2002, on Qudāma; Montgomery 2005, on Ibn Khurradādhbih).
- 4 Ibn Khurradādhbih, *Masālik*, 3, where the author states: “I found that Ptolemy has explained the boundaries [of the world’s regions] . . . in a foreign language, so I translated it from his language into Arabic (lit. ‘the true language’).” On this claim, see Montgomery 2005: 204–5.
- 5 On the translation movement see Gutas 1998. Although Gutas’s work makes almost no reference to geographies, it adequately captures the scholastic environment in which they were produced.
- 6 See Nallino 1944; Khwārazmī, *Kitāb Šūrat al-Ard*; and Suhrāb, *Kitāb ‘Ajā’ib al-Aqālīm al-Sab‘a*.
- 7 E.g., Tolmacheva 1991, 1996; Heck 2002: 103–11; Montgomery 2005: *passim*.
- 8 On the basis of internal evidence the original text has been dated to the reign of Kawād I (r. 488–531): Daryaei 2002: 10–11.

- 9 The section of Ibn Khurrādādhbih's work that deals with itineraries (*Masālik*, 18–87) is a particularly dry account of places and the roads that link them. Other sections of this work are considerably more interesting, as we shall see below.
- 10 Counter-intuitively, it was even used in medieval Japan. Cf. Yoshitake 1933: 91.
- 11 Note that the Aramaic word for East, *qedmā*, is a cognate of the Arabic for “straight ahead,” *quddām*. That the Arabic term for “north,” *šamāl*, literally means “left,” and that the southern region of Yemen means “right,” confirms the point. Such an orientation is also evident in the names of the Ka'ba's four corners: the “northern” corner (*al-rukn al-šāmī*) lies to the *west*, while the “eastern” corner (*al-rukn al-yamanī*) lies to the *south*. A similar scheme is already found in the book of *Jubilees* 8: 22–3, and the modern “European” word “orientation” also implies that it is most natural to face eastwards.
- 12 E.g., Ibn al-Faqīh, *Kitāb al-Buldān*, 6–7 (influenced by Ibn Khurrādādhbih, *Masālik*, 155). These authors include in their list of “four” continents: Europe, Libya, Ethiopia, and Scythia. It is likely that an orthographical error led to the inclusion of the latter two “continents” in lieu of the expected Asia. The Arabic spellings of Ethiopia (*atyūfiyā*) and Scythia (*asqūtiyā*) begin and end with the same consonants that Asia (*āsiyā*) would in the Arabic script. “Scythia” even includes the required *šin*-letter and were it not for the “*qūt*” in the middle of the word, it would have spelt “Asia.” The *tā* and *yā* in “Ethiopia” could also have originally been a *šin*. Whatever the case may be, it is clear from Classical sources, from Ananias's adaptation of them in the seventh-century Near East, and from Qudāma's own description of the Hellenistic continents, that a *tripartite* division was attributable to the Greeks and a *quadripartite* to the Persians.
- 13 That the *kišvar* system was still expounded by Ḥamdallāh Mustawfī (wr. 1340) is indicative of the notion's staying power in the Near East (*Nuzbat al-Qulūb*, 2: 20). Earlier authors who used the *kišvar* system include Mas'ūdī, Ya'qūbī, and Ibn Khurrādādhbih, among others.
- 14 To the best of my knowledge, this topic has hitherto not received scholarly attention.
- 15 On traces of the Gilgamesh Epic in the *Arabian Nights*, see Dalley 1997. On the preservation of local, Mesopotamian sea-myths in the Babylonian Talmud and, thereafter, in early Islamic literature, see Silverstein 2007b.
- 16 It is interesting that the rabbis often chose to refer to the Tigris River as the “Diglath,” a word that is closer to the Akkadian “Idiqlat” (and the Arabic “Dijla”) than it is to the Biblical Hebrew Ḥiddeqel. Further examples of the rabbinic debt to Mesopotamian geography will be brought below.
- 17 I intend to return to this topic in future publications.
- 18 Gignoux 1984; and see Daryae 2002: 11. The fact that Ananias of Shirak, who wrote during the (late) Sasanid period and made use of Sasanid archives in his description of Iran, also refers to “the four parts of the world” in his description of Persia presents a serious challenge to Gignoux's theory.
- 19 See Michalowski, this vol.
- 20 For instance: Dalley 1991: 190 (“four quarters of the world” in *The Myth of Etana*), 206 (“the four winds” in *The Epic of Anzu*), 208 (“the four quarters” in *The Epic of Anzu*), 236 (“the four winds” in *The Enuma Eliš*), among others.
- 21 On the BMW, see Horowitz 1988; 1998: 20–42. On the SG, see Horowitz 1998: 67–95; Liverani 1999–2001.

- 22 Specific cardinal points are mentioned in *Isaiah* 45: 6 and 41: 2; *Numbers* 21: 11.
- 23 *Bēru* in the SG: Liverani 1999–2001: 67–70; in the BMW: Horowitz 1998: 23–5.
- 24 See *The Assyrian Dictionary of the Oriental Institute of the University of Chicago*, Chicago, 1956–, s.v. “bēru.”
- 25 E.g., Miquel 1967, whose theories are analyzed and skillfully critiqued in Montgomery 2005.
- 26 The “literary” – possibly poetic – lines are discussed in Horowitz 1998: 77, and Albright 1925: 199.
- 27 Ibn Khurradādhbih, *Masālik*, 4; Ibn Rusta, *Aʿlāq*, 8; Ibn al-Faqīh, *Buldān*, 4; and Muqaddasī, *Aḥsan*, 58.
- 28 Ibn Rusta, Ibn al-Faqīh, and Muqaddasī all make regular references to the Qurʾān and *ḥadīth* in their works, and others such as Jāḥiẓ and Balkhī – whose geographies are not extant – are also said to have done so; see Heck 2002: 136–44.
- 29 Even Ibn Khurradādhbih (*Masālik*, 106), whose work is remarkably free from telltale signs of “Islamic” influence, includes descriptions of “the people of the cave” (Q. 18: 9–26), and Gog and Magog (Q. 18: 83–110; *Masālik*, 162–70).
- 30 The Qurʾānic phrase “seven seas” (Q. 31: 27) refers to imaginary rather than actual seas.
- 31 Although the Aramaic term *ṭibbūr* means “navel,” it is far from established that its Hebrew cognate (*ṭabbūr*) does too. Be this as it may, the authors of the Septuagint decided to render *ṭabbūr* as *omphalos*, with enduring ramifications.
- 32 The idea that the centre of the earth is a mountain is also found in ancient Indian thought, according to which the earth’s centre is Mount Meru (drawn to my attention by Christopher Minkowski; see also Plofker, this vol.). On Mt. Meru, see Mabbett 1983.
- 33 Masʿūdī, *Murūj*, 1: 169 (§344), and *Tanbīh*, 6 (where “Iraq” is “the centre of the earth”), and Yaʿqūbī, *Buldān*, 4 (where “Baghdad” is the navel).
- 34 Yāqūt, *Muʿjam*, 4: 279 s.v. “Kaʿba”, where the Kaʿba is both the navel of the earth (*surrat al-arḍ*) and the centre of the world (*wasṭ al-dunyā*).
- 35 The topic of early Judaic geographical knowledge is a relatively neglected field. For an overview, see Alexander 1995; and see Scott, this vol.
- 36 For instance, the “lock that plugs the waters” in *Job* 38: 8 is probably a reference to the Mesopotamian idea of the bolt of the sea (Horowitz 1998: 326–7). This bolt later came to be associated with the *eben shetiya*, which – as seen – is the Jewish *omphalos*.
- 37 The “four wings of the earth” are mentioned in the *Galuyoth* section of the 18 benedictions (*šmoneh ʿesray*).
- 38 Qudāma’s Christian upbringing may account for the fact that he is the only Muslim geographer who is aware of the *Jubilees* tradition (*Kharāj*, 139).
- 39 Alexander 1982: 212 refers to *Jubilees* and *1 Enoch* as being representatives of two “schools” of Jewish geography, one Ionian the other Mesopotamian. Greek geographical notions do occur in the Babylonian Talmud (e.g., *Eruvīn* 56a, and *Pesachīm* 94a), showing Hellenistic influences on an essentially Mesopotamian source, but there is little evidence that the two “schools” were consciously reconciled.
- 40 Perhaps the earliest such work, Abraham bar Ḥiyya’s (d. 1136) *Sefer Šurath ha-Areš* was manifestly influenced by Arabic geographical works; even the work’s title is little more than an exact translation of the Arabic *Kitāb Šūrat al-Arḍ*.

- 41 It is unlikely that Rashīd al-Dīn (d. 1318) actually did produce the geographical work that he claims to have written; no such work has survived and neither contemporary nor later scholars quote it.
- 42 That the same cultural forces were behind the rise of Islamic historiography is argued in Robinson 2003.
- 43 See, for instance, Muqaddasī's elaborate whinge about the deficiencies of his predecessors (*Aḥsan*, 3–9).
- 44 Interestingly, Mas'ūdī composed two works that contain sections on geography; only one of these (the *Tanbīh*) contains the testimony of travelers, and it is the only work that was considered to be a "geography" (note its inclusion in the *Bibliotheca Geographorum Arabicorum* series). Cf. Shboul 1979: 91 n. 154.
- 45 There is something particularly Islamic about this as evidenced by Islamic court procedure and the transmission of *ḥadīths*, where eye-witness accounts and personal testimony are routinely favored over written sources.
- 46 There was no objection to non-Muslim peoples *per se*; it is just that such authors did not think that they had any way of obtaining reliable information about them. Hence, while Ya'qūbī's *History* has very full descriptions of non-Muslim peoples; his geography is limited to Islamic lands.
- 47 Authors such as Ibn al-Faqīh, Ibn Ḥawqal, and Iṣṭakhārī use the term *iqḷīm* with reference to particular "countries." Cf. Herzfeld 1947: 685.

References

Primary sources

- Ḥamdallāh Mustawfī, *Nuzhat al-Qulūb*. Ed. and trans. G. le Strange. London, 1919.
- Ibn al-Faqīh, *Kitāb al-Buldān*. Leiden, 1885.
- Ibn Khurradādhbih, *Kitāb al-Masālik wa al-Mamālik*. Leiden, 1889.
- Ibn Manẓūr, *Lisān al-ʿArab*. Cairo, 1883–91.
- Ibn Rusta, *Aʿlaq = Kitāb al-Aʿlāq al-Nafīsa*. Leiden, 1891.
- Khwārazmī, *Kitāb Šurat al-Arḍ*. Ed. H. von Mżik. Leipzig, 1926.
- Mas'ūdī, *Murūj al-Dhahab*. Paris, 1965.
- Mas'ūdī, *Kitāb al-Tanbīh wa al-Isbrāf*. Beirut, 1965.
- Muqaddasī, *Aḥsan al-Taqāsīm fī Maʿrifat al-Aqālīm*. Leiden, 1906.
- Qudāma ibn Jaʿfar, *Kitāb al-Kharāj wa Šināʿat al-Kitāba*. Baghdad, 1981.
- Suhrāb, *Kitāb ʿAjāʾib al-Aqālīm al-Sabʿa*. Ed. H. von Mżik. Leipzig, 1930.
- Thaʿālibī, *Thimār al-Qulūb fī al-Muḍāf wa al-Mansūb*. Cairo, 1965.
- Ya'qūbī, *Kitāb al-Buldān*. Leiden, 1892. Trans. G. Wiet, *Les Pays*, Cairo, 1937.
- Yāqūt, *Muʿjam al-Buldān*. Leipzig, 1869.

Literature

- Albright, W. F. 1925. "A Babylonian Geographical Treatise on Sargon of Akkad's Empire." *Journal of the American Oriental Society* 45: 193–245.
- Alexander, P. S. 1982. "Notes on the *Imago Mundi* in the Book of Jubilees." *Journal of Jewish Studies* 33: 197–213.

- Alexander, P. S. 1995. "Geography and the Bible (Early Jewish)." In *The Anchor Bible Dictionary*, II: 977–88. New York.
- Ben-Zvi, I. 1970. *Sefer ha-Shomronim*. Jerusalem.
- Bravmann, M. M. 1968–9. "Akk. *kipru(m)*, pl. *kiprātu(m)* and Ethiopic *kanfar*." *Journal of Cuneiform Studies* 22(3–4): 85–7.
- Burkert, W. 1983. "Oriental Myth and Literature in the Iliad." In R. Hägg (ed.), *The Greek Renaissance of the Eighth Century BC*, 51–6. Stockholm.
- Burkert, W. 2005. *Babylon, Memphis, Persepolis: Eastern Contexts of Greek Culture*. Cambridge, MA.
- Collins, B. A. 1974. *Al-Muqaddasi: The Man and His Work*. Michigan.
- Dalley, S. 1991. *Myths from Mesopotamia*. Oxford.
- Dalley, S. 1997. "Gilgamesh in the Arabian Nights." *Journal of the Royal Asiatic Society*, 3rd ser. 1(1): 1–17.
- Daryaei, T. 2002. *Šahrestānīhā-ī Ērānšahr: A Middle Persian Text on Late Antique Geography, Epic, and History*. Costa Mesa.
- Gignoux, P. 1984. "L'organisation administrative sassanide: Le cas du marzbān." *Jerusalem Studies in Arabic and Islam* 4: 1–30.
- Gnoli, G. 1985. "The Quadripartition of the Sasanian Empire." *East and West* 35(1–3): 1–15.
- Goodman, M. 2007. *Rome and Jerusalem: The Clash of Ancient Civilisations*. London.
- Grelot, P. 1958. "La géographie mythique d'Hénoch et ses sources orientales." *Revue Biblique* 65: 33–69.
- Gutas, D. 1988. *Greek Thought, Arabic Culture: The Graeco-Arabic Translation Movement in Baghdad and Early 'Abbāsīd Society*. London.
- Gyselen, R. 1988. "Les données de géographie administrative dans le šahrestānīhā-ī erān." *Studia Iranica* 17(2): 191–206.
- Heck, P. 2002. *The Construction of Knowledge in Islamic Civilization: Qudāma ibn Ja'far and His Kitāb al-Kharāj wa Šinā'at al-Kitāba*. Leiden.
- Herzfeld, E. 1947. *Zoroaster and His World*. Princeton.
- Hewsen, R. H. 1992. *The Geography of Ananias of Širak: The Long and Short Recensions*. Wiesbaden.
- Horowitz, W. 1988. "The Babylonian Map of the World." *Iraq* 47: 147–65.
- Horowitz, W. 1998. *Mesopotamian Cosmic Geography*. Winona Lake.
- Jwaideh, W. 1959. *The Introductory Chapters of Yāqūt's Mu'jam al-Buldān*. Leiden.
- King, D. 1986. "Makka (as the Centre of the World)." In *The Encyclopaedia of Islam*, VI: 180–7. 2nd edn. Leiden.
- Kramers, J. H. 1931. "Geography and Commerce." In T. Arnold and A. Guillaume (eds.), *The Legacy of Islam*, 79–107. London.
- Kramers, J. H. 1954. "L'influence de la tradition iranienne dans la géographie arabe." In J. H. Kramers, *Analecta Orientalia: Posthumous Writings and Selected Minor Works*, I: 147–56. Leiden.
- Liverani, M. 1999–2001. "The Sargon Geography and the Late Assyrian Mensuration of the Earth." *State Archives of Assyria Bulletin* 13: 57–85.
- Mabbett, I. W. 1983. "The Symbolism of Mount Meru." *History of Religions* 23(1): 64–83.
- MacKenzie, D. N. 1964. "Zoroastrian Astrology in the Bundahišn." *Bulletin of the School of Oriental and African Studies* 27: 511–29.
- Maqbul Ahmad, S. 1965. "Djughrafiya." *Encyclopaedia of Islam*, II: 575–87. 2nd edn. Leiden.
- Maqbul Ahmad, S. 1995. *A History of Arab-Islamic Geography (9th–16th Century AD)*. Amman.
- Milik, J. T. 1976. *The Books of Enoch: Aramaic Fragments of Qumrān Cave 4*. Oxford.
- Minorsky, V. 1937. *Hudūd al-Ālam = The Regions of the World: A Persian Geography 372 AH–982 AD*. London.

- Miquel, A. 1967. *La Géographie humaine du monde musulman jusqu'au milieu du 11^e siècle*. Paris.
- Montgomery, J. E. 2005. "Serendipity, Resistance, and Multivalency: Ibn Khurrādādhbih and his *Kitāb al-Masālik wa-l-Mamālik*." In P. F. Kennedy (ed.), *On Fiction and Adab in Medieval Arabic Literature*, 177–230. Wiesbaden.
- Nallino, C. 1944. "Al-Khūwārizmī e il suo rifacimento della Geografia di Tolomeo." In M. Nallino (ed.), *Raccolto di scritti editi e inediti*, V: 458–532. Rome.
- Needham, J., and W. Ling. 1959. *Science and Civilisation in China, III: Mathematics and the Science of Heaven and Earth*. Cambridge.
- Robinson, C. 2003. *Islamic Historiography*. Cambridge.
- Scherman, N. (trans.). 1984. *The Complete Artsroll Siddur*. New York.
- Shboul, A. 1979. *Al-Mas'ūdī and His World*. London.
- Silverstein, A. 2001. "Etymologies and Origins: A Note of Caution." *British Journal of Middle Eastern Studies* 28(1): 92–4.
- Silverstein, A. 2007a. "Arabo-Islamic Geography." In D. Buisseret (ed.), *The Oxford Companion to World Exploration*, 59–62. Oxford.
- Silverstein, A. 2007b. "From Markets to Marvels: Jews on the Maritime Route to China c. 850–c. 950 CE." *Journal of Jewish Studies* 58: 91–104.
- Silverstein, A. 2007c. *Postal Systems in the Pre-Modern Islamic World*. Cambridge.
- Tolmacheva, M. 1991. "Ptolemaic Influence on Medieval Arab Geography: The Case Study of East Africa." In Scott D. Westrem (ed.), *Discovering New Worlds: Essays on Medieval Exploration and Imagination*, 125–41. New York.
- Tolmacheva, M. 1996. "Intercultural Transmission and Selection: Greek Toponyms in Arab Geography." In F. Jamil Ragep and Sally P. Ragep with Steven Livesey (eds.), *Tradition, Transmission, Transformation*, 419–40. Leiden.
- Tolmacheva, M. 2006. "Geography." In J. Meri (ed.), *Medieval Islamic Civilization: An Encyclopedia*, I: 284–8. New York.
- Ullmann, M. 1997. *Zur Geschichte des Wortes Barīd, "Post."* Munich.
- Yoshitake, S. 1933. "Japanese Names for the Four Cardinal Points." *Bulletin of the School of Oriental and African Studies* 7(1): 91–103.

The *Book of Curiosities*: An Eleventh-Century Egyptian View of the Lands of the Infidels

EMILIE SAVAGE-SMITH

The Mediterranean Sea as depicted by an early eleventh-century Egyptian is illustrated in Figure 18.1.¹ It is an oval whose dark-green sea is crammed with 118 islands, all conveniently round except for two rectangular islands. Around the periphery, 121 anchorages on the mainland are labeled, with information on winds and landmarks.

This unique “map” of the Mediterranean occurs in a treatise containing a total of 17 maps and cartographic designs, all but three of which are unparalleled in other recorded cartographic materials. Together, these maps present several different perspectives on the world thought at that time to be inhabited. For this chapter, I will concentrate upon the area of more immediate experience to the author – the Mediterranean and some of its islands and bays, many of which were in “lands of the infidels.”

The anonymous Arabic treatise containing these maps is not an atlas but rather a cosmography, in 48 folios (96 pages). Its title, *Kitāb Gharā'ib al-funūn wa-mulah al-'uyūn* translates loosely as *The Book of Curiosities of the Sciences and Marvels for the Eyes*. The original treatise does not survive, but the Bodleian Library in Oxford acquired in June 2002 a copy made about 1200 CE.² Prior to its being offered for sale at auction in October 2000, this manuscript (and even the treatise it contained) was totally unknown to scholars.³ It is now the subject of a joint research project of the Oriental Institute and the Bodleian Library.

The treatise comprises two books: Book I on the heavens in 10 chapters, and Book II on the earth, in 25 chapters. Of the 25 chapters in Book II, chapters 10 and 12–16 concern in particular the Mediterranean, and include six maps or diagrams that will be discussed in some detail below.

Though not giving his name, the author provides quite a lot of information about himself. From references to various events, it is possible to place the composition

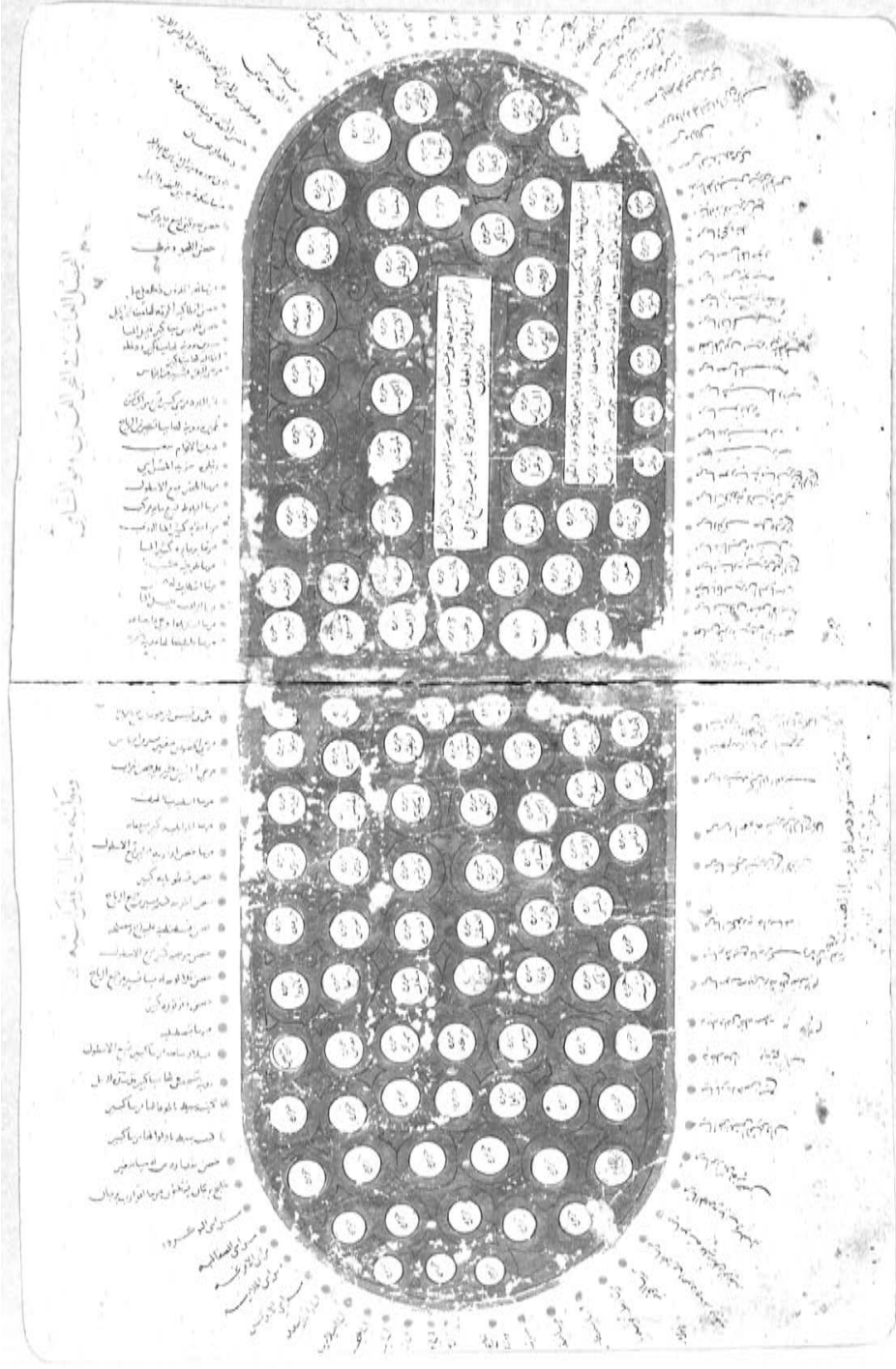


Figure 18.1 The map of the Mediterranean from the *Book of Curiosities*. Oxford, Bodleian Library, MS Arab. c. 90, fols. 30b–31a (undated, c. 1200). Reproduced with permission of The Bodleian Library

between 1020 and 1050.⁴ Furthermore, it is evident that he lived in Egypt. The author was literate but not scholarly. It is possible that he was self-taught, for such a form of education was not uncommon at the time. The treatise is dedicated to an unnamed patron – presumably to gain some favor, position, or possibly even backing for a venture. In preparing the work, our author drew, in magpie fashion, upon a range of written sources, over 20 of which he names. The author’s distinctive perception of the Mediterranean presumably represents, at least in part, the world of his own experience rather than that of book-learning as expressed in other chapters of the book concerned with India, the Far East, and world-maps in general.⁵

It is important to keep in mind that at the time our author is working (1020–50), Egypt was under the rule of the Fatimids, who derived their name from Fatimah, daughter of the Prophet Muhammad and wife of the fourth caliph ‘Alī. The city of al-Mahdiyyah in modern Tunisia was built as their capital in 909–12. From this North African base, the Fatimids came to occupy Sicily and to undertake naval operations against the Byzantines. In 969 the Fatimids entered Old Cairo (Fustāt) and built a new capital nearby – that of New Cairo, called *al-Qāhirah*, the Victorious. They extended their realm into Syria, but Fatimid rule in Egypt and Syria ended in 1171 when they were defeated by Saladin (Canard 1965).

Turning now to the Mediterranean map in the *Book of Curiosities* (Figure 18.1), the red title across the top of the map reads: “The Tenth Chapter: The Western Sea – that is, the Syrian Sea, and its Harbors and Islands and Anchorages.” Only the map constitutes the tenth chapter, with no additional text. The map is oriented with the Straits of Gibraltar at the leftmost extremity of the oval and with North at the top (roughly speaking).

The uniqueness of our author’s approach to mapping the Mediterranean becomes apparent when it is compared with the earlier Islamic tradition of mapping the Mediterranean found in the so-called “Balkhī School” of geographers. The rubric “Balkhī School” is used for four scholars of the tenth century, taking the name from Abū Zayd Aḥmad ibn Sahl al-Balkhī, who died in 934 CE having spent most of his working life in Iraq, particularly Baghdad (Tibbetts 1992). No copies of his treatise titled *Illustration of the Climes* (*Suwar al-aqālim*) are preserved today, but there are many copies of the treatises compiled by his three followers: al-Istakhri (d. c. 961), Ibn Ḥawqal (d. c. 990) and al-Muqaddasī (d. c. 1000). All of the treatises were illustrated with a world map and 21 regional maps, of which one focused upon the Mediterranean.

A typical “Balkhī School” map of the Mediterranean is shown in Figure 18.2, from a copy made in 1306 CE (706 AH) of the treatise by al-Istakhri.⁶ West is at the top, with a very large Straits of Gibraltar (usually with a rock) opening into a rectangular area of water representing the Atlantic Ocean. Only three islands occupy the Mediterranean: Sicily, Cyprus, and Crete, all represented by circles. In the Nile Delta (to the left), there are two further “island-cities” – Damietta and Tinnīs. On the northern (right-hand) side of the map Spain is prominent. The name of Constantinople is written along the wide band of water shown entering the Mediterranean from the right. Both Greece and Italy are insignificant.

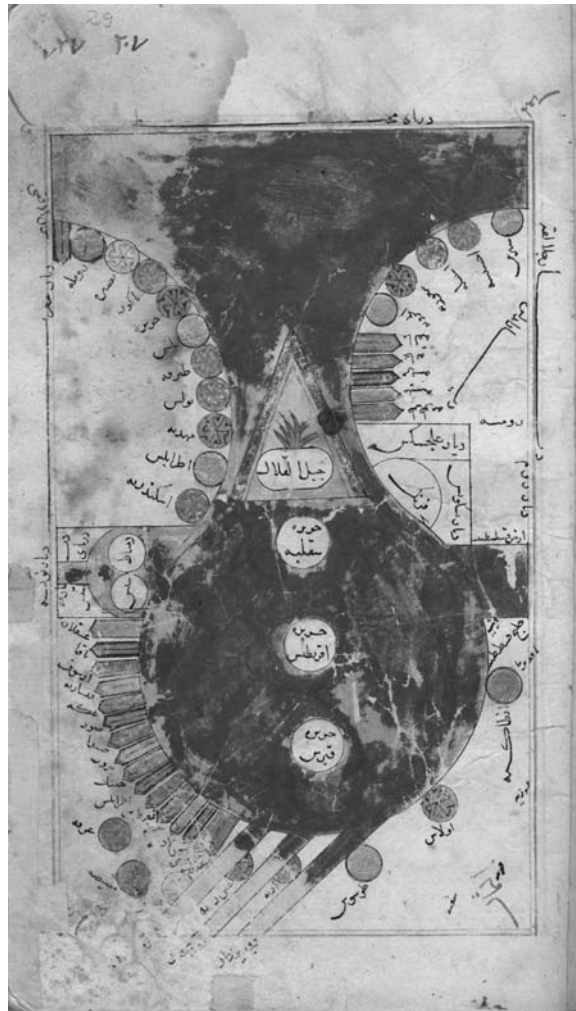


Figure 18.2 The map of the Mediterranean from the treatise by al-Istakhri (d. c. 961). London, Khalili Collection, MSS 972, fol. 29a (copied CE 1306/706 AH). Reproduced by permission of the Nasser D. Khalili Collection of Islamic Art

There is a variant form of “Balkhī School” Mediterranean map that occurs in a manuscript now in Istanbul that was copied very early – that is, in 1086 CE (479 AH), less than a century after the death of Ibn Hawqal.⁷ The orientation is to the north (like that in the *Book of Curiosities*). Prominence is given to the Straits of Gibraltar and the Atlantic Ocean. There is a huge Spain, an obvious Italy, and considerable attention to the north coast of Africa. Greece is a small circular peninsula. There are more islands in the Mediterranean than simply three, with most of them in the west and only two in the east (Crete and Sicily).

Some 60 years *before* this version of Ibn Hawqal’s map, and roughly 50 years after Ibn Hawqal composed (and presumably illustrated) his treatise, the author

of the *Book of Curiosities* was inserting the oval map of the Mediterranean (Figure 18.1) into his treatise. Whether it is totally original to him we cannot say with certainty, but we tend to think that it was either original to him or a product contemporary with him.

The Mediterranean map in the *Book of Curiosities* deviates completely from the earlier “Balkhī School” tradition. It represents a variant conception of the Mediterranean and displays a different set of concerns and interests on the part of the mapmaker. Whereas Muslim Spain was a large and prominent landmass in the Balkhī School maps, here it is reduced to near insignificance, as is most of Europe. The Atlantic Ocean is not represented at all. The Straits of Gibraltar are indicated by only a thin red line at the far left of the oval (see Figure 18.3). The next seven ports (indicated by red dots) above this thin line, proceeding clockwise, are anchorages past the straits on the Atlantic coast of Morocco; each of these seven labels begins with the word *ilā* “toward,” indicating that the localities are not actually *on* the Mediterranean rim. Logic, however, might have called for these seven localities to be placed below rather than above the line.⁸

Thereafter, the mapmaker briefly alludes to the ports of Muslim Spain and Europe with short statements accompanying the next five red dots, reading clockwise: the anchorages of al-Andalus, the anchorages of the Galicians, the anchorages of the Franks, the anchorages of the Slavs, the anchorages of the Lombards. The following label, proceeding clockwise, reads: “The Gulf of Burjān, in which there are 30 anchorages for skiffs (*qawārib*) of the Burjān.” The Burjān, in Arabic sources, were the Bulgars who immigrated to the Balkans in the early medieval period. The Gulf of Burjān (*Khalīj Burjān*) can refer either to the coasts of the Black Sea or to the coasts of the northern Aegean (Hrbek 1960).

Beginning with this enormous northern Gulf of Burjān, all the subsequent anchorages described across the top (north) of the map over to the rightmost point of the oval (opposite the Strait of Gibraltar) are in Christian Byzantine hands, not Latin Christendom. In other words, the view of the Mediterranean held by our anonymous Egyptian author was skewed toward the East and focused to a large extent upon peoples outside his own sphere – the Byzantines whom he classified among “the infidels.”

Let us look at the map in greater detail (Figure 18.3). Following the Gulf of Burjān (proceeding clockwise), the next three ports are as yet unidentified.⁹ The following label, the fourth from the Gulf of Burjān, reads “The city of Sh.j.n.s, having a large harbor which has been blocked with sand.” This is very probably Sigeion, at the southern entrance to the Hellespont (Dardanelles), on the Asian coast.

Sigeion is followed by “The land of Sāsah, having a large anchorage which can accommodate an *ustūl*.” This is probably Sestos (Sestus or Sesto), the port facing Abydos on the European coast of the Dardanelles (Kretschmer 1909: 639), and the term *ustūl* refers to a large military fleet or convoy. The labels on the map continue with four more harbors along the Dardanelles until reaching Constantinople, said on our map to be “the fortress of Constantinople on which

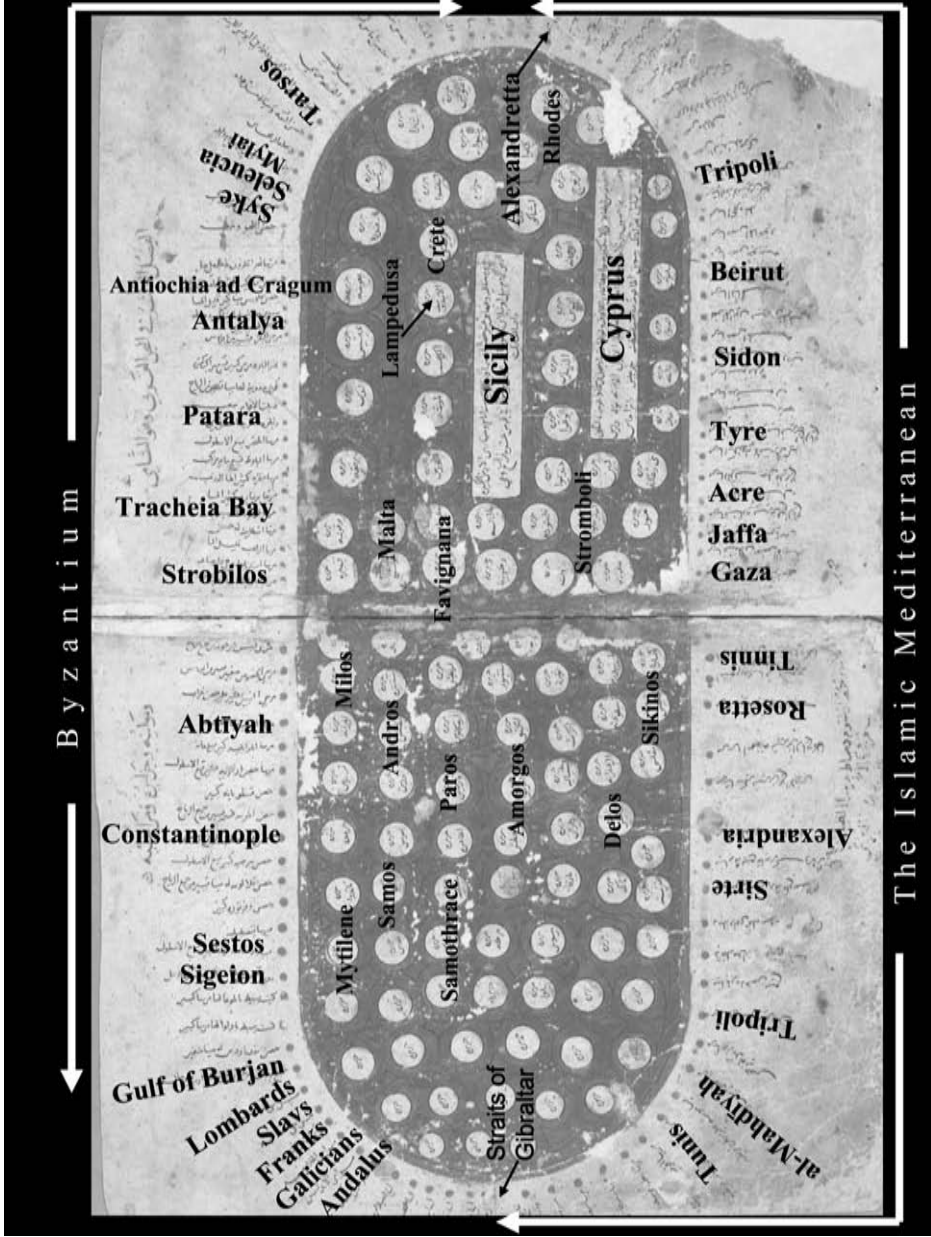


Figure 18.3 The Mediterranean Sea from the *Book of Curiosities*, partially labeled. Copyright E. Savage-Smith

there is a tower [?] and an armoury.” After Constantinople there are four unidentified harbors, either on the Asian shores of the Sea of Marmara or on the western coasts of Anatolia. The next label reads “anchorage of Abtīyah (?) having a small harbor” and is possibly to be interpreted as Palatia, a fort near the site of Miletos, at the mouth of the Maeander on the western coast of Anatolia. The author, however, as will be seen below, was familiar with the name Malītayū (Miletos) as a fortified settlement, and so perhaps another coastal settlement was here intended.

From this point onwards, the ports indicated on our Mediterranean map continue around the coast of Anatolia, through Strobilos, Antalya, and Tarsus, until reaching Alexandretta (Iskandarūn) – the port of Aleppo, which at the time our author is writing was again in Muslim hands. After Alexandretta – the first legible port beneath the midline of the right side of the oval sea – the ports turn southward along the Syrian coast. At this point the anchorages in the Islamic lands begin, extending from Syria through Egypt to Tunisia. Thus the ports of Byzantium occupy nearly the entire upper half of the oval, and Islamic anchorages the lower half.

In the centre are 118 islands, all perfect circles except for two: Sicily and Cyprus. These two islands are of such importance to our author that he also provided separate maps of each one. The islands to the far left of the map (four columns) are each labeled merely “island” (*jazīrah*) and given no names. The remainder have names of islands in the eastern Mediterranean, with those belonging to the Cyclades in the middle (more or less), and islands near Italy and Anatolia on the right.¹⁰ Their sequence is confused, however, and not consistent with regard to each other nor in relationship to the mainland rim of the sea.

It is important to note that the islands are only named; no features of their harbors are indicated. For harbors along the coast of the mainland, however, a considerable amount of information is provided. For example, 11 ports are described as large and either accommodating a hundred ships or accommodating an *ustūl* – a fleet or convoy of military ships. Arsenals are specified for three sites, in addition to an armoury situated at Constantinople. Several harbors are described as being blocked, such as the harbor of Sigeion at the southern entrance to the Dardanelles. Of another, Patara on the south Anatolian coast, it is said that “its anchorages are in ruin.”¹¹ Occasionally it is said that a nearby fortress is in ruins.¹² A number of harbors are designated as protected from all winds or from specified winds, such as the north wind.¹³ Occasionally the direction of wind required to enter the harbor is noted. Tarsus, for example, is said to have its anchorage in the river, and to be entered “with a gentle north wind.” In the case of Mylai, on the southern Anatolian coast, it is specified that the distance to Cyprus is one day and one night, and indeed Mylai is known from other sources to have serviced Byzantine ships travelling to and from Cyprus.

What does the information supplied about these harbors suggest regarding the author’s sources and concerns – were they commercial or were they military? Let us consider first the evidence for commercial.

The author appears to have been well-acquainted with the great commercial triangle of the Fatimid period: Tinnīs, al-Mahdīyah, and Palermo.¹⁴ Our author, in fact, provided a detailed separate map of each of these commercial centers. The map of Tinnīs – a city in the Nile Delta – is an annotated diagram, showing the city with the Mediterranean (*al-baḥr al-rūmī*) at the top and, on the other three sides, the deltaic lake in which the island-city lies.¹⁵ Only two features are represented pictorially: the rectangular enclosure of its walls and two channels for the city's water-supply labeled "the inlets for the waters." The latter feature relates to a phenomenon described in the text – that is, every year, when the salt waters of the deltaic lake were driven out to sea by the sweet waters of the Nile in flood, these channels were opened to allow the floodwater to refill the huge cisterns on which the city depended for its water supply (Lev 1999). All other features on the map are indicated by labels alone, which give far more detail than could easily have been represented pictorially. Among other features, the locations of mosques, churches, prayer grounds, waterwheels, drying-yards for bleaching clothes, grounds for archery, two fish halls, and the governor's palace are noted. Of particular relevance for our purpose are the areas said to have "two harbours for ships, one with a gate," "large courtyards for all sorts of merchandise," "a great hall incorporating other, lesser, halls," and an arsenal.

The city of Tinnīs was the major centre for the production of textiles at this time, and the author devotes a large amount of space to this one city, not only presenting a double-page map but also four full pages of textual description and history. While Tinnīs was an important commercial and industrial centre in the early eleventh century, disaster befell it during the Crusades, culminating in the evacuation of the city in 1189–90 and its total destruction in 1227. The map in the *Book of Curiosities* is the only map or plan of Tinnīs to be preserved.

The second city in the commercial triangle of the day was al-Mahdīyah, the capital city built by the Fatimid caliphs in 916–21 in what is now Tunisia. At the time our anonymous author is writing, the Fatimid capital had been moved to Cairo, but the city remained important for trade purposes.¹⁶ Again, our author provided a map as well as history of the city.¹⁷ The peninsular city is shown surrounded by stone walls, with the great gate known as "the Dark Passage" barring the isthmus. In the south-eastern corner of the map is the enclosed inner harbor, surrounded by port buildings. Two isolated and rather elaborate buildings are labeled prominently in a larger vertical label: "the palaces of the [Fatimid] imams, may peace be upon them." The representation corresponds closely to the topography of eleventh-century al-Mahdīyah as it appeared to merchants and sailors approaching the harbor, and suggests that the author had first-hand experience of the town. The map is the only known representation of the city of al-Mahdīyah earlier than the European engravings published to celebrate its capture by the emperor Charles V in 1550.¹⁸

Of particular interest is an itinerary, labeled "from al-Mahdīyah to Palermo," that has been written in three columns in the centre of the map. It is in fact an accurate maritime itinerary, in which, after leaving Mahdīyah, the sailor would

make 13 stops along the Tunisian coast (distance between each is supplied) until reaching Qasr Nūban (modern Sidi Daoud, ancient Missua) on the north-west coast of the Tunisian promontory. From there the traveler goes to the island of Pantelleria, followed by two stops along the south-west shore of Sicily, then to Isola de Favignana, and thereafter to Trapani on the west coast of Sicily, with two further stops before reaching Palermo.

Finally, our author supplies a map of the third part of the commercial triangle: Palermo. Or rather, he supplies a map of the island of Sicily, in which the representation of Palermo and its region completely dominates the map.¹⁹ The island of Sicily is shown alone, without the surrounding archipelago or the Italian mainland. It is represented not in its usual triangular shape, but as a flattened sphere. No attempt has been made to reproduce coastal details, except for a v-shaped indentation for the port of Palermo.

On the map, the Old City of Palermo is represented as a circular enclosure in red, broken by 11 gates. On either side of the harbor, which lies outside the walls, a tower, labeled “Castle of the Chain,” represents the pair of towers between which was stretched the chain that barred the entrance to the port. On the eastern side of the harbor, the arsenal is shown. Beyond Palermo and its disconcertingly widespread suburbs, the map is confused and confusing. There is not much interest or care given to the depiction of coastal settlements. Some coastal localities are, however, indicated as points of embarkation for Byzantine lands, such as *Ra’s Qulā’ah* (literally, “the head of an isolated rock”),²⁰ of which it is said “and it is the point of departure for Byzantium,” and “Riyū [= Reggio di Calabria], a harbor and a point of departure for Byzantium.”²¹ The placements of such Sicilian harbors on this map are not reliable guides to information then available, however, for Etna is shown, with its crown of fire, in the south-western corner of the island instead of the north-east. Next to it are not only its true neighbors, Syracuse and Taormina, but also Sciacca, Mazara and Trapani, three towns which rightly belong in the south-west of Sicily.²²

In addition to supplying us with maps of all three points of the Fatimid commercial triangle, our author also provides a map of an island lying completely within Byzantine waters – Cyprus. The square diagram that is the “map” of Cyprus opens the fifteenth chapter titled “The Islands of the Infidels” – a reminder that it is in Byzantine waters.²³ This diagram of Cyprus is the first detailed Arabic map of the island to be recorded (Stylianou and Stylianou 1980: 3). The square map is composed of 36 cells, 29 of which contain text. Texts in two large cells present a brief description of the island and of its conquest by the Muslims in the seventh century. The remaining cells name 27 harbors on the island, giving brief details of their topography, including their churches, the number of ships that may be accommodated, and their position with respect to the named winds. One mentions sailing time to Latakia in Syria.

Immediately below this diagrammatic “map” is a brief account of the principal exports from Cyprus, including “gum mastic, a resin *lādhan* used as a dentifrice, dry and fresh storax (another resin), vitriol (*zāj*, probably ferrous sulfate),

blue-green vitriol (*qalqant*) and goods imported from Byzantium to all the cities” – suggesting that Cyprus was at this time a centre or clearing-house for the distribution of Byzantine goods presumably to Islamic lands. Cyprus was under Muslim rule from 647 until 963, when Byzantine rule was restored to the island. It is possible that the information supplied here regarding the ports on Cyprus dated to this early period (that is, before 963), but we feel it is more likely that the map and its important information reflects trading and contact between Arab and Byzantine merchants in Cyprus in the first half of the eleventh century.

Yet an additional chapter in the treatise supplements the maps already mentioned with unique information regarding Arab travels in Byzantine waters in the early eleventh century. The sixteenth chapter of Book II is titled “On the Depiction of Inlets, that is Bays, and in particular the Bays of Byzantium.” It essentially forms a navigational guide for 28 bays in the Aegean Sea. The chapter opens with a schematic diagram of the first five bays only (see Figure 18.4), thereafter reverting to only textual descriptions of the remaining 23 Byzantine bays. A considerable amount of information is given regarding each bay. As an example, this is the entry for the fifth bay in the sequence, Miletos, illustrated in the lower left corner of Figure 18.4²⁴:

The inlet of Miletos. This bay is 6 miles long, and its entrance is 20 miles wide. The fortress of Malītayū (Miletos) is in the middle of the bay. To its west there is a river [River Maeander, modern Menderes] that flows into the sea. The inhabited fortress of Miletos is in the middle of the bay, five miles from the sea. To its west lies a river, into which the wide *shelandia* ships²⁵ can enter. There are contiguous villages along its banks.

The course of bays presented in this chapter begins from the south-west tip of Anatolia (across from the island of Rhodes) and then follows the bays or inlets northward along the coast up to the mouth of the Dardanelles. At that point the sequence continues westward to Thessalonica, then down to Corinth, and circumnavigates the Peloponnesus as far as Patra. To give a second example of this discourse on Aegean bays, the text says of the Argolic Gulf of the Peloponnesus²⁶:

Southwest of the fortress of Argos there is a fortress ruled by the Slavs, called Rājqaḥ, located three miles from the sea. Southwest of Rājqaḥ is the fortress of Kībarisah [Kyparission ?]. To the south of Kībarisah is the coastal fortress of Minūshah [Monemvasia]. South of Monemvasia is a cape called Malāas [mod. Maleas]. It marks the halfway point along the maritime routes between Constantinople and Sicily.

This navigational guide, or portolan (Gautier Dalché 2003), for 28 bays in the Aegean is unique in this period and is not a reproduction of an earlier text. Curiously, the sequence of Aegean bays given here in the sixteenth chapter is not repeated on the Mediterranean map in the *Book of Curiosities*. Only one harbor is the same: the large Tracheia Bay, the second in the sequence given in the portolan.²⁷ Tracheia was a town on the eastern coast of the Daraṣya peninsula, to the north of Rhodes,

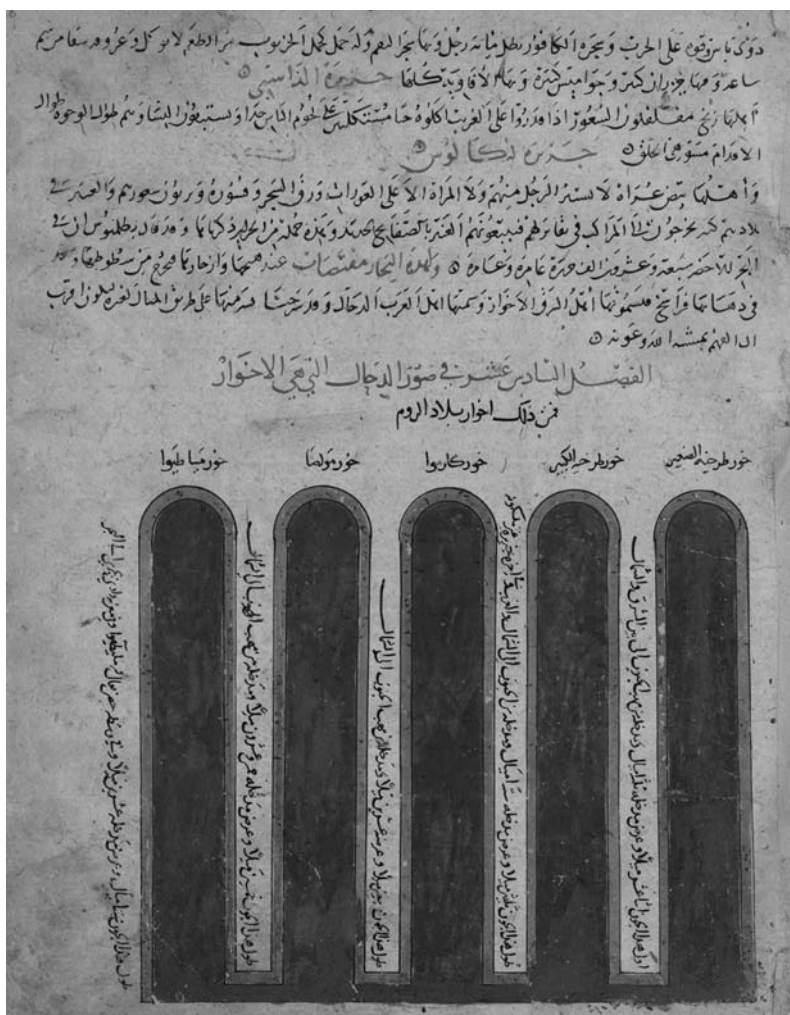


Figure 18.4 Diagram of the first five bays, opening a navigational guide to bays in the Aegean Sea. From the *Book of Curiosities*, Oxford, Bodleian Library, MS Arab. c. 90, fol. 38a (undated, c. 1200). Reproduced with permission of The Bodleian Library

as well as the Byzantine name for the gulfs on the eastern side of the peninsula. The sequence of bays given in the sixteenth chapter proceeds north and then west around the Peloponnesus, following the dominant winds and sailing patterns. On the Mediterranean map (Figures 18.1 and 18.3), this sequence would be anti-clockwise. Moreover, the portolan definitely does not go into the Dardanelles, in contrast to the sequence of harbors appearing on the Mediterranean map. With only one point in common, it would seem that the navigational guide in the sixteenth chapter was based upon a different register of coastal landmarks than that used for the compilation of the oval Mediterranean map. Moreover, the purposes

of the two underlying registers may well have been different, since that used for the Mediterranean map focused upon facilities offered by anchorages and harbors, while that incorporated into the portolan described the physical landmarks demarcating bays.

It may be that these maps, portolans, and associated texts in the *Book of Curiosities* reflect the trading patterns of Fatimid Egyptians just before the Norman invasion of Sicily. If so, they then provide new information on trading patterns of Arabs in the waters of the eastern Mediterranean that were for the most part under the control of Byzantium in the early eleventh century.²⁸ In this context, it is perhaps significant that the guide to the 28 bays given in the sixteenth chapter begins at a point off the southern Anatolian coast just opposite Rhodes, very near the place where in the 1970s a shipwreck was discovered at Serçe Limanı (literally, “Sparrow Harbour”) dating to about 1025 CE – the time of our author.²⁹ The ship was, it appears, carrying goods from Fatimid Egypt. Some of the objects found in the Serçe Limanı shipwreck indicate that both Muslims and Christians were among the crew and the passengers on the ship.³⁰ It is ambiguous whether it was a Byzantine or Muslim ship, and it has proved impossible at this point to confirm its country of origin.

On the other hand, it may be that some of the material exploited by our author when compiling his *Book of Curiosities* was originally assembled for potential military purposes or for piracy. Let us consider the evidence. In the *Book of Curiosities* there is no interest in travel or trade to al-Andalus (Muslim Spain) – and lack of interest or knowledge about the area is reflected also in the unnamed “islands” in the western portion of the Mediterranean map. A primary concern with military matters would explain this lack of interest in Muslim Spain, since there was no need to attack one’s own. Nor is there interest in western Latin Christendom, though we know from other sources that exchanges were taking place at this time between the Latin West and Egyptian and North African traders.

In the information about the harbors given on the Mediterranean map (Figure 18.3), an arsenal (*dār sinā‘ah*) is specified as being at Strobilos, opposite the island of Kos, and Strobilos is known to have been an important naval and military post in the middle Byzantine period.³¹ Arsenals, however, are also specified for two localities in the Muslim territories: Alexandria and Tunis, the latter described as “the arsenal of *Ifriqiyah*” (the arsenal of North Africa). Furthermore, on the map of Sicily (then under Muslim rule), the arsenal in the harbor is both labeled and indicated graphically. The annotated diagrammatic map of Tinnīs also mentions an arsenal. The term “arsenal” incorporated not only the area designated for the manufacture and storage of weapons for military and naval use, but also the entire dockyard possessing naval stores, materials, and all appliances for the reception, construction, and repair of ships.

Other features of possible military interest, however, were also recorded. An armoury (*musalahah*) was specified as being at Constantinople, and four Byzantine ports along the rim were said to be able to accommodate an *ustūl* – a military convoy of ships.³² The accommodation of *shelandia* ships is mentioned in connection with the harbor of Miletos. Particularly large anchorages accommodating 100 ships

are indicated on the Mediterranean map for three Byzantine localities, and the river at Phoinix (modern Finike) on the southern Anatolian coast was said to have capacity for many ships.³³ On the map of Cyprus, two ports are said to have 950 ships: Jurjis and Bāfs. The former is an otherwise unattested name for the classical port of Nemesos (early Byzantine Neapolis or Theodosios), the island's main harbor in the eleventh and twelfth centuries, while Bāfs, said to have a ruined fortress, was apparently near the modern Nea Paphos. Such an exaggerated figure as 950 ships, even if repeated, is probably an error.³⁴ Similar descriptions of harbors with great capacities are also supplied for three ports in Muslim lands: Barqah, in modern Libya, was described as accommodating 100 ships and positioned at one day's sailing from Alexandria, while an unidentified anchorage on the coast of North Africa, west of Tunis, was said to accommodate 100 ships and another unidentified harbor on the coast of modern Libya was stated to accommodate 200 ships.

Such large harbors would have the capability of having ship sheds for the maintenance of military vessels. Military ships were kept ready for use in covered ship sheds having ramps that allowed them to be launched quickly – a practice dating from antiquity and continued throughout the medieval period. A major project is now underway to analyze the archaeological and literary evidence for ancient and late-antique ship sheds in the Mediterranean, headed by David Blackman at Oxford and Boris Rankov at Royal Holloway College.³⁵ Regrettably, a comparison with our material is not particularly illuminating since only one site on our map corresponds to a confirmed location of a late-antique ship shed, and in that instance there is no reference to a particularly large harbor.³⁶ On the other hand, many ancient ship sheds would have fallen into disuse by the tenth or eleventh century. Moreover, confirming the identification of place-names is notoriously difficult, and indeed the location is uncertain of two ports in this area said to accommodate either an *ustūl* or 100 ships.

It is important to note that many of the ancient and late-antique ship sheds were located on Aegean islands. The islands on our Mediterranean map, however, provide no information about anchorages, while the portolan for the Aegean in the sixteenth chapter is concerned only with bays and not harbors or anchorages. If, however, our anonymous mapmaker approached his subject-matter with the preconceived notion of presenting the available information in a geometrical framework, then the lack of specification regarding special ports on the islands (other than Cyprus and Sicily) could be explained. That is, if he began with a notion that the rim of the Mediterranean could be reduced to an oval, and then placed information derived from a list of anchorages as spokes around the rim, he would soon discover that the interior of the oval did not provide sufficient space for much information regarding the islands to be included. As a result, detailed information regarding their harbors had to be omitted. Moreover, he would have discovered that the islands could not be related meaningfully to the rim.

Let us look further at the author's general approach to modeling the Mediterranean. Projection and quantification associated with modern cartography

are not to be found. The geometry of circles, ovals, and squares dominates and determines the approach. There is a simplicity of conception that is attractive to the modern sense of design – though not to the modern sense of “map” which generally requires a map to be mimetic.³⁷

This lack of interest in even attempting to delineate a shoreline with any accuracy reflects the author’s philosophy of mapmaking which he presents in the sixth chapter of Book II, titled “On the Depiction of the Seas, their Islands and Havens.” Referring to his maps of the Indian Ocean, the Mediterranean, and the Caspian Sea which follow immediately after the sixth chapter,³⁸ and which are all drawn either as an oval or a circle, the author says³⁹:

These sea maps are not accurate representations. When the seas swell, rise and the winds blow heavy, the abundant water inundates its shores. Commensurate with the propulsion of the force, these outlets of water may extend for many miles and even *farsakhs*.⁴⁰ The people of the eastern seas call them *akhwār* [bays, from the Persian word for bay, *khōr*], while the people of the western seas call them *jūn* [bay, in Arabic]. Each of these outlets is very long, and some are wider than others, according to the will of their Creator. A large mountain may happen to be in a bay, or the bay may encircle a large city that then uses it for its defenses.

Sometimes the lower parts of a region are inundated, and we have witnessed in our short lifetime wastelands and passable land overcome by sea. Abū al-Hasan al-Mas‘ūdī,⁴¹ may God have mercy upon him, mentioned in his books many cases of land turning into sea and sea turning into land. As for [sea turning into] land, he claimed that Najaf near Kufah used to be covered by sea. Similarly, there are lowlands near Alexandria, now inhabited by large throngs of the Banū Qurrah⁴² and others, that used to be covered by sea. The lake of Tinnīs, on the other hand, used to be passable land until one night it was overcome by the sea from the direction of al-Ushūm [modern Port Said] and was covered with water. The lower parts were inundated, while the elevated parts, like Tinnīs, Tūnah and other places, remained [above sea level].⁴³

Moreover, if the shape of the sea is reproduced accurately, on the basis of longitude and latitude coordinates, and any given sea is measured in the manner described by Ptolemy in his book known as *Geography*, the [contour of the] sea would form sharp and obtuse angles, square and rounded lines.⁴⁴ This shape of the coast exists in reality, but, even if drawn by the most sensitive instrument, the cartographer (*mubandis*) would not be able to position [literally, “to build”] a city in its location amidst the sharp or obtuse angles [of the coast] because of the limits of the space that would correspond to a vast area in the real world. That is why we have drawn this map in this way, so that everyone will be able to figure out [the name of any] city.

As Paul Carter has remarked in a recent essay, “a coast was a generalization, an abstraction,” (Carter 1999: 125), and indeed it was very much of an abstraction for our mapmaker. Given that the author of the *Book of Curiosities* had devised a distinctive and apparently unique cartographic scheme for mapping seas, his source selection was still crucial to the formation of the final product. And this

returns us to the earlier problem. Are the references to features of military interest – which occur most conspicuously in association with Byzantine ports – sufficient evidence to suggest that at least some sources used by our anonymous author were military lists or registers? Or, were his sources – as well as perhaps his own experiences – commercial rather than military? Does one preclude or exclude the other?

If commercial, then why the emphasis upon Greek bays and ports rather than the Latin West or Muslim Spain? A military or strategic motivation for the compilation of the underlying registers is supported by the fact that knowledge of the bays around the Aegean and the location of anchorages where military fleets might be expected or accommodated would have been highly useful in making raids into the territories of the infidels – useful to both Fatimid military leaders and to Muslim pirates. The evidence at this point appears inconclusive but tantalizing.

Were there other, yet unidentified, interests and attitudes that determined the unique perspective on the Mediterranean that is portrayed in the *Book of Curiosities*? Does the concentration upon eastern shores and islands – to the exclusion of Muslim Spain and western Europe – simply reflect the author's perception of place and the dominance of the eastern Mediterranean in the eyes of Egyptians? Was this a commonly held perception in the early eleventh century of the Mediterranean when viewed from the south-eastern shores? Perhaps it is Eurocentric on our part to think that the author should have given more prominence to Muslim Spain – a bias that we have because it is closer geographically to us and because so much medieval Arabic material was translated into Latin and reached Europe by way of Spain. After all, Egypt is at the eastern end of the Mediterranean, further East than Constantinople, and Spain and western Europe are indeed far away.

It is also possible, of course, that the view of the Mediterranean in the *Book of Curiosities* was only a personal and rather eccentric conception of the world formed by one individual Egyptian merchant. Or, perhaps it was conceived by an Egyptian autodidact who just happened to have access to lists of harbors and bays in Byzantium compiled by the Fatimid military administration. Such are the quandaries faced by scholars trying to interpret a document that is unique among the sources known to be preserved from the early eleventh century.

Notes

- 1 The study and eventual publication of this extraordinary treatise has been and continues to be a team effort. I wish especially to thank my colleague Dr Yossef Rapoport, who spent many hours working on the identifications of the Aegean bays and the Byzantine ports, as well as Dr Jeremy Johns, whose responsibility it has been to analyze the chapter and map of Sicily. The entire treatise will be published on-line, using software designed by Oxford ArchDigital, at <http://www.bodley.ox.ac.uk/bookofcuriosities>, with a later printed version. A simplified system of transliteration for the Arabic has been employed here, with no dots placed under the emphatic consonants.

- 2 Oxford, Bodleian Library, MS Arab. c. 90. The acquisition of the *Book of Curiosities* was made possible by generous donations from the Heritage Lottery Fund, the National Arts Collections Fund, the Friends of the Bodleian Library, ARAMCO (Saudi Arabia), several Oxford colleges (All Souls College, Merton College, New College, Nuffield College, St Antony's College, St Cross College, St John's College, Wadham College, and Wolfson College) and a number of private individuals. Continued work on the edition, translation, and publication of the manuscript has been supported by the Heritage Lottery Fund and the Arts and Humanities Research Council (AHRC). – Recently we learned of a second copy of the treatise, transcribed in 1564 (972 AH), which is now in the al-Asad National Library in Damascus under shelfmark MS 16501 (formerly, Aleppo, al-Maktabah al-waqfiyyah 957). This copy, however, lacks the maps in the earlier Bodleian copy, although the city of al-Mahdiyyah, the island of Cyprus, and the rivers Nile and Tigris are represented by crude, unlabeled sketches whose general form is recognizable when compared to the equivalent maps in Bodleian MS Arab. c. 90.
- 3 Christie's, London, *Islamic Art & Manuscripts*, 10 October 2000, lot 41. At auction the manuscript was purchased by Sam Fogg, a London dealer in rare books and manuscripts. Not long thereafter he offered it to the Bodleian Library at a price well under the true market value.
- 4 There are four features that indicate its composition to have been after 1020 and before 1050: (1) Sicily is described as being under Muslim rule, from which it can be inferred that the treatise was composed before the Norman invasion of Sicily in 1070 CE; (2) the Banū Qurrah are mentioned as still inhabiting the lowlands near Alexandria, and since Faṭimid authorities waged several campaigns against them in 1050–1, eventually banishing them from the region in 1051–2, our author is writing before 1050 (442 AH); (3) in the chapter on Tinnīs, it is stated that six large buildings for merchants were constructed in 1014–15 (405 AH), bringing the total number of merchant inns and covered markets to 56 in the city, and for this reason our author must have been working after 1015; and (4) al-Hākīm bi-Amr Allāh, the Fātimid ruler of Egypt and Syria from 996 to 1021, is referred to in the chapter on Tinnīs as if he were no longer reigning, meaning that our author is writing after the year 1020 since al-Hākīm died on 13 February 1021 (27 Shawwāl 411 AH).
- 5 For earlier discussions of other portions of the treatise, see Johns and Savage-Smith 2003; Edson and Savage-Smith 2004; and Rapoport and Savage-Smith 2004.
- 6 For the gradual developmental changes in this map in later versions, see Tibbetts 1992: 120 fig. 5.12.
- 7 Istanbul, Topkapı Sarayı MS 6527/A3346, fols. 20a, 20b, and 21a. The map is reproduced in Ibn Hawqal 1938: 1, between 66 and 67; Ibn Ḥawqal 1964: map 4; and Pinna 1996: 2. 32–48.
- 8 The first four toponyms are illegible. The three labels thereafter read: *ilā Tanjah* (toward Tangier), *ilā Asilā marsā* (toward Asilah, an anchorage), and *ilā Wādī Sa'd* [= *Safīdad*] (toward Wādī Safdad, mod. Oued Loukos).
- 9 Two of them are said to have large anchorages, each with a church nearby. The names of the churches are given as the Church of Saint Badolo (?) and Church of Saint Bātūfā (?).
- 10 There is no Corsica, Sardinia, or Maiorca, though Capri appears on the map.
- 11 Contrary to the description here, there is ample evidence of its continuous habitation during the eleventh century (Foss 1994: 15).
- 12 For example, “The fortress of al-Kuhūf (literally, the caves), in ruins,” an unidentified port on the southern Anatolian coast, probably Anemurium (mod. Anamur).

- 13 Three examples, out of many, being: “The fortress of Qlālūnah (?) having a harbor protected from all the winds,” Qlālūnah possibly being Gallipoli, north of Sestos; “The anchorage of Qībus, whose bay gives protection from all winds,” probably describing Kepos or Kepoi, near the mouth of the Maeander; “the anchorage of al-Baqar (literally, the cattle), protected from the North Wind,” referring to an anchorage between Phoinix and Attaleia on the south Anatolian coast, possibly Phaselis, which was a major Byzantine port during this period, and is protected from the north wind by an east-west cape.
- 14 The Geniza documents from Egypt relate primarily to this commercial triangle, though there is evidence in them of trade elsewhere, including Byzantium. See Goitein 1967 and Jacoby 1998.
- 15 Oxford, Bodleian Library, MS Arab. c. 90, fols. 35b–36b. For a reproduction of the Tinnīs map, see Johns and Savage-Smith 2003: 18 fig. 4.
- 16 See the numerous references to Mahdīyah in Goitein 1967, vol. 1.
- 17 Oxford, Bodleian Library, MS Arab. c. 90, fol. 34a. For a reproduction of the map, see Johns and Savage-Smith 2003: pl. 7; Edson and Savage-Smith 2004: 91 fig. 45; Rapoport and Savage-Smith 2004: 257 fig. 4.
- 18 For the topography of medieval al-Mahdīyah, see Lézine 1965.
- 19 Oxford, Bodleian Library, MS Arab. c. 90, fols. 32b–33a. For a reproduction, see Johns and Savage-Smith 2003: pl. 6; Edson and Savage-Smith 2004: 90 fig. 44; Rapoport and Savage-Smith 2004: 256 fig. 3.
- 20 An unidentified locality and otherwise unattested.
- 21 For *Ra’s Māran* (Mazara del Vallo, in the province of Trapani), the map reads: “The Headland of Mazara – a place of anchorage and of sailing to the west and the east.”
- 22 For a fuller account of the treatment of Sicily in our manuscript, see Johns 2004.
- 23 Oxford, Bodleian Library, MS Arab. c. 90, fol. 36b. For a reproduction, see Johns and Savage-Smith 2003: 19 fig. 5.
- 24 Oxford, Bodleian Library, MS Arab. c. 90, fol. 38a bottom left diagram to fol. 38b line 2.
- 25 The Arabic term *shalandiyā* is from the Greek *chelandion*. It was a ship used by the Byzantines for military and commercial purposes in the Mediterranean, and adopted by the Fatimids and the Almohads (see Agius 2001).
- 26 Oxford, Bodleian Library, MS Arab. c. 90, fol. 39b lines 7–10.
- 27 It is possible, however, that the fortress of Abtīyah on the Mediterranean map was a fortress near Miletos.
- 28 For further evidence for contact with Byzantium by Egyptian traders during this time period, see Jacoby 1998.
- 29 See van Doorninck 2003; Bass, Matthews, Steffy, and van Doorninck 2004: 265–470. The ship carried 3 tons of glass, Islamic glazed pottery, Islamic metal buckets, 8 chessmen in the stern and a gaming table in the bows, one anchor stamped with Arabic letters, Byzantine wine amphorae with Greek graffiti, Byzantine coins and seals, and net-weights with Christian symbols. These items could have been acquired in either Byzantine or Arab ports.
- 30 Remains of cooked pigs-legs were found, indicating that at least some of the people on board were neither Muslim nor Jewish. See Bass et al. 2004: 487–90.
- 31 Strobilos is located on the northwestern tip of the Ceramic Gulf, 10 km southwest of modern Bodrum. The ruins are today known as Aspat or Chifut Kalesi (the Jew’s Castle); see Foss 1988 and Bass et al. 2004: 23–4.

- 32 Harbors accommodating *ustūls* are (1) Sestos; (2) Jurjīyah (= Georgios, possibly Agios Georgios, a fort at the head of the Gallipoli peninsula, mentioned as a stop on the way to Constantinople by Saewulf in 1102, and possibly to be identified with the medieval town of Ganos (mod. Gaziköy; see Pryor 1994: 56); (3) an unidentified anchorage of the fortress of Arshriyah (?) between Constantinople and Miletos; (4) “the anchorage of al-H.s.r.” south of Makre (modern Fethiye), and north of Patara, probably Perdikia.
- 33 Those accommodating 100 ships are (1) al-Ballūt, an anchorage south of Makre (Modern Fethiye), possibly Sipolo; (2), “the fortress of Sūqīn,” that is Syke or Sycae (mod. Softa Kalesi); (3) an unidentified anchorage of Atrābīliyah between Constantinople and Miletos; (4) an unidentified anchorage of Afwb [?] on the coast of north Africa, west of Tunis; (5) the harbor of Barqah, in modern Libya. The River al-Bārid (lit. “the cold”) at Phoinix (mod. Finike) is said to accommodate an unspecified “many ships.” The inlet of Hdā[...?] (an unidentified anchorage on the coast of modern Libya) is said to accommodate 200 ships.
- 34 The two labels read: “[. . .] of Jurjis which has a church protected from all the winds and 950 ships” and “The anchorage and port of Bāfs. A ruined fortress protected from all the winds except the South-East, [having] 950 ships.” Regarding Bāfs, said here to be protected from all winds except the south-east, the anonymous “Stadiasmus” says Paphos, south of Akamas, is accessible with all winds and has a temple of Aphrodite; see Stadiasmus 1855: no. 297-8.
- 35 We wish to thank Dr Judith McKenzie and Professor David Blackman for making the preliminary results of their studies available to us.
- 36 The harbor in question is labeled “the anchorage of Astāniyah having a fortress,” and Astāniyah, on the south-western Anatolian coast, is to be identified with Stadia or Standia (modern. Daṭça), a town near the site of ancient Cnidus, which is mentioned in medieval portolans; see Kretschmer 1909: 664; Pryor 1994: 45.
- 37 Another distinctive feature of all the maps in the *Book of Curiosities* is the lack of religious elements (except for the palaces of the Imams shown on the map of al-Mahdīyah). They are devoid of God or sacred spaces, in notable contrast to European mapmaking at this time. The only mythical elements are depictions on the two world maps of the barrier said to have been constructed by Alexander the Great to contain Gog and Magog, in addition to labeling the “islands of the Waq-Waq.”
- 38 Chapters 8 and 9 are missing from both the Bodleian copy and the later Damascus copy. The Indian Ocean with its map is the subject of Chapter 7, the Mediterranean of Chapter 10, and the Caspian of Chapter 11. The subjects of the two missing chapters are unknown.
- 39 Oxford, Bodleian Library, MS Arab. c. 90, fol. 29a lines 5–13.
- 40 *Farsakh* is the Arabic form of the Persian unit of measure *farsāng* or *parsāng*. A *farsakh* usually equalled three Arabic miles (*mīls*), when a mile was about 4,000 cubits (*dhirāʿ*); see Mercier 1992 and Silverstein this vol. p. 178.
- 41 Al-Masʿūdī (d. CE 956) was a historian who prefaced his history with a description of the world. His treatises were an important source for our author as well as many later Islamic geographers.
- 42 See above, note 4.
- 43 The passage on the submersion of Tinnīs is in Masʿūdī 1965: 2, no. 790. It is repeated twice elsewhere in the present treatise in slightly different versions (in the chapter on Tinnīs and a chapter concerned with lakes of the world).

- 44 For *shābūrāb* and *‘utūf* meaning, respectively, obtuse and acute angles of the coast, see the geographical writings of Abū al-Fidā’ and al-Idrīsī as cited in Dozy 1881: 1. 720 and 2. 138.

References

- Agius, D. 2001. “The Arab Šalandiyā.” In U. Vermeulen and J. van Steenbergen (eds.), *Egypt and Syria in the Fatimid, Ayyubid, and Mamluk Eras*, III: 49–60. Leuven.
- Bass, G. F., S. D. Matthews, J. R. Steffy, and F. H. van Doorninck, Jr. 2004. *Serçe Limanı: An Eleventh-Century Shipwreck, I: The Ship and Its Anchorage, Crew, and Passengers*. College Station, TX.
- Canard, M. 1965. “Fātimids.” *Encyclopaedia of Islam*, II: 850–62. 2nd edn. Leiden.
- Carter, P. 1999. “Dark with Excess of Bright: Mapping the Coastlines of Knowledge.” In D. Cosgrove (ed.), *Mappings*, 126–47. London.
- Dozy, R. P. A. 1881. *Supplément aux dictionnaires arabes*. 2 vols. Leiden.
- Edson, E., and E. Savage-Smith. 2004. *Medieval Views of the Cosmos*. Oxford.
- Foss, C. 1988. “Strobilos and Related Sites.” *Anatolian Studies* 38: 147–77.
- Foss, C. 1994. “The Lycian Coast in the Byzantine Age.” *Dumbarton Oaks Papers* 48: 1–52.
- Gautier Dalché, P. 2003. “Portolans and the Byzantine World.” In R. Macrides (ed.), *Travel in the Byzantine World*, 59–72. Aldershot.
- Goitein, S. D. 1967. *A Mediterranean Society*. 3 vols. Berkeley.
- Hrbek, I. 1960. “Bulghār.” *Encyclopaedia of Islam*, I: 1304–8. 2nd edn. Leiden.
- Ibn Hawqal. 1938. *Opus Geographorum Auctore Ibn Hāuqal (Kitāb Sūrat al-ard)*. Ed. J. H. Kramers. 2 vols. 2nd edn. Leiden.
- Ibn Hawqal. 1964. *Ibn Hauqal: Configuration de la terre (Kitāb sūrat al-ard)*. Trans. J. H. Kramers, ed. G. Wiet. 2 vols. Paris.
- Jacoby, D. 1998. “What Do We Learn about Byzantine Asia Minor from the Documents of the Cairo Genizah?” In Stelios Lampakēs (ed.), *Hē Vyzantinē Mikra Asia: 6.–12. ai. (Byzantine Asia Minor, 6th–12th c.)*, 83–95. Athens.
- Johns, J. 2004. “Una nuova fonte per la geografia e la storia della Sicilia nell’ XI° secolo: il *Kitāb Gharā’ib al-funūn wa-mulāh al-‘uyūn*.” *Mélanges de l’École française de Rome, Moyen Âge* 116: 409–49.
- Johns, J., and E. Savage-Smith. 2003. “*The Book of Curiosities*: A Newly Discovered Series of Islamic Maps.” *Imago Mundi* 55: 7–24.
- Kretschmer, K. H. A. 1909. *Die italienischen Portolane des Mittelalters*. Berlin.
- Lev, Y. 1999. “Tinnīs: An Industrial Medieval Town.” In M. Barrucand (ed.), *L’Égypte fatimide: Son art et son histoire*, 83–96. Paris.
- Lézine, A. 1965. *Mahdiyya: Recherches d’archéologie islamique*. Paris.
- Mas‘ūdī. 1965. *Les prairies d’or*. Ed. and trans. C. Barbier de Meynard and Pavet de Courteille. Rev. edn. by Charles Pellat. 7 vols. Beirut.
- Mercier, R. P. 1992. “Geodesy.” In J. B. Harley and D. Woodward (eds.), *The History of Cartography*, II. 1: *Cartography in the Traditional Islamic and South Asian Societies*, 175–88. Chicago.
- Pinna, M. 1996. *Il Mediterraneo e la Sardegna nella cartografia Musulmana (dall’ VIII al XVI secolo)*. 2 vols. Nuoro.
- Pryor, J. 1994. “The Voyages of Saewulf.” In R. B. C. Huygens (ed.), *Peregrinationes tres: Saewulf, Johannes Wirziburgensis, Theodericus*, 35–57. Turnhout.
- Rapoport, Y., and E. Savage-Smith. 2004. “Medieval Islamic View of the Cosmos: The Newly Discovered *Book of Curiosities*.” *The Cartographic Journal* 41: 253–9.

- Stadiasmus. 1855. *Anonymi Stadiasmus sive Maris Magni*. In C. Müller (ed.), *Geographi Graeci Minores*, I: 427–514, and maps 19–27. Paris.
- Stylianou, A., and J. A. Stylianou. 1980. *The History of the Cartography of Cyprus*. Nicosia.
- Tibbetts, G. R. 1992. “The Balkhī School of Geographers.” In J. B. Harley and D. Woodward (eds.), *The History of Cartography*, II. 1: *Cartography in the Traditional Islamic and South Asian Societies*, 108–29. Chicago.
- van Doorninck, F. Jr. 2003. “The Byzantine Ship at Serçe Limanı: An Example of Small-Scale Maritime Commerce with Fatimid Syria in the Early Eleventh Century.” In R. Macrides (ed.), *Travel in the Byzantine World*, 137–48. Aldershot.

Geography and Ethnography in Medieval Europe: Classical Traditions and Contemporary Concerns

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Medieval views of geographical space and peoples who populate it puzzle, fascinate, and often annoy modern minds. What are we to make of the ideas that dog-headed monsters live at the edges of the earth, or that Paradise is located to the east of India? Why did medieval scholars use geographical information that was centuries old in order to describe even European regions, the lands supposedly better known to them? Until quite recently, even most experts have believed that the features just mentioned indicate the decline of geography in medieval Europe and that medieval scholars, constrained by their reliance on the classical tradition and Christian authority, presented an image of the world completely out of touch with reality. According to this story, it was only with the rise of travel and the rediscovery of Ptolemy that medieval scholars finally abandoned their false and fabulous conceptions, and turned to more realistic and scientific ways of describing the world. The story did not significantly change in almost a century that passed between the appearance of two influential books on the history of geography (Beazley 1897; Martin and James 1993). The Internet, to which we increasingly turn for information nowadays, has popularized the same impression.¹

In the last several decades, however, new approaches and new discoveries have turned the old story into a myth. Rather than seeing medieval ideas about lands and peoples as pseudo-science, most scholars now agree that we need to understand them in the context of social and cultural developments of the time. In other words, instead of using modern geography as a yardstick, we should acknowledge that we are dealing with a different phenomenon here, and should change our questions accordingly. Historians of cartography, the first to shift their perspective, have uncovered medieval meanings and functions of maps that were previously seen as imperfect and inaccurate representations of geographical reality (Von den Brincken 1968; Harley and Woodward 1987). This shift of perspective

reveals creativity and changes where the traditional story sees only decline. Patrick Gautier Dalché (1983), who has consistently argued for studying medieval geography in its cultural context, has demonstrated how ninth-century geographers, till now for the most part dismissed as plagiarists, critically and intelligently used their sources and carefully rearranged the world image. Gautier Dalché has also expanded our knowledge by bringing to light medieval geographical texts and maps contained in archives (1988 and 2005). The combination of new digital technologies and the Internet have enabled us to access, study, and appreciate ancient and medieval maps in new ways.²

All these new developments help us realize that medieval geo/ethnographical knowledge, far from being in decline, changed and grew and fulfilled the expectations of medieval people for almost 1,000 years. Medieval geo/ethnographical studies responded to the needs of the time on several levels. Texts and maps were meant to provide material for education, and they could serve for contemplation. They could also be used to elaborate on imperial ideology, support political pretensions, and strengthen the sense of ethnic identity. In what follows I will focus on three main purposes of geo/ethnographical studies: education, contemplation, and ideology.

Reconciling Classical Geo/Ethnographical Knowledge and Christianity

In the period that we call late antiquity or the early Middle Ages (*c.* 300–800 CE), European economy, society, and culture were changing, and geo/ethnographical studies were changing with them. Like other branches of knowledge at that time, studies of lands and peoples developed by incorporating the achievements of classical Greece and Rome into the framework of Christianity. Early Christian thinkers disagreed about how much classical learning it was appropriate for Christians to acquire. Influential fathers of the church, such as St. Augustine of Hippo (354–430) and Basil of Caesarea (*c.* 330–79), endorsed the use of classical knowledge by Christians, mainly for the purpose of understanding and explaining the Scriptures.³ Because important Christian authorities at an early date endorsed the use of classical learning, the main features of Greek and Roman geo/ethnography were preserved and transmitted to posterity. Christian Europe inherited such theoretical ideas as the conception of the spherical earth, the existence of the three continents, the division of the earth into climatic zones, and the influence of climate on the character and appearance of people. Christian Europe also inherited descriptions of the regions based on old Roman provinces, as well as stories about barbarians and monsters who lived at the edges of the earth. The Latin West learned all these things from books by Pliny the Elder and Pomponius Mela (both wrote in the first century CE), Solinus (third century), Macrobius (*c.* 400), and Martianus Capella (fifth century). The Greek-speaking East, in other words the Byzantine

Empire, was reading Strabo (first century CE), Ptolemy (second century), and the writings of the fathers of the church. Also popular in the West was the geographical description of the known world with which Orosius, a Christian scholar of Spanish origin, began his *Histories Against the Pagans* (written c. 416). Throughout the Middle Ages, classical works served as handbooks for studying and teaching geo/ethnographical material, and they provided data that medieval scholars tapped in composing their own works.

The classical tradition and the Christian worldview thus formed the foundation of medieval geographical studies. The relations between these two different and sometimes contradictory systems of representing the world always remained an important challenge for medieval scholars. While reconciling classical information with Christian doctrine, scholars proposed different solutions. Cosmas Indicopleustes, a Byzantine merchant, wrote his *Christian Topography* in Greek between 535 and 547. In this book he offered a thoroughly Christianized vision of the world, refuting the theory of the spherical shape of the earth and debating with classical Greek authorities. In Cosmas' view, the world resembles the Tabernacle of Moses in shape, the earth is flat and rectangular and is surrounded by the Ocean. In addition to theoretical ideas, Cosmas also included in his book descriptions of places that he had visited during his trading expeditions. Certain manuscripts of Cosmas' book include maps that represent his ideas: some show the rectangular earth, surrounded by the Ocean, others demonstrate the great mountain located in the north which, in Cosmas' view, accounts for the setting and rising of the sun (Dilke 1987: 262–3, figs. 15.1 and 15.2). Modern scholars often cite Cosmas' work to demonstrate the decline of geography in the Middle Ages because of the pernicious influence of religion. In reality this is an isolated example. Cosmas' book did not enjoy wide circulation; it was little known in Byzantium, and inaccessible to the Latin-speaking West. Thus the theory of a flat earth remained marginal to medieval geography, whereas the mainstream adopted classical ideas of the spherical world (Russell 1991).

Among the problems Christian scholars had to resolve when reconciling classical and biblical information was the fact that many ideas, places, and peoples mentioned in the Bible and particularly important to Christianity had little or no equivalent in classical geography. One such place was Paradise, or the Garden of Eden, described in Genesis 2:8–14 and not mentioned in classical descriptions of the world. According to the biblical account, the Garden of Eden, where God put the first man, was located in the East, and a great river ran through it. Beyond its boundaries the river divided and became four rivers, named the Phison, the Geon, the Tigris, and the Euphrates. Since the Book of Genesis implies that the Garden of Eden was located on earth but does not specify where, it left much room for Christian scholars to speculate on its location. Most texts and maps – for instance those that occur in manuscripts of Cosmas Indicopleustes and Beatus of Liebana – placed Paradise in the East. Beatus, a Benedictine monk from Spain (c. 711–800), wrote a commentary on the Book of Revelation. The maps that often accompany manuscripts of his work are usually rectangular, oriented with

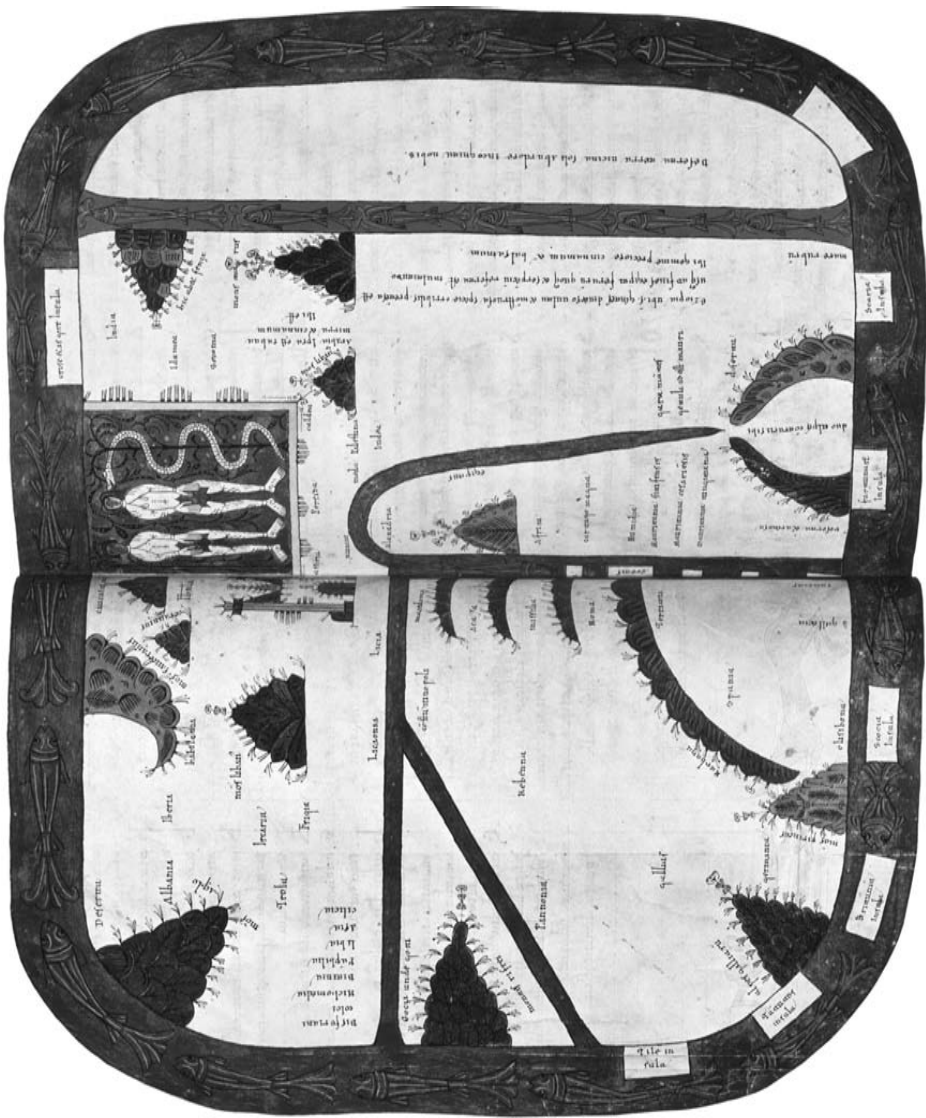


Figure 19.1 Beatus, world map from the monastery of Santo Domingo de Silos, Spain. Paradise is at the top. London, British Library, Add. MS 11695, fols. 39v–40r, late eleventh–early twelfth century. Reproduced by permission of the British Library Board

east at the top. They show an enclosed Paradise in the east with the figures of Adam and Eve (Figure 19.1; Edson 1999: 149–59 and pl. XI; Scafi 2006).

Texts and maps usually depicted Paradise as located in the east, often divided from the rest of the earth, yet connected to it by the four rivers. Whereas most sources identified the biblical river Geon as the Nile and the Phison as the Ganges, some remarkable exceptions placed the Phison in Europe and thus linked Paradise more directly to this part of the world. A biblical commentary composed in Canterbury between 650 and 750 suggests that the Phison was the same river as the Rhône, which in turn was the same as the Danube. The cosmography of Pseudo-Aethicus, composed between the fifth and the eighth centuries, mentions a river Geon beginning in the fields of Gaul. One ninth-century monastic history claims that the Geon is the same river as the Seine, where the monastery was located (Lozovsky 2000: 59–67).

Geo/Ethnography at School

Throughout the Middle Ages, schools taught and transmitted this complex of classical and Christian ideas. Neither geography nor ethnography was instituted as a separate discipline in the Middle Ages, but various subjects, from rhetoric to geometry, could accommodate information about lands and peoples. Some late antique sources mention maps used for teaching. Eumenius, who was a professor of rhetoric at Autun in the late 290s, describes in a speech a map located in the school building “for the purpose of instructing the youth,” so that the students “learn more clearly with their eyes what they comprehend less readily by their ears.”⁴ Julius Honorius, a fourth- or fifth-century teacher, stipulated that a map be attached to his treatise.⁵ Unlike the treatise, the map has not survived.

In the early Middle Ages, the classical curriculum of the seven liberal arts – another legacy from antiquity – continued to include geo/ethnographical material. Late antique and early medieval texts served as handbooks. For instance, ninth- and tenth-century teachers in the Carolingian empire used the late antique encyclopedia on the seven liberal arts by Martianus Capella, “On the Marriage of Philology and Mercury.” In this text, Book VI on geometry includes a long exposition of classical geographical ideas. In order to explain the text to their students, the teachers wrote commentaries in the margins and between the lines, and drew pictures and diagrams (Lozovsky 2000: 102–38). Schools used various texts, but geo/ethnographical material consistently formed a part of education throughout the Middle Ages (Gautier Dalché 1988: 95–107). Following the ideas of Augustine and other fathers of the church on Christian learning, medieval schools taught classical information in the framework of the seven liberal arts so that Christian students might learn about the earth and its peoples as part of the material world created by God. Medieval scholars believed that an understanding of the created, physical world would ultimately serve to bring them closer to understanding the Creator.

Geography and Contemplation

Maps and texts that contained information about the earth could also help Christians in a more direct way, as tools for contemplation and prayer. The image of the earth seen from above became the subject of meditation on the created nature of the material world and the vanity of worldly pursuits. This understanding developed in conjunction with texts that describe cosmic visions of the saints. In a tradition going back to classical antiquity, some medieval texts report that a saint saw the whole earth at once, embracing it with his mind and soul. This vision would enable him to contemplate the smallness, transience, and sinfulness of this world. Such accounts are based on the vision of St. Benedict, as described by Gregory the Great (590–604) in his *Dialogues*. One night, when St. Benedict was praying by the window, he saw light coming from above and dispelling the darkness. “A most miraculous thing followed during this contemplation, for, as he [St. Benedict] himself recounted, the whole world, as if collected under a sole ray of the sun, was brought before his eyes.”⁶

Some biblical commentators used this episode in order to explain the Third Temptation of Christ as described in the Gospel of Luke. According to the Gospel, the Devil takes Christ to the top of a mountain, shows him all the kingdoms of the world, and promises him their glory: “And the Devil took him up, and showed him all the kingdoms of the world in a moment of time . . .” (Luke 4:5).⁷ The question of how Christ could perceive the world at once, in a moment of time, worried medieval commentators. In an age before aerial photography, this required a miracle – or a map. Haimo of Auxerre, a Carolingian scholar active in 840–75, suggests that Christ, by his own will and power, not by those of the Devil, could see all the world in two ways: either embracing it at once in a supernatural manner, although by means of human vision, or seeing it on a map or globe, in the same way as some saints had seen it.⁸ The same idea is represented on two twelfth-century illustrations of this temptation scene. In a prayer book produced in Germany *c.* 1150 and in the ceiling panel at the church of St. Martin in Zillis (Switzerland), dated *c.* 1130, the Devil offers Christ a map as a symbol of the kingdoms of the world (Figure 19.2).⁹

Many maps that survive from the Middle Ages present the viewer with a picture of the world which combines spiritual and physical realities. In consequence, they served both contemplation and education. Such are the maps that accompany the *Christian Topography* by Cosmas Indicopleustes as well as Beatus of Liebana’s commentary on the Apocalypse, with their emphasis on representing the world according to the teachings of the Bible. Maps placed on the floor of churches, by virtue of their location and contents, also invited contemplation and meditation. The mosaic map from the church in Madaba (sixth century) represents the Holy Land in the early Byzantine period and quotes passages from the Bible corresponding to locations. With east at the top, it places a plan of Jerusalem with several important churches in the center. The map also contains plans of



Figure 19.2 Liber Precum, the Third Temptation of Christ: Devil offers Christ a world map as a symbol of the world. Bibliothèque Humaniste de Sélestat MS 104, fol. 130

several other cities. Like other medieval maps, this one was not drawn to scale and was not meant as a practical guide for travelers. Rather, this representation of the Holy Land and the surrounding areas, laid out on the floor of the church as it was, may have served as a symbol of the earthly space within the cosmic space symbolized by the entire church building.¹⁰ The mosaic world map on the floor of the church of S. Salvatore in Turin, brought to light during excavations in the cathedral of Turin in 1909, most likely dates from the twelfth century. It has a geometric design, with a large circle that is inscribed in a square and represents the Ocean, as well as circles in the space between the two, which represent islands such as Britain and Ireland. The Wheel of Fortune occupies the area inside the circle of the Ocean (Kitzinger 1973). Placed on the floor of the church, this mosaic map presented the world as an intricate and geometrically designed creation, and at the same time as the scene of vain pursuits. Thus it both educated the faithful and invited them to contemplate the transience of all earthly things.

Large and detailed *mappae mundi* (maps of the world), of which only the Hereford Map survives in its entirety, also combined information about the material world and spiritual truths. The Hereford Map was made *c.* 1300, most



Figure 19.3 The world map, Hereford Cathedral, *c.* 1300, England. The Hereford Mappa Mundi Trust

likely in England (Figure 19.3). At the top of the parchment, above the map itself, the figure of Christ in judgment presides over the world. Oriented with east at the top, the map shows the Garden of Eden with walls around it and Jerusalem at the center. Along with this biblical material, the map presents much information drawn from classical geo/ethnographical sources, such as Martianus Capella and Orosius. It shows a circular earth surrounded by the Ocean with islands in it, and it is based on the division of the earth into three continents. It also presents a gallery of monsters living at the edges of the world (for reproductions, see Edson 1999; Westrem 2001). Characteristically, scholars who studied the map in

the nineteenth century and the early 1900s formed a harsh view of it. W. Bevan and H. W. Phillott, who published their book in 1873, claimed that the map gives an impression of “inaccuracy, carelessness and ignorance,” and Charles R. Beazley in his book on the history of medieval geography called the map “monstrous” (quoted in Westrem 2001: xli). Since then, the Hereford map has found many more sympathetic students. Recent thorough investigation of its physical characteristics has revealed new details about the enormous labor and care invested in its making. Such costly and well-organized planning resulted in a map that was a veritable encyclopedia of medieval knowledge about the world. Produced on the best parchment, with the material carefully selected, organized, and presented, the map shows painstaking attention to details and spatial relationships. The makers of the map also paid particular attention to the topography of England, which is remarkably accurate (Westrem 2001: xviii and xxi).

An important discovery made by Patrick Gautier Dalché has recently enriched our understanding of the Hereford map and of medieval geography in general. He has found a text, *Expositio Mappe Mundi*, which describes a map of the world that is now lost. As described by this text, the map would have been very similar to the Hereford Map, so much so that the two probably go back to the same model. The text, as Gautier Dalché argues, was most likely composed during the late 1100s in Yorkshire by Roger of Howden, who was also the author of two works describing the journeys of the participants in the Third Crusade. This discovery demonstrates an exciting connection between *mappae mundi*, which are often considered as serving mainly theological purposes, and practical knowledge obtained from experience (Gautier Dalché 2005; Westrem 2001: xxxvii).

Classical Knowledge Made Relevant

Even though geo/ethnographical knowledge in its main outlines remained remarkably stable throughout the almost 1,000 years that comprise the medieval period, recent studies have demonstrated that medieval scholars always creatively adapted and changed traditional material according to their purposes. For instance, two ninth-century scholars who worked in the Carolingian period, Dicuil and the anonymous author of a geographical treatise *On the Location of the Earth (De situ orbis)*, built upon the classical tradition, but chose and reorganized the classical data in such a way as to shift the emphasis from the Mediterranean area, the focus of Roman geography, to the European regions closer to home. Dicuil meticulously compared the data of classical sources, and criticized some of them because they contradicted his own experience or the experience of other people. He also supplemented information drawn from books with travelers' reports about northern islands and the Nile river (Gautier Dalché 1983).

Explanatory notes in the margins of manuscripts testify to the efforts of medieval scholars to update classical information by filling in contemporary names for peoples and locations. A manuscript produced in the monastery of St. Gall in Switzerland in the ninth century and preserved in the Stiftsbibliothek there,

transmits the text of Orosius' *History Against the Pagans* and has glosses written in different hands, from the ninth to the eleventh century. In their updates, the St. Gall scholars mainly focused on the geography and ethnography of European regions lying close to their monastery, and their glosses added contemporary relevance to the classical picture. Thus in the geographical chapter the ninth-century hand supplied above the lines the current names for Moesia and Pannonia – Uulgaria (Bulgaria) and Ungria (Hungary) respectively – as well as informing the reader that Pannonia was the region where the Ungri (Hungarians) lived, and that Noricum was inhabited by the Baioarii (Bavarians). Throughout the ninth century, the Bulgars figured prominently in Frankish border conflicts, peaceful negotiations, diplomatic exchanges, and wars. An interest in the Hungarians also reflected the current situation. Hungarian raids, first recorded in Frankish sources in 862, were getting closer to St. Gall, and in 926 the Hungarians sacked the abbey itself.¹¹ Thus the commentators of the St. Gall codex provided relevant information on the two peoples, whose mere names should have evoked recognition or possibly even stronger feelings in the audience (Lozovsky 2006).

Classical knowledge itself could be relevant and serve practical purposes, as a letter written by a ninth-century scholar, Ratramnus of Corbie, demonstrates. Rimbart, a German missionary who worked in Scandinavia, had written to his friend Ratramnus to ask an important question. He wondered whether cynocephali, dog-headed men, who were often sighted in Scandinavia, were human or animal. If they were human and had souls, missionaries would have to include them in their work of conversion. Ratramnus responded saying that cynocephali could indeed be considered human: they lived by social laws, they cultivated fields, they wore clothes, and they even had domestic animals. As Ian Wood has pointed out in his recent analysis of this text, some modern anthropologists, such as Claude Lévi-Strauss, would find Ratramnus' emphasis on cultivation quite acceptable as a method of classification (Wood 2001: 214–15; also Friedman 2000: 188–90). But similarities with modern anthropology end when Ratramnus also points out that St. Christopher, a saint revered since late antiquity, was a cynocephalus, and that the cynocephali belong to the monstrous races created by God. Ratramnus goes on to discuss other wondrous and monstrous peoples. He mentions, for instance, the hyppopodes (people with the feet of a horse), giants, and the race of women in India who conceive when they are five years old and die when they are eight.¹² Ratramnus concludes that cynocephali, just like all these peoples, should be considered humans because they all possess a rational mind. In this he draws on St. Augustine. Thus in the spirit of the time, Ratramnus uses the teachings of the Church and the classical tradition in order to provide crucial information that could be used in missionary work.

Geographical Legacy and Imperial Ideology

Classical geo/ethnographical knowledge could become relevant not only for missionaries, but for politicians as well. Recent studies increasingly draw our

attention to interrelations between geography, royal power, and ideology in the Middle Ages (Bouloux 1993; Birkholz 2004). Roman “triumphal geography,” always celebrating Roman conquests, provided models for later generations. At the time when the Roman Empire was at the peak of its expansion, writers such as Strabo and Pliny the Elder proudly catalogued places and peoples that belonged to the sphere of Roman power or were just beyond it. Adding their voices to those of poets and historians, they celebrated the great Rome as an “empire without end” (*imperium sine fine*, Virgil *Aeneid* 1.278–9; Nicolet 1991). This mentality persisted even when the power of Rome not only stopped expanding, but was constantly challenged. Late antique texts produced in the fourth and fifth centuries go even further than earlier descriptions, and include places like India under the heading of “provinces” (Whittaker 1994: 14–16). Such texts were meant not only to inform the audience, but also to celebrate the extent of Roman conquests, a function they share with contemporary panegyrics. Late antique panegyrics include brief descriptions of regions or catalogs of peoples and places reduced to subjugation, thus repeating in a compressed form the rhetoric of contemporary geographical texts. In the same way, the school map that Eumenius describes in his public speech had as its ultimate purpose to demonstrate “the most noble accomplishments of the bravest Emperors through representations of separate regions.”¹³ By listing places that historically belonged to the Empire or were recently reconquered, the map reaffirmed traditional Roman ideas about conquest and domination of geographical space. It also glorified the emperors for once again expanding Roman territories. Thus both the map, which seems to have really existed, and its description by Eumenius were meant to serve as vehicles for imperial propaganda.

Roman geo/ethnography, steeped in imperial ideology, remained a powerful source of imperial models even after the Roman Empire in the West ceased to exist in a political sense. Medieval scholars diligently studied Roman geography and made use of the Roman ideas of power that it conveyed. Dicuil, the Carolingian scholar mentioned above, presented in his treatise a picture of the world that he essentially drew from Roman imperial geography. As Dicuil declared at the start, his treatise was based on the description of lands ordered by the emperor Theodosius. Dicuil also found in his source, and included in his treatise, a late antique poem about this enterprise. The poem glorified Theodosius as the great and wise ruler who had initiated the description of the world.¹⁴ Dicuil, who had dedicated his earlier work to the emperor Louis the Pious, may have used this glorification of Theodosius and his land-surveying enterprise as a subtly flattering allusion to the present emperor, and perhaps even as an example for him. This approach was in line with contemporary imperial rhetoric, because Louis’ legislation and frequent allusions by his court poets presented the Frankish emperor as the second Theodosius (Werner 1990: 59). In his geographical survey, Dicuil lists old Roman provinces, focusing however on the European regions lying to the north, closer to home (Gautier Dalché 1983). Combined with the praise of a Roman emperor, this rearranged list of Roman provinces sounds like a pointed reminder of Roman might directed at the new imperial people, the Franks.

Carolingian political mythology had long claimed that the Franks were descended from the Trojans, like the Romans, and that they had far outdistanced the Romans in their conquests. Poets who glorified Carolingian rulers used numerous geo/ethnographical references based on their shared knowledge of Roman triumphal geography and Roman imperial ideology. In the same way, Dicuil and others who wrote and copied geographical texts could contribute to the new imperial claim, namely that all the lands and nations once conquered by the Romans, and described by Roman geographers, were now the rightful legacy of the Franks. At the same time, Roman models of praise through geography, appropriated by Carolingian scholars, served to glorify and exhort the rulers and peoples of the new, Christian empire (Lozovsky 2006).

These geographical and imperial models remained relevant throughout the Middle Ages. From the twelfth century onwards, maps regularly appear in medieval literature as symbols of power (Bouloux 1993: 145–6). Around 1100, Baudri, abbot of Bourgueuil and later archbishop of Dol, wrote a long poem praising Adela, the countess of Blois. Adela belonged to a powerful royal family: she was a daughter of William the Conqueror and the wife of Stephen, the count of Blois; her son Stephen was later to become King of England. The poem describes the chamber of the countess, where the wall tapestries present scenes from ancient, biblical, and contemporary history, a celestial map decorates the ceiling, and on the floor there is a map of the world.¹⁵ Baudri, like other educated people of his day, was intimately familiar with classical models; he skillfully quoted, and alluded to, such Roman poets as Virgil, Lucan and Ovid (Ratkowitsch 1991: 25–107). Exploiting Roman imperial themes from the very beginning, Baudri praises the countess as a daughter of a great king – one who had conquered unconquerable Angles with his sword, had submitted Normans to his yoke by iron, and had surpassed emperors by his generosity. William the Conqueror, Baudri continues, had overpowered not only peoples but geography itself, and the entire earth trembles before his imperial power.¹⁶ In his praise, Baudri relies on triumphal images common to Roman poetry and Roman geography, among them the conquest of geographical space and of ferocious savages, whose role in the poem is played by the English (*gens effera*, Baudri 415).

As Baudri goes on to describe the tapestry – which is placed near the countess' bed and depicts the conquest of England – William gradually acquires a stature of an epic hero equal to Virgil's Aeneas. Baudri echoes the poets and writers of the previous generation, claiming that William exceeded Julius Caesar himself in his achievements (Van Houts 1989). Whereas Caesar conquered Britain when supported by the might of the Roman Empire, William did the same by relying only on the strength of his mind and body. William's rise to power will soon be crowned by imperial honor. In fact, he is greater than all dukes and Caesars (Baudri 241 and 555).

While casting Adela's father as the new emperor, Baudri also celebrates the countess' exercise of authority in her own right. In the poem, Adela's room symbolizes the world, and it is Adela herself who gives orders to decorate the room,



Figure 19.4 Martiane Capella, *De nuptiis Philologiae et Mercurii: Geometry*. Firenze, Biblioteca Medicea Laurenziana, S. Marco 190, fol. 68v. By permission of Ministero per I Beni e le Attività Culturali

that is, to put the representations of the world in order. Adela, who is depicted with a ruler in her hand, is reminiscent of Geometry, one of the liberal arts described thus in Martiane Capella's encyclopedia and illustrated in some illuminated manuscript copies of it (Figure 19.4). Baudri draws on Martiane Capella in those sections of his poem that describe the map and the liberal arts.¹⁷ At the same time, Adela evokes the memory of Roman emperors, such as Theodosius or Augustus,

who were praised for measuring and organizing space. Given the strong imperial connotations of the poem, it stands to reason that the *mappa mundi* on the floor of Adela's chamber serves not merely as a symbol of earthly vanity or the wealth of human learning (as in Woodward 1987: 339; Kupfer 1994: 277). In all likelihood Baudri and his learned audience would also see it as a vehicle of imperial praise.¹⁸ In describing the map, Baudri relies on Roman knowledge about the world, borrowed mainly from Martianus Capella.

The description of the map is a geographical treatise within the poem, similar to Roman geographical writings that were used in medieval education and could inspire imperial ideology. The description of the map itself, a traditional account of the tripartite world, contains no obvious imperial allusions, but its focus of attention, as in earlier Carolingian writings, is shifted toward the part of Europe lying to the north of Italy. This shift, together with the fact that Adela herself had commissioned the map – to be placed, moreover, on the floor under her feet – indeed suggests that Baudri used the map as a symbol of power.¹⁹ Adela's father, William the Conqueror, appeared earlier in the poem as the second Julius Caesar and the second Aeneas, who was destined to build an empire more powerful than all older empires. The glorification of Rome in Virgil's *Aeneid*, and particularly the promise of “an empire without end,” create a “prerequisite” to understanding Baudri's poem and its perception by his audience. Baudri surely counted on the shared knowledge of imperial poetry and imperial geography that would lend subtly deeper meaning to his praise of Adela and her family.

By the time Baudri wrote his poem, Roman geo/ethnographical models, both visual and textual, had already become rhetorical tools. From antiquity to the Middle Ages and beyond, scholars and rulers used them in order to celebrate imperial power and to reinforce political and ideological messages. Imperial pretensions of many European rulers in the Middle Ages and in later times always created a fertile ground for the reception of ideas and materials that would justify the *translatio imperii*, the transfer of imperial power and dignity from Rome to a particular place and a particular emperor or king (Folz 1969). The Roman geo/ethnographical legacy provided strong support for this complex of imperial ideas.

Conclusion

Medieval geo/ethnographical studies were a part of medieval culture and they developed in response to contemporary concerns, providing spiritual guidance and practical information. Medieval uses of maps and texts do not always overlap with what we expect of their modern counterparts. In encountering a medieval map today, it is hard to come to terms with the fact that it was not generally expected to provide specific travel directions. It need not follow that maps or practical knowledge of places in the Middle Ages were in some way deficient, as the old story implies. Rather, there is a difference between medieval and modern perceptions

of maps and their functions and, in broader terms, of geo/ethnography. One early medieval text nicely illustrates this difference. The “Life of St. Columbanus,” written by Jonas in the seventh century, relates that St. Columbanus (d. 615) – an Irish monk who established a number of monasteries in Italy and France – found sites for them by personal exploration (*experimento*).²⁰ When Columbanus decided to travel to the lands of the Slavs to preach the word of God, an angel appeared to him in a dream and showed him the map of the world, from which the saint understood that the people of that region were not yet ready for conversion.²¹ Even though it is hard to understand from this rather brief account what kind of map the author had in mind, it was most probably a circular world map, similar to the early medieval maps known from manuscript evidence (for examples see Edson 1999: 4, 15, 19). Like those maps, the depiction of the earth that the angel showed to Columbanus was not meant to provide road directions for his explorations. Instead, it seems to have served as a sign of the spiritual purpose and nature of the journey, which was to gain more souls for the service of God. Even coexisting within one text, maps and exploratory travels do not seem to be connected.

The extent to which perceptions and descriptions of space changed over time has become crucial in recent debates among historians who study not only the Middle Ages but also other cultures, such as ancient Rome and China (Talbert 1990; Brodersen 1995; Dorofeeva-Lichtmann 1995). Medieval geo/ethnography is very important to these debates, above all because it inherited Greco-Roman texts and, as some scholars think, maps. Thus the understanding of how geo/ethnographical studies contributed to wide ranging goals – from the salvation of the soul to the justification of imperial power – also helps us to understand how geography interacted with society in other times and places.

Notes

- 1 “T-O Map” at <http://geography.about.com/library/weekly/aa082597.htm>
- 2 See, for instance, the presentation of the Ebstorf Map at <http://kulturinformatik.uni-lueneburg.de/projekte/ebskart/content/start.html>, and the web site of the Ancient World Mapping Center at <http://www.unc.edu/awmc/>
- 3 On the role of Augustine’s ideas in the development of geographical knowledge, see Lozovsky 2000: 10–14, with bibliography.
- 4 Eumenius 20.2: . . . *instruendae pueritiae causa, quo manifestius oculis discernentur quae difficilius percipiuntur auditu*. On Eumenius, see also Talbert, this vol, pp. 255–9.
- 5 Julius Honorius 50: *Et ut haec ratio ad compendia ista deducta in nullum errorem cadat, sicut a magistro dictum est, hic liber excerptorum ab sphaera ne separetur*. (“And in order that the account compiled here should have no errors, as the master has said, this book of excerpts should not be separated from the map.”)
- 6 Gregory the Great 2.35.3: *Mira autem ualde res in hac speculatione secuta est, quia, sicut post ipse narrauit, omnis etiam mundus, uelut sub uno solis radio collectus, ante oculos eius adductus est*.

- 7 The commentaries on this episode are briefly mentioned in Smalley 1969: 211 and discussed in Lozovsky 2000: 36–46.
- 8 Haimo, *Homiliae de tempore*, PL 118, 199 D: *Sed qui omnia creavit per Divinitatem, ipse omnia, juxta quod voluit, simul vidit per humanitatem: sive totum, ita ut est, sive in sphaeram collectum . . . Nec mirum, si Dominus sic totum mundum prospicere potuit, qui etiam quibusdam sanctis hoc in munere praestitit, ut eum in sphaeram collectum videre possent.* (“But he who created everything through divinity, by his will saw everything simultaneously through humanity: either the whole [world], as it is, or collected on a globe [or map]. And no wonder that if the Lord could see the whole world, he also granted it to some saints that they might see it [as if] collected on a map.”) For the term *sphaera* meaning “map,” see Gautier Dalché 1988: 89; for the pioneering analysis of medieval cosmic visions and maps that could function as visual tools for meditation, see Gautier Dalché 1994: 753–7.
- 9 Hamburger 1991: 217–18 and figs. 12 and 14; the image from Zillis can be found at <http://www.art-club-jesus.com/catalog.htm>
- 10 Dilke 1987: 265; <http://www.christusrex.org/www1/ofm/mad/>
- 11 St. Gall, Stiftsbibliothek 621, p. 41A (Orosius *Hist.* I.2.55) *MOESIA quae nunc uulgaria; PANNONIA quae nunc ungria*; p. 41 B (Orosius *Hist.* I.2.60): *PANNONIA in qua ungrii NORICUS in qua baiuarii RHETIA in qua alemanni et rheti curiales.* For a discussion of this manuscript, with bibliography, see Lozovsky 2006. see new Eisenhut 2009 for a critical electronic edition of the glosses from this codex (<http://orosius.monumenta.ch/index.php>) and an extensive study of the Orosius gloss tradition (excerpts available on the same website).
- 12 Ratramnus 12: p. 156: *Yppopodes, qui humanam formam pedibus miscent equinis; Macrobbii, humanam staturam pene duplo superantes, gensque feminarum in India V. anno concipiens et octavum vitae annum non excedens, et alia complura fereque incredibilia.*
- 13 Eumenius 21.1: *Ibi fortissimorum imperatorum pulcherrimae res gestae diuersa regionum argumenta recolantur, dum calentibus semperque uenientibus uictoriarum nuntiis reuisuntur gemina Persidos flumina et Lybiae arua sitientia et conuexa Rheni cornua et Nili ora multifida. . . .*
- 14 Dicuil 5.4: . . . *totus quem uix capit orbis, / Theodosius princeps. . . / Sed tamen hoc tua nos docuit sapientia, princeps.*
- 15 Baudri 723: *Quippe pavementum mundi fuit altera mappa . . .*
- 16 Baudri 8–18: *Haec [Adela] est illius, si nescis, filia regis / Anglos indomitos qui domuit gladio, / qui sibi Normannos tollentes iura paterna / percutit ense fero subposuitque iugo. / Iste procellosas pro littore duxit abyssos / et quasi conduxit littora littoribus. / Iste, licet sumptus superauerit imperiales . . . / Denique tantus erat ut solus fecerit orbem / numen ad imperii subtrepidare sui.*
- 17 Baudri 103–4: *Astiterat dictans operantibus ipsa puellis / signaratque suo quid facerent radio.* (“The countess herself gave orders to the girls who performed the work and indicated with her ruler what they should do.”) Martianus Capella 6.580: *prospicio quandam feminam luculentam radium dextera, altera sphaeram solidam gesticulantem.* (“I see a distinguished-looking woman holding a ruler in her right hand and a solid globe in her left.” Trans. Stahl, with my modifications.) An illustration to Martianus’ book in an eleventh-century manuscript from France, Florence Biblioteca Laurenziana MS San Marco 190, fol. 68v, shows a personification of Geometry holding a ruler in her hand.

- 18 Gautier Dalché and Tilliette 1986: 243, n. 4 suggest that the chamber in Baudri's poem is meant to symbolize the knowledge of the countess and her power as the ruler of the world.
- 19 This point does not rule out the possibility that the map really existed. Recently Benjamin Kedar has offered an interesting hypothesis concerning Adela's map; I thank him for allowing me to see this valuable work before publication (Kedar 2006).
- 20 Jonas, *Vita Columbani*, MGH SRG 37, 10: *alium experimento locum querit, quem aquarum inriguitas adornabat, aliumque monasterium construit*. Ibid. 27: *experimento quaereret locum, qui sibi et suis placuisset* . . .
- 21 Jonas 56: *Angelus Domini per visum apparuit, parvoque ambitu, velut paginali solent stilo orbis describere circulum, mundi compagem monstravit*. 'Cernis', inquit, 'quod maneat totus orbis desertus. Perge dextra leuaque, qua eligis, ut labores tui fructus comedas'. Intellexit ergo ille, non esse gentis illius in promptu fide profectus, quieuitque in loco. ("The angel of the Lord appeared to him in a vision, and showed him in a little circle the structure of the world, just as the circle of the universe is usually drawn with a pen in a book. 'You perceive,' the angel said, 'how deserted the whole world still is. Go to the right or the left where you will, that you may enjoy the fruits of your labors.' Therefore he understood that this people was not ready to receive conversion and he remained where he was." Trans. Peters, with my modifications.) On this account as one of the two earliest medieval descriptions of maps, see Gautier Dalché 1994: 697–8.

References

Abbreviations

- MGH Epist. *Monumenta Germaniae historica. Epistolae*.
 MGH SRG *Monumenta Germaniae historica. Scriptores rerum Germanicarum*
 PL *Patrologiae cursus completus. Series Latina*. Ed. J.-P. Migne.

Primary sources

- Baudry of Bourgueil. *Adelae Comitissae*. In Jean-Yves Tilliette (ed.), *Baudry de Bourgueil, Poèmes*, II: 2–43. Paris, 2002.
- Dicuil. *Dicuili liber de mensura orbis terrae*, ed. J. J. Tierney and Ludwig Bieler. Dublin, 1967.
- Eumenius. *Eumenii pro Instaurandis Scholis*. In *In Praise of Later Roman Emperors: The Panegyrici Latini*. Text ed. by R. A. B. Mynors, trans. C. E. V. Nixon and B. S. Rodgers. Berkeley, 1994.
- Gregory the Great. *Dialogues*. Ed. Adalbert de Vogüé. Paris, 1979.
- Jonas. *Vita Columbani*. MGH SRG 37. Trans. in Edward Peters (ed.), *Monks, Bishops and Pagans: Christian Culture in Gaul and Italy, 500–700. Sources in Translation*, 75–114. Philadelphia, 1975.
- Julius Honorius. *Excerpta eius sphaerae vel continentia*. In A. Riese (ed.), *Geographi latini minores*, 24–53. Heilbronn, 1878.
- Martianus Capella. *De nuptiis Philologiae et Mercurii*. Ed. J. Willis. Leipzig, 1983. Trans. William H. Stahl, Richard Johnson, and E. L. Burge, in *Martianus Capella and the Seven Liberal Arts*, II. New York, 1977.
- Ratramnus of Corbie. *Ratramni Corbeiensis epistolae*. MGH Epist. 6, 12.

Literature

- Beazley, Charles R. 1897. *The Dawn of Modern Geography: A History of Exploration and Geographical Science, I: From the Conversion of the Roman Empire to AD 900, with an Account of the Achievements and Writings of the Christian, Arab, and Chinese Travellers and Students*. London.
- Birkholz, Daniel. 2004. *The King's Two Maps: Cartography and Culture in Thirteenth-Century England*. New York.
- Bouloux, Nathalie. 1993. "Les usages de la géographie à la cour des Plantagenêts dans la seconde moitié du XII^e siècle." *Médiévales* 24: 131–48.
- Brincken, Anna-Dorothee von den. 1968. "Mappa mundi und Chronographia." *Deutsches Archiv für Erforschung des Mittelalters* 24: 118–86.
- Brodersen, Kai. 1995. *Terra Cognita. Studien zur römischen Raumerfassung*. Hildesheim.
- Dilke, O. A. W. 1987. "Cartography in the Byzantine Empire." In J. B. Harley and D. Woodward (eds.), *The History of Cartography, I: Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean* 1, 258–75. Chicago.
- Dorofeeva-Lichtmann, Vera V. 1995. "Conception of Terrestrial Organization in the *Shan hai jing*." *Bulletin de l'École Française de l'Extrême-Orient* 82: 57–110.
- Edson, Evelyn. 1999. *Mapping Time and Space: How Medieval Mapmakers Viewed Their World*. Corr. edn. London.
- Eisenhut, Heidi. 2009. Die Glossen Ekkeharts iv. von St. Gallen im Codex Sangallensis 621 Monasterium Sancti Galli 4, St. Gall.
- Folz, Robert. 1969. *The Concept of Empire in Western Europe from the Fifth to the Fourteenth Century*. Trans. Sheila Ann Ogilvie. London.
- Friedman, John Block. 2000. *The Monstrous Races in Mediaeval Art and Thought*. Syracuse, NY.
- Gautier Dalché, Patrick. 1983. "Tradition et renouvellement dans la représentation d'espace géographique au IX^e siècle." *Studi Medievali* 3d ser. 24: 121–65.
- Gautier Dalché, Patrick. 1988. *La "Descriptio mappe mundi" de Hugues de Saint-Victor. Texte inédit avec introduction et commentaire*. Paris.
- Gautier Dalché, Patrick. 1994. "De la glose à la contemplation. Place et fonction de la carte dans les manuscrits du haut Moyen Age." In *Testo e immagine nell'alto medioevo* II: 693–764. Spoleto.
- Gautier Dalché, Patrick. 2005. *Du Yorkshire à l'Inde. Une géographie urbaine et maritime de la fin du XII^e siècle (Roger de Howden?)*. Geneva.
- Gautier Dalché, Patrick, and Jean-Yves Tilliette. 1986. "Un nouveau document sur la tradition du poème de Baudri de Bourgueil à la comtesse Adèle." *Bibliothèque de l'École des Chartes* 144.2: 241–57.
- Hamburger, Jeffrey E. 1991. "A *Liber Precum* in Sélestat and the Development of the Illustrated Prayer Book in Germany." *The Art Bulletin* 73(2): 209–36.
- Harley, J. B., and D. Woodward (eds.). 1987. *The History of Cartography, I: Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean*. Chicago.
- Kedar, Benjamin Z. 2006. "Some Reflections on Maps, Crusading and Logistics." In John H. Pryor (ed.), *Logistics of Warfare in the Age of the Crusades*, 159–84. Aldershot.
- Kitzinger, Ernst. 1973. "World Map and Fortune's Wheel: A Medieval Mosaic Floor in Turin." *Proceedings of the American Philosophical Society* 117: 344–73.
- Kupfer, Marcia. 1994. "Medieval World Maps: Embedded Images, Interpretive Frames." *Word and Image* 10(3): 262–89.
- Lozovsky, Natalia. 2000. "*The Earth Is Our Book*": *Geographical Knowledge in the Latin West ca. 400–1000*. Ann Arbor.

- Lozovsky, Natalia. 2006. "Roman Geography and Ethnography in the Carolingian Empire." *Speculum* 81(2): 325–64.
- Martin, Geoffrey J., and Preston E. James. 1993. *All Possible Worlds*, 3rd edn. New York.
- Nicolet, Claude. 1991. *Space, Geography, and Politics in the Early Roman Empire*. Ann Arbor.
- Ratkowitsch, Christine. 1991. *Descriptio picturae. Die literarische Funktion der Beschreibung von Kunstwerken in der lateinischen Großdichtung des 12. Jahrhunderts*. Vienna.
- Russell, Jeffrey Burton. 1991. *Inventing the Flat Earth: Columbus and Modern Historians*. New York.
- Scafi, Alessandro. 2006. *Mapping Paradise: A History of Heaven on Earth*. Chicago.
- Smalley, Beryl. 1969. "The Bible in Medieval Schools." In G. W. H. Lampe (ed.), *The Cambridge History of the Bible, II: The West from the Fathers to the Reformation, 197–220*. Cambridge.
- Talbert, R. J. A. 1990. "Rome's Empire and Beyond: The Spatial Aspect." In E. Hermon (ed.), *Gouvernants et Gouvernés dans l'Imperium Romanum (III^e s. av. J.-C. - I^{er} s. ap. J.-C.)*, 215–23. Montréal.
- Van Houts, Elisabeth M. C. 1989. "Latin Poetry and the Anglo-Norman Court 1066–1135: The *Carmen de Hastingae Proelio*." *Journal of Medieval History* 15: 39–62.
- Werner, K. F. 1990. "*Hludovicus Augustus*: Gouverner l'empire chrétien – Idées et réalités." In P. Godman and R. Collins (eds.), *Charlemagne's Heir: New Perspectives on the Reign of Louis the Pious (814–840)*, 3–123. Oxford.
- Westrem, Scott D. 2001. *The Hereford Map*. Turnhout.
- Whittaker, C. R. 1994. *Frontiers of the Roman Empire. A Social and Economic Study*. Baltimore.
- Wood, Ian. 2001. "Missionaries and the Christian Frontier." In W. Pohl, I. Wood, and H. Reimitz (eds.), *The Transformation of Frontiers: From Late Antiquity to the Carolingians*, 209–18. Leiden.
- Woodward, David. 1987. "Medieval Mappaemundi." In J. B. Harley and D. Woodward (eds.), *The History of Cartography, I: Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean I*, 285–370. Chicago.

Europeans Plot the Wider World, 1500–1750

DAVID BUISSERET

Ptolemy's Known World and Knowledge of the Globe

For many centuries after the decline of the Roman Empire there were no accounts of European expansion. But as soon as a new stirring was felt, Europeans understood that their overseas ventures needed to be accompanied both by maps – to show the way out and back – and often by other kinds of images which could amplify written accounts of lands unknown to their contemporaries. Thus when the French king Louis IX (Saint Louis) was bound from Aigues-Mortes to Tunis on a crusade in 1270, he was shown a chart in order to reassure him about his position.¹ In 1485, when the author of the *Gart der Gesundheit*, a German herbal, went to the Holy Land in search of plants, he took with him “a painter of understanding and with a subtle and practiced hand” to paint and draw the herbs “in their true colors and form” (Schoeffer 1485). By then, too, both Italian and Dutch painters had shown that they could faithfully reproduce many aspects of the natural world; in England, it was from the school of “limners,” or miniaturists, that this skill emerged (see recently Sloan 2007).

Also by the late fifteenth century, the influence of Ptolemy's ideas had begun to penetrate learned circles in western Europe, as manuscript copies of his *Geography*, in circulation since 1407, were joined 70 years later by printed editions (Gautier Dalché 2007). Writing in the second century AD, Ptolemy had thrown over the whole world (*orbis terrarum*) a mathematical grid of latitude and longitude which could give a precise number for any terrestrial location. Even better, he well understood the relatively small area on this sphere occupied by the known world (*oikoumenē*; see also Dueck, Talbert, this vol.). Ptolemy's concept of the world was set out neatly in a map printed in the *Theatrum Orbis Terrarum* of Abraham Ortelius (see Figure 20.1).

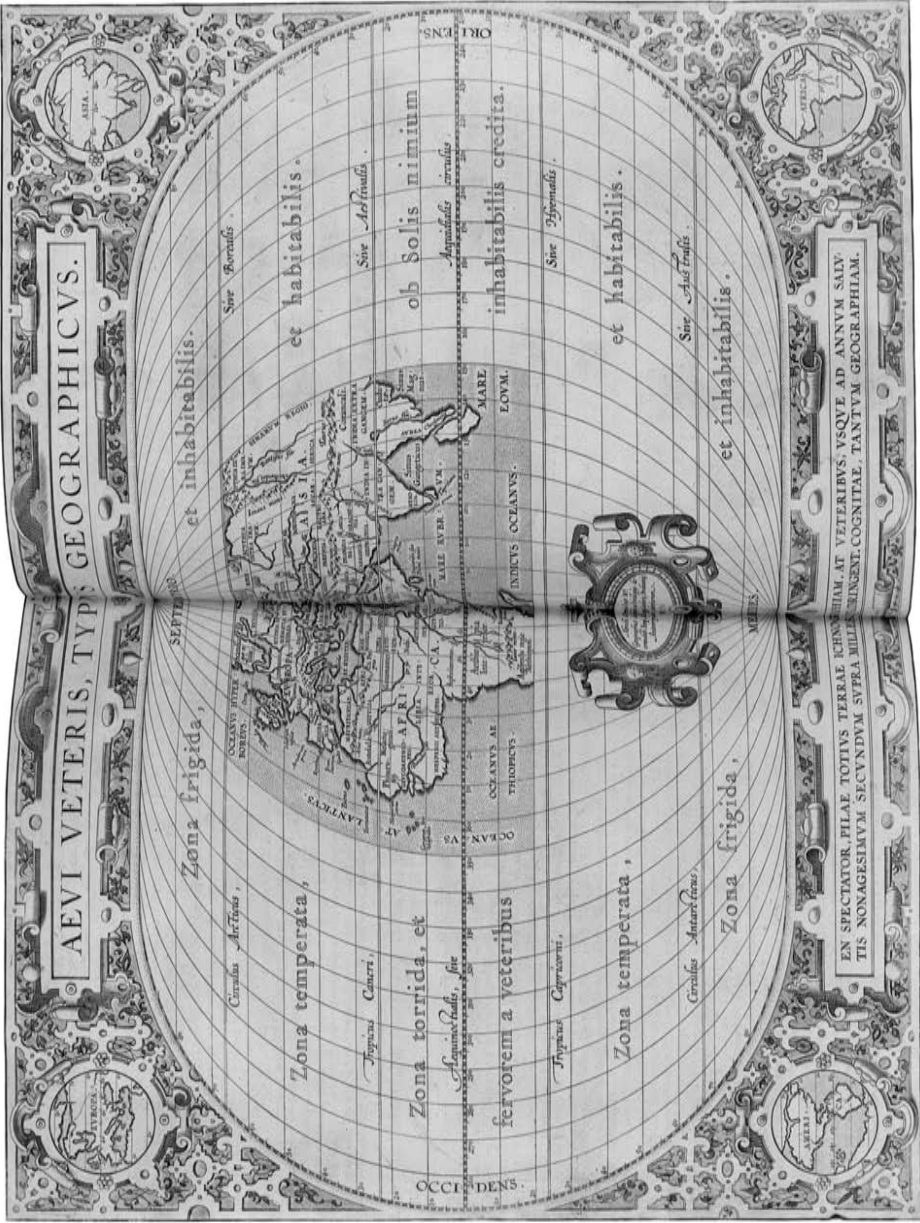


Figure 20.1 The known world as envisaged by Ptolemy on the globe, from Abraham Ortelius, *Theatrum Orbis Terrarum* (1606 edition). In this part of his great atlas, Ortelius offered examples of ancient cartography, and here shows very strikingly how Ptolemy could envisage his “known world” as only part of the much greater globe. Courtesy of the John Carter Brown Library at Brown University



Figure 20.2 Map of the Mediterranean from Visconte Maggiolo [Portolan Atlas, ms.], Naples 1511. Portolan charts are noteworthy not only for the accuracy with which they consistently portray the Mediterranean, but also for the absence of any mathematical coordinates at their edges. Courtesy of the John Carter Brown Library at Brown University

Ptolemy's mathematical coordinates – his *Geography* was essentially a long list of such coordinates – allowed a mapmaker to plot on paper the position of many places on the earth. But they did not permit, for example, the delineation of shorelines or mountain-ranges. However, shorelines in the Mediterranean had been plotted from the end of the twelfth century by portolan charts, perhaps like the one shown to Saint Louis on his perilous voyage (see Figure 20.2).² These charts were strong where the Ptolemaic vision was weak, and *vice versa*. For all their lack of any mathematical basis, portolan charts did offer accurate coastal outlines, at first of the Mediterranean and eventually of other European coasts. Ptolemaic maps by contrast could not offer convincing images of natural features, but they were able to relate such features to the globe as a whole.

The Combination of the Ptolemaic and the Portolan Chart Traditions

When the combination of these two map-types occurred towards the middle of the fifteenth century, it gave rise to a cartographic form of entirely unprecedented potential. Now maps could not only show the topography at a large scale, but they could also relate this information mathematically to the globe as a whole (Woodward 1987; Gautier Dalché 2007: 315–17). The best-known mapmakers concerned with this fusion were Giovanni Leardo (fl. 1450) and Fra Mauro (c. 1400–60), both of Venice. The dual characteristics of their work now made it possible for Europeans to chart the wider world into which they were progressively venturing. For instance, when the Portuguese produced charts in the course of their steady progress down the west coast of Africa in the fifteenth century, they used a combination of the portolan chart and Ptolemaic traditions, which allowed them to set out in quite precise cartographic form the progress of their explorations. Most of their charts were lost in the Lisbon earthquake of 1755, but those which survive clearly show the application of the two styles to the new-found territories.³ Cartographers could now not only delineate long stretches of coast at a large scale, but they could also understand how the lands encountered in these expeditions fitted into the globe as a whole.

The Cartographic Skills of the Columbus Brothers

When the Columbus brothers were discussing the voyage eventually made by Christopher in 1492, they seem to have constructed a portolan chart which contained at its western end, most unusually, an image of the globe. This unique portolan chart, improbably acquired by the Bibliothèque nationale de France in 1924, seems to set out the Columbine idea of the world in 1492.⁴ To the portolan chart Christopher also added a profound knowledge of the work of Ptolemy, as we know from his papers preserved in the *Bibliotheca Colombiana* at Seville. It was indeed Ptolemy's mistaken idea of the proximity of Asia to Spain that

encouraged the great navigator to set out on what – without the happy existence of the Americas – would have been a disastrously long journey.

Iberian Cartographic Knowledge and German Printers

From the beginning of the sixteenth century it was becoming clear that Christopher Columbus had found not Asia (as he always thought), but a new continent. This new world then began to appear with increasing complexity and extent on the charts compiled by Portuguese and Spanish cartographers active in the royal navigation-schools established at Lisbon and Seville (Harley and Woodward 2007: 975–1068, 1095–142). The spread of these precocious world-maps was limited to some degree by a frequently breached policy of secrecy, and because of their essential fragility they have not survived in great numbers. But enough were sent to princely courts where they were carefully preserved – the Vatican, for example, and those of some German princes – for us to have a good idea of their nature.⁵

These world-maps were constructed by the Iberian cartographers following strict procedures, according to which returning sea-captains were obliged to report on the characteristics of the lands they had encountered. We can thus see knowledge of the world steadily expanding in a systematic way. But these charts remained manuscript, because at the time the Iberian peninsula did not have printing-presses capable of making the large and complex images required. This could only be done in Italy and particularly in Germany, where the cartographic results of Iberian expansion first appeared in printed form. At first such maps were tentative, showing Japan, for instance, floating conveniently not far to the west of Cuba. But after Magellan's circumnavigation of the globe in 1519–22, the huge extent of the Pacific became clear and was soon reflected on printed charts.

Portuguese Chartmakers and the Dieppe School

This new vision of the world also appears on the great corpus of 30 or so surviving manuscript charts produced by those French cartographers who flourished between about 1540 and 1570, and who have generally been known as the "Dieppe School." They were above all influenced by the Portuguese, with whom they had longstanding contacts in Brazil, a country where the French sought dye-wood for their textile industry. The Portuguese had taken "painters" with them to Brazil as early as the 1520s, and these men came back with images which long formed part of the imagery of South America, including in particular feathered Tupinamba people and iconic creatures like the red macaw.

The French took over this wonderful tradition of image-making, extending it to the whole known world. In the maps of the Dieppe School we see the earliest European settlers of the Saint Lawrence River, with accompanying "Indians"

and exotic animals, not all of whom were real. We also see the hutted communities of West Africa, and even the longhuts of the Indonesian islands. Much of this imagery has been criticized by literal-minded archaeologists, but it is undeniable that the Dieppe School image-makers caught many societies in the infancy of their contact with Europeans. Some of the images, like Jean Rotz's version of the North American tepee, were the first of their kind.⁶

The Spanish Use of Cartography in Imperial Administration

Spanish mapping is less well provided with such images, but Spain's monarchs, particularly in the time of Philip II (1559–98), were keenly aware of the need to bring their huge and hastily-acquired empire under cartographic control. The work of the Seville cartographers began losing its edge in the 1560s, when Philip II was developing the idea that he needed to commission a census of his empire that would include both texts and maps. In 1571, therefore, he requested that its various administrative divisions should send him not only textual accounts of their geographical boundaries and resources, but also maps, or *pinturas*, which would supplement the texts.⁷ One of Philip's aims in this request was to generate information which would allow his cosmographer, Alonso de Santa Cruz, to draw up a full and detailed map of the whole empire. This map would of course include those internal regions that had not been fully covered by the essentially navigational maps of the Seville School.

In this hope Philip was disappointed, because although about 200 *pinturas* were submitted, they adopted such a wide variety of styles that they defied coherent use. A few had been drawn in the contemporary European style, but most conformed to the cartographic norms of such peoples as the Aztec and the Maya (see Mundy, this vol.). These images are often very revealing about the area that they depict, showing for instance a Spanish convoy coming through the valley of Mexico, harassed by native archers from the hills; even so, they have proved more useful to historians than they were to Philip's cartographers. At least what the latter did provide, in 1575, was a remarkable set of maps of the Spanish empire, with a key master-map and 12 subsidiary maps. These 12 are not detailed, as they could have been if the *pinturas* had been fully readable by the Spaniards; but altogether they testify to a remarkable degree of cartographic sophistication (Figure 20.3). No other European power had the skill needed to produce a master-map of its world possessions, and then to accompany this with a further set of maps on which these possessions are shown at a larger scale.

The Emergence of the Thames School

At this time it was unimaginable that the English, for instance, could have produced anything similar to the maps of the Spanish empire. Throughout the

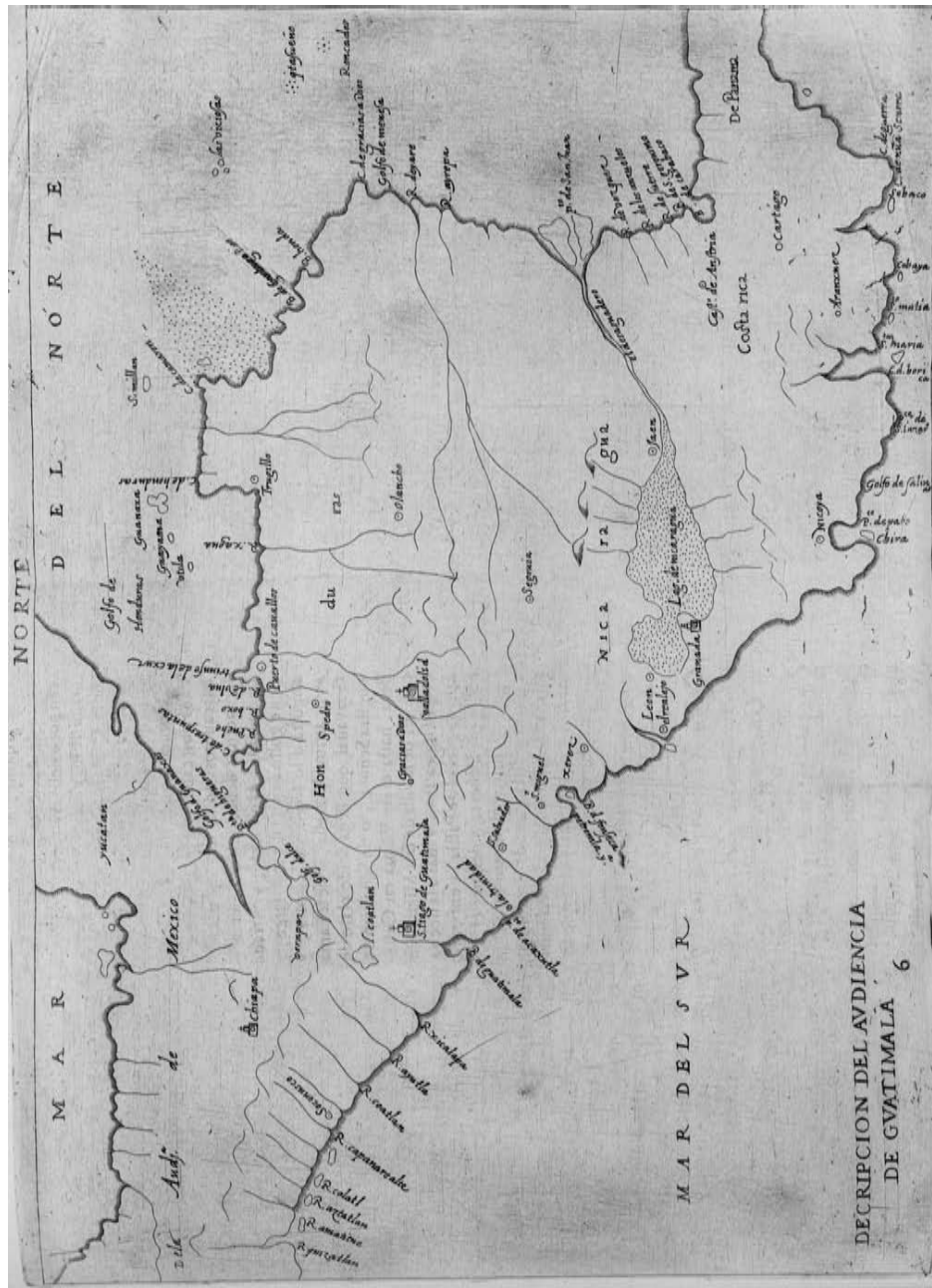


Figure 20.3 Lopez de Velasco, map from Antonio de Herrera, *Décadas* (1601). The John Carter Brown Library contains the original manuscript maps of 1575 by Lopez de Velasco, printed and disseminated by Herrera in his very popular publication. This is one of the 12 detailed maps which together give an unrivalled image of the Spanish empire. Courtesy of the John Carter Brown Library at Brown University

sixteenth century, they watched the cartographic policies of the Iberians with exasperated jealousy, because they lacked anything to match the centralized control exercised by the Spaniards and Portuguese. Only towards the end of the century did they begin to rival them. Then a group of chartmakers known as the “Thames School” began producing manuscript maps which owe a good deal to the portolan chart tradition, but cover a much larger part of the world, roughly following the process of English commercial expansion (Tyacke 2007). Sometimes they copied captured Spanish material, and sometimes they covered in detail new possessions like the island of Jamaica in the Caribbean.⁸ Altogether these maps (about 400 survive) were produced in an entirely different way from the charts of Lisbon and Seville. They owed nothing to any centralizing government, and were at first relatively incoherent in their coverage. Eventually, however, they did cover many different parts of the world as they catered to the needs of an ever-expanding English commerce.

Some Final Examples of the Artist/Cartographers

As time went by, the early alliance between artists and cartographers broke down. But there was one striking example of it in the 1580s. At that date, two artist/cartographers visited the colonies that the English and the French were trying to establish in the Carolinas. John White produced maps and images of the area settled for a while by the English, and Jacques Lemoyne de Morgues similarly drew up maps and illustrations of the area briefly settled by the French (Hulton 1977).

White and Morgues were both accomplished artists, who also knew how to produce quite informative maps. To compare their work is to understand the limitations of the idea that European writers and artists “invented” America. It is true that the work of both men was informed to some degree by pre-existing images. At the same time their representations of the natural products and indigenous peoples of the Carolinas make it undeniably clear that both are groping towards the same reality. The history of the White and Morgues watercolors, before they were incorporated into many of the engravings published by Theodor de Bry, is very complex. Once these images were published, however, the work of White and Morgues soon reached a very wide European audience in de Bry’s successive editions (Sloan 2007).

Towards the end of the sixteenth century, there occurred a further example of the artist/cartographer which merits attention. Samuel de Champlain, who had trained in France as a cartographer with the lodgings-marshal, made a voyage to the West Indies at that time. He came back with some remarkable images, now preserved at the John Carter Brown Library. Sometimes he was reflecting much the same practices as White and Morgues. Although Champlain was by no means as consummate an artist as they were, it is clear that he was trying to form images of more or less the same features of the New World (see Figure 20.4).⁹



Figure 20.4 Samuel de Champlain, image of an Amerindian and a palm tree, from his manuscript concerning his travels in the West Indies, conserved at the John Carter Brown Library. Courtesy of the John Carter Brown Library at Brown University

The Advent of the Printed Marine Atlas

Meanwhile the work of the Thames School had taken a different turn from that of the earlier schools of Lisbon, Seville, and Dieppe. Some of the English chart-makers began to see that they could profit significantly by incorporating their manuscript material into printed atlases, which they published from the 1650s onwards. This idea of a set of printed charts went back to the publication of the Dutch *Mariner's Mirror* in 1585. This *Mariner's Mirror* was relatively crude, with very simple maps of the sea and “landfalls” designed to show the mariner how the land-horizon appeared from different points out at sea (see Figure 20.5). As time went by, these sets of charts covered more and more of the world's oceans, generally with increasing accuracy. Dutch atlases were copied by the French, and French atlases by the Spaniards, so that there was a general, if involuntary, interchange of information. By the mid-eighteenth century, European ships of any size carried sets of charts which allowed them to navigate with relative safety in most parts of the world; this was surely an important element in the apparently inevitable expansion of Europe.

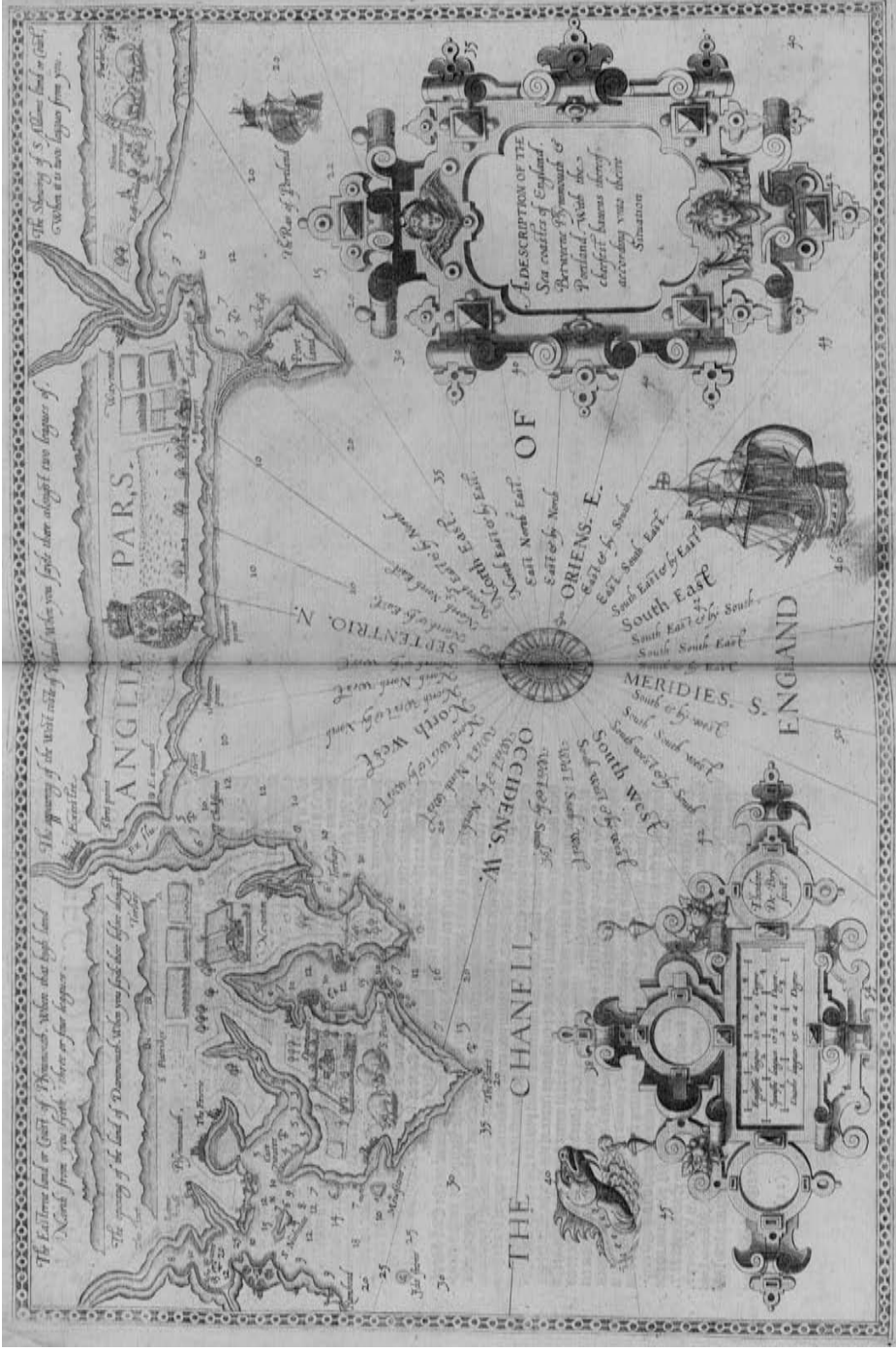


Figure 20.5 Lucas Waghenaeer, chart from his *Spiegel der Zeevaert* (1585). This chart shows part of the south coast of England, from “Plymouth” at the left to “Portland [Bright]” on the right. Notice that there are some “landfalls” along the top, and numerous soundings at the entrance to Plymouth Harbor. Courtesy of the John Carter Brown Library at Brown University



Figure 20.6 Jesuit map of the Great Lakes, 1672. This map, sent back to France in the *Jesuit Relations*, testifies to the extraordinary skill which this Order brought to the delineation of wild and complex lands and rivers. Note the elegant naming-cartouche and the arms of the King of France. Courtesy of the John Carter Brown Library at Brown University

The Cartography of the Jesuits

It was not only sailors who used charts and maps for their special purposes; so did priests, planters and military engineers, to name only three other prominent groups. Among the religious, the most remarkable were the Jesuits, whose order had been founded in 1540 with the explicit aim of offering in its schools an education which would be strong in the natural sciences. Hence many Jesuit priests who had been trained in astronomy and cartography went to the missions in the seventeenth and eighteenth centuries, and became active mapmakers in the French, Spanish, and Portuguese imperial worlds.¹⁰

In French Canada, Jesuits produced the first convincing delineation of the very complicated hydrographic system of the Great Lakes (Figure 20.6). In northern Mexico, it was a Jesuit who first showed the true shape of California, which had previously been thought to be an island. In the immense valley of the Amazon River, Father Fritz drew a map which served Europeans for many years, while in the valley of the Rio Plata Jesuit maps tracked the expansion of the missions among the Guarani, and then their destruction by slave-traders. Although it was navigators who first traced the coastlines of the New World, it was Jesuits who mapped large parts of the interior with an accuracy and detail not to be superseded until the coming of the national governments in the nineteenth century. When the Order was expelled from the New World about 1770, its cartographic role was to some extent taken over by the Franciscans.

Estate Plans and Their Use

Towards the end of the sixteenth century, landowners in England had begun to commission highly accurate large-scale maps of their properties (Buisseret 1996). Often these landlords were absentees who wanted to know how best their lands could be planted out. Equally, many landlords made use of estate maps to ensure that their tenants were paying as much as could be squeezed out of them. Indeed, this approach generated such hostility to surveyors that on occasion they were mishandled and even killed by the tenantry.

Estate plans were expensive to commission, and so did not appear in unprofitable areas of wilderness like much of the Americas. But in a few places they crossed the Atlantic, and there they flourished in the New World. They were much used in South Carolina, for instance, where the rich slave-plantations of rice and cotton were often mapped in this way. So, too, were the sugar-estates on the English and French islands of the Caribbean. An island like Jamaica preserves huge numbers of these plans, which are very revealing about the spatial layout of the plantations (Higman 2001). For the French islands, such maps seem to have survived chiefly in family archives in France. For many years in areas like South Carolina and Jamaica they provided the only large-scale interior maps, and estate surveyors

were often used when the time came for more general surveys sponsored by the government.

The Plans of the Military Engineers

The Jesuits were generally interested in remote regions where they could establish their missions and roughly plot the location of the local peoples. Military engineers, on the other hand, confined their work for the most part to cities. Thanks to the French military engineers in Canada, we have a good idea of the early appearance of the cities along the Saint Lawrence (Vidal and d'Orgeix 1999). British military engineers provided plans of many of the cities along the east coast of North America, including New York and Savannah, to name but two. Throughout the Spanish world, engineers drew up plans of the cities which needed to be fortified against French, British, and Dutch pirates, from San Juan in the Caribbean south to Lima in Peru.¹¹ Our knowledge of the early shape of European cities in the New World would be much less full without the work of all these engineers.

Conclusion

In his five-volume *Petit Atlas Maritime* published in Paris in 1763, J.-N. Bellin could provide not only small-scale maps of most parts of the world, but also large-scale plans of all its major cities. His work in effect marks the culmination of 250 years of mapping by several different powers. The ensuing decades would see such remote areas as Northwest America and the two poles fully mapped. But already by the mid-eighteenth century the cartography of the world was well advanced.

Notes

- 1 Harley and Woodward 1987: 439. For a masterly summary of information about portolan charts, see Campbell 1987.
- 2 For ancient versions of portolans (*períodos gēs* or *periplous*), see Cole, Romm, this volume.
- 3 For reproductions of these early Portuguese charts, see Cortesao and Teixeira da Mota 1960.
- 4 This chart is well reproduced, with much other interesting material, in Nebenzahl 1990.
- 5 Perhaps the most elegant is the copy sent to the Vatican; see Nebenzahl 1990: 94–5.
- 6 One of the best sources for images and commentary is Wallis 1981.
- 7 These are elegantly explicated by Mundy 1996.
- 8 A fine collection of these maps, in Brown University's John Carter Brown Library, may be found in Black 1970–5.
- 9 See Litalien and Vaugeois 2004, using the manuscript found at the John Carter Brown Library.

10 Their work is summarized in Buisseret 1997.

11 For a very extensive selection of these plans, see Chueca Goitia and Balbés 1981.

References

- Bellin, J.-N. 1763. *Petit Atlas Maritime*. Paris.
- Black, Jeannette D. 1970–5. *The Blathwayt Atlas: A Collection of 48 Manuscript and Printed Maps of the 17th Century Relating to the British Overseas Empire in that Era, Brought together about 1683 for the Use of the Lords of Trade and Plantations by William Blathwayt*. 2 vols. Providence.
- Buisseret, David. 1996. *Rural Images: Estate Maps in the Old and New Worlds*. Chicago.
- Buisseret, David (ed). 1997. “Jesuit Cartography in Central and South America.” In Joseph Gagliano and Charles Ronan (eds.), *Jesuit Encounters in the New World*, 113–62. Rome.
- Campbell, Tony. 1987. “Portolan Charts from the Late Thirteenth Century to 1500.” In J. B. Harley and David Woodward (eds.), *History of Cartography*, I: *Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean*, 371–463. Chicago.
- Chueca Goitia, Fernando, and Torres Balbés (eds.). 1981. *Planos de ciudades Iberoamericanas y Filipinas existentes en el Archivo de Indias*. 2 vols. Madrid.
- Corteseo, Armando, and Avelino Teixeira da Mota. 1960. *Portugaliae monumenta cartographica*. 6 vols. Lisbon.
- Gautier Dalché, Patrick. 2007. “The Reception of Ptolemy’s *Geography*.” In J. B. Harley and David Woodward (eds.), *History of Cartography*, III.1: *Cartography in the European Renaissance*, 285–364. Chicago.
- Harley, J. B., and David Woodward (eds.). 1987. *History of Cartography*, I: *Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean*. Chicago.
- Harley, J. B., and David Woodward (eds.). 2007. *History of Cartography*, III.1: *Cartography in the European Renaissance*. Chicago.
- Higman, Barry. 2001. *Jamaica Surveyed*. Kingston.
- Hulton, Paul. 1977. *The Work of Jacques le Moyne de Morgues*. 2 vols. London.
- Litalien, Raymonde, and Denis Vaugeois (eds.). 2004. *Champlain: The Birth of French America*. Trans. Käthe Roth. Toronto.
- Mundy, Barbara. 1996. *The Mapping of New Spain*. Chicago.
- Nebenzahl, Kenneth. 1990. *Atlas of Columbus and the Great Discoveries*. Chicago.
- Schoeffler, Peter. 1485. *Gart der Gesundheit*. Mainz.
- Sloan, Kim. 2007. *A New World: England’s First View of America*. Chapel Hill.
- Tyacke, Sarah. 2007. “Chartmaking in England and Its Context, 1500–1660.” In J. B. Harley and David Woodward (eds.), *History of Cartography*, III.1: *Cartography in the European Renaissance*, 1722–46. Chicago.
- Vidal, Laurent, and Emilie d’Orgeix (eds.). 1999. *Les Villes françaises du Nouveau Monde*. Paris.
- Wallis, Helen (ed.). 1981. *The Maps and Text of the Boke of Ydrography Presented by Jean Rotz to Henry VIII*. Oxford.
- Woodward, David, 1987. “Medieval *Mappaemundi*.” In J. B. Harley and David Woodward (eds.), *History of Cartography*, I: *Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean*, 286–370. Chicago.

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