

New World States and Empires: Politics, Religion, and Urbanism

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*The past decade has seen a veritable explosion in archaeological research on complex societies in Latin America. In 1993, Smith published an overview of research to that date; this article is one of two bringing that summary up to the present. Our first article, *New World states and empires: Economic and social organization* (Smith and Schreiber, 2005), dealt with issues regarding economic and social organization. The present article tackles political organization and dynamics, religion, urbanism, and settlement patterns. We also review recent research in the context of various theoretical perspectives, some traditional, some more contemporary, including approaches to history and process, cultural evolution, agency-based models, linguistic prehistory, migration theory, and the relationship between environmental change and cultural events. Our discussion blends empirical findings, methodological advances, and theoretical perspectives.*

KEY WORDS: archaeology; complex societies; states; New World; cultural evolution.

INTRODUCTION

This article is the second of a two-part series, which reviews recent research on the ancient empires and states of the New World. The first installment (Smith and Schreiber, 2005) focused on sources of information and a variety of topics in economic and social organization. In this article we continue our discussion with four major topics: politics and political dynamics, urbanism and settlement patterns, religion, and history and process. These two articles constitute an update of Smith (1993). Political dynamics and political organization have become major topics of analysis in the New World, and one of the most active and successful

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areas of research is ancient empires and imperialism. Other types of polities, and the dynamics of political ideology, also have received considerable attention recently. Although countless ancient urban settlements have been mapped and excavated, the explicit analysis of urbanism has not progressed very far recently. Settlement patterns analysis continues to be a strong topic in Latin America, with major empirical and methodological advances in recent years.

Archaeologists have begun to approach ancient religion and ritual with much more rigor than in the past. Analyses of temples, offerings, sacred landscapes, and domestic ritual have all advanced considerably, and some of the most important new empirical and conceptual findings are in the realm of mortuary activities. Some areas, however, such as research on Classic Maya cosmology, continue to be plagued by a greater emphasis on speculation and impressionistic interpretation than rigorous empirical research.

We conclude with a review of several conceptual approaches to understanding social and cultural changes in ancient Latin America. Tension between cultural evolution and agency approaches continues to be prominent in discussions of social theory and interpretation. Linguistic prehistory and migration research are topics with great potential for ancient New World states, but archaeologists have been slow to apply the many recent advances in other disciplines. The topic of changes in ancient climates and environments generates heated debates between environmental determinists and culturalists, but the lack of widely accepted middle-level models prevents synthesis and advance. The major regions and sites mentioned in the text are shown in Figs. 1 and 2. Our review covers the literature through 2003, with only a few sources from 2004 included.

POLITICS AND POWER

Polities

Archaeologists have documented a diversity of political forms in the ancient New World, including empires, city-states, territorial states, segmentary states, and chiefdoms. Empires and imperialism continue to be major foci of research in South America. As the best-documented ancient New World Empire, the Inka polity continues to receive considerable attention from archaeologists. D'Altroy (2002) provides an up-to-date synthesis of Inka society with excellent coverage of the empire and imperialism. Other recent overviews include Malpass (1996), Rostworowski de Diez Canseco (1988), and Morris and von Hagen (1995). The most active topic of fieldwork on Inka imperialism continues to be studies of provincial areas and their incorporation into the empire. Stanish (2001b) reviews much of the recent literature. Two works in particular stand out: Malpass's (1993) collection of important papers, and D'Altroy and Hastorf's (2001) edited report on the results of the Mantaro Project. This project combined fruitful domestic

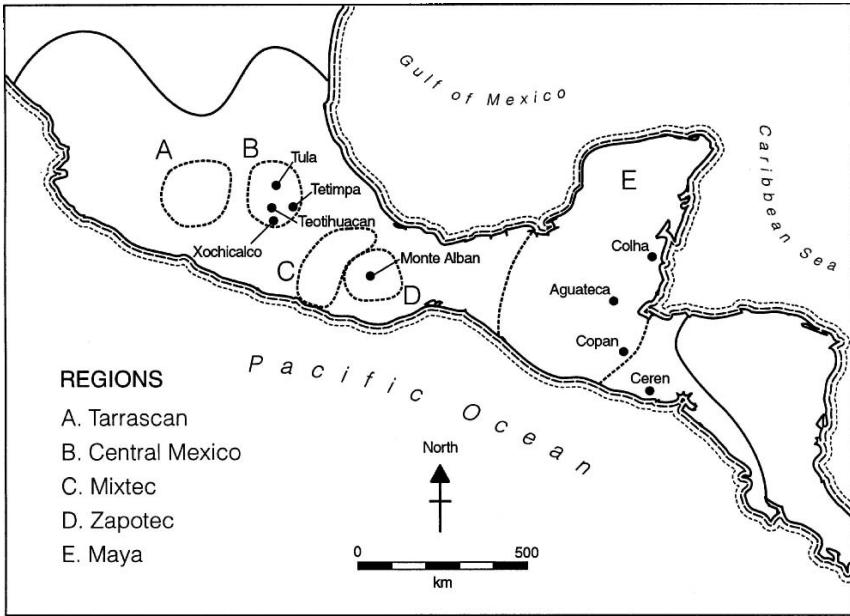


Fig. 1. Major regions and sites in Mesoamerica mentioned in the text. Map by David Lawson, Anthropology Graphics Laboratory, University of California, Santa Barbara.

excavations, state-of-the-art technical analyses, an explicit and well thought out research design, and use of appropriate theoretical and comparative models. As a result, the chapters in this book present insightful analyses of Inka imperialism and its local effects. Other notable studies of Inka statecraft and provincial administration include Bauer (1998), Bauer and Covey (2002), Covey (2000, 2003), D’Altroy *et al.* (2000), Hayashida (1999), Matos (1994), and Stanish (1997).

Much recent research has focused on the two major polities of the Middle Horizon, Tiwanaku and Wari, and whether one or both might be considered empires. In order to clarify our discussion, a consideration of definitions of empire and imperialism will be useful. Following Schreiber (2001, p. 71), empires are states that expand rapidly, often through military conquest; they maintain standing armies. Empires are very large in terms of territory and population, and they maintain sovereignty over all people and lands in their realm; they are diverse ecologically and ethnically and are organized to handle this diversity. Empires have central administrations and support themselves through the exaction of tribute or payment of taxes. Smith and Montiel (2001, pp. 247–250) define empires as polities having a capital that is a large, complex urban center and that proclaims an imperial ideology. Empires exercise political control over provinces and organize economic exchange between the capital and provinces. Imperial

control of a province typically involves (1) military conquest, (2) construction of an imperial infrastructure, (3) imposition of tribute or taxes, (4) reorganization of settlement patterns, and (5) imperial cooption of local elites. Empires also project their influence outside their borders through a variety of interactions with other polities.

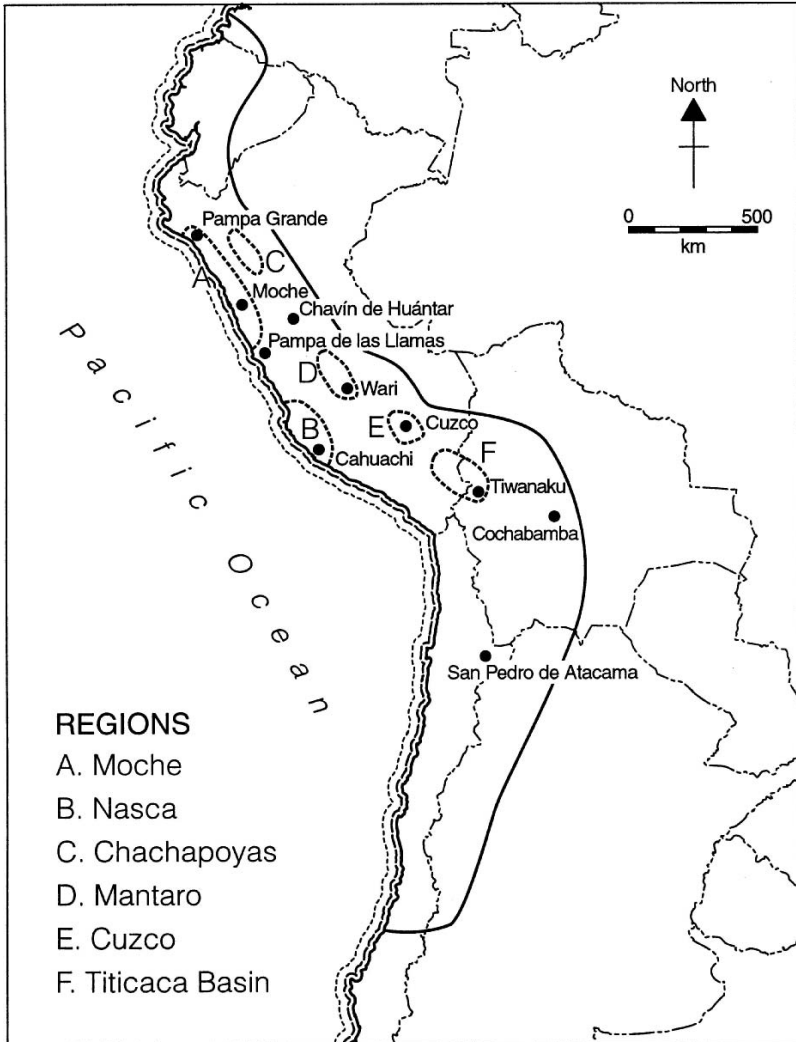


Fig. 2. Major regions and sites in South America mentioned in text.

The site of Tiwanaku has been known for several centuries and has been the subject of numerous archaeological investigations past and present (Albarracín-Jordan, 1996; Goldstein, 1993; Kaulicke and Isbell, 2000, 2001; Kolata, 1993a, 1993b; Stanish, 2002). Tiwanaku was a large, complex urban center, one that served as both a religious pilgrimage center and the capital of a state that included a core area in the southern Titicaca Basin, and perhaps the northern part of the Basin as well. Raised fields were created throughout much of the Titicaca Basin in order to intensify agricultural production (see Smith and Schreiber, 2005). The iconography associated with Tiwanaku includes impressive symbols of power (Cook, 1994), especially images of a front-facing human or deity standing on a stepped platform and holding two vertical staffs, flanked by profile attendants combining both human and avian traits. Although such images have a long history in the Andes, they are best known by their distinctive depictions on the elaborately carved “Gateway of the Sun” and several imposing stone monoliths at Tiwanaku.

The site of Wari is also a large, complex urban center (Kaulicke and Isbell, 2000), the capital of a state that included a core area in the Ayacucho Basin, but it was organized very differently than Tiwanaku. While Tiwanaku is open and accessible, including large ceremonial complexes designed to bring together large numbers of people, Wari architecture, at both the capital and its regional centers, seems designed to restrict access and keep people out rather than invite them in (Schreiber, 1992, p. 280). Agricultural terracing served to increase production in the core region as well as the hinterland. Wari iconography includes many elements identical to images at Tiwanaku (Cook, 1994), suggesting they shared a common religion, or at least the same symbols of power. Indeed, the similarity of Wari styles to those of Tiwanaku led to an initial confusion of the two cultures; for much of the first half of the 20th century, what we now know as Wari was referred to as “Coast Tiahuanaco” or “Tiahuanacoid.” Research at Wari and in its hinterland has suffered in recent years, especially from the early 1980s to the mid-1990s, because of the armed Shining Path insurrection in highland Peru; the lacuna in the literature of Wari studies is only just ending. Ironically, the extent of Shining Path control traced roughly the extent of the Wari empire, so studies of this society suffered disproportionately.

Turning to studies of the Tiwanaku and Wari hinterlands, we find that the two polities differed markedly in the degree to which they conquered and/or imposed state control over provincial regions. Tiwanaku colonies have been identified in the Moquegua Valley of southern Peru (Goldstein, 1993, 2000), and substantial numbers of Tiwanaku-style artifacts suggest some sort of colonization of the Cochabamba region of Bolivia. Both of these areas lie at lower elevations where crops not available in the Tiwanaku core, especially maize, can be produced. However, neither area shows evidence of Tiwanaku manipulation of local populations, the imposition of political or economic control, or the construction of an imperial infrastructure. Tiwanaku artifacts are also found in cemetery contexts

in the Azapa Valley of north coastal Chile. Tiwanaku-style artifacts found at San Pedro de Atacama, Chile, appear to be trade goods, rather than indicating any sort of sustained occupation or consolidation of Tiwanaku political control. Thus, in our reading of the evidence, following Smith and Montiel's (2001) criteria for imperial provincial control, the data from Tiwanaku colonies do not suggest the degree of control and manipulation of provincial territories that we would expect in an imperial occupation.

In contrast, Wari occupations through the central highlands and south coast of Peru (Covey, 2003; Jennings and Craig, 2001; McEwan, 1996, 1998; Schreiber, 1992, 1999; Williams, 2001) suggest a greater degree of political and economic reorganization of conquered territories and substantial investment in a far-flung imperial infrastructure. In the case of the Sondondo Valley of southern Peru (Schreiber, 1992, 1999), a major Wari administrative center, Jincamocco, was established and built in the distinctive Wari architectural style. The local settlement system was reorganized to create a centralized polity and to increase agricultural production. Several smaller Wari sites, a major road, and a bridge also were built in the valley. Studies of Wari occupations in Cuzco (McEwan, 1996) and the Moquegua Valley (Williams, 2001) also find evidence of major Wari constructions along with substantial alterations of the physical and cultural landscape.

In sum, despite shared elements of iconography, Wari and Tiwanaku are clearly distinguished on the basis of site types, settlement patterns, economic organization, and political centralization. Each capital commanded a strongly held core region, relandscaped to increase economic production. However, when one moves to peripheral regions, the differences between the two polities become clear, with Wari exhibiting more manipulation and transformation of conquered provinces. The long-held view that Tiwanaku controlled a vast empire was partly the result of a confusion between Tiwanaku and Wari iconography and their spheres of influence that dates back to the beginning of the twentieth century, coupled with a mistaken belief that the center of both dispersals was Tiwanaku (Schreiber, 1992). Now that Wari sites and territories have been defined and the two spheres seen as separate political entities, Tiwanaku can be seen as the capital of an influential polity, but one with rather limited control of regions beyond the Titicaca Basin. At this point in time we find that the available evidence from Wari and its provincial sites falls more in line with definitions of empire than does evidence from Tiwanaku. As Janusek writes, "most researchers agree that Wari, largely unlike Tiwanaku, was an empire" (Janusek, 2004, p. 163).

Future research on both Wari and Tiwanaku should be directed to further clarifying the similarities and differences between these two cultures and their nature. Furthermore, now that we have been able to separate the two cultures into distinctly different polities, perhaps it is time to readdress the striking similarities in their iconography that lead to their confusion in the first place.

In Mesoamerica, two detailed and complementary ethnohistorical studies of the organization of the Aztec empire have appeared (Berdan *et al.*, 1996; P. Carrasco, 1999), along with a collection of archaeological and historical chapters on the political and economic context of the empire (Hodge and Smith, 1994). A major finding of this research is the existence of considerable geographical and temporal variability in the processes of Aztec imperialism and in their impacts on and interactions with local polities and communities. These and other studies (e.g., Garraty and Stark, 2002; Silverstein, 2001) show that archaeology is finally starting to make solid empirical contributions to our understanding of Aztec imperialism outside the Basin of Mexico. At the same time, ethnohistoric research continues to illuminate the social and economic bases of the empire (e.g., Graulich, 1994; Rojas, 1997). Other Mesoamerican empires that have been addressed by archaeologists include the Monte Albán II empire (Balkansky, 2002; Spencer, 2003; Spencer and Redmond, 1997, 2001a) and the Tarascan polity (Pollard, 1993; Pollard and Cahue, 1999). Debates over the nature and extent of the Teotihuacan (Smith and Montiel, 2001; Stuart, 2000; White *et al.*, 2000) and Monte Albán II empires (Balkansky, 2001; Joyce *et al.*, 2000; Zeitlin and Joyce, 1999) highlight the empirical and methodological problems of studying empires with archaeological data. A recent collection of studies on ancient empires (Alcock *et al.*, 2001) includes several New World studies.

The topic of comparative ancient city-states has been the subject of recent discussion and debate. Three recent collections of papers are notable for their contrasting approaches to the topic. Nichols and Charlton (1997) take a broad view that welcomes many kinds of ancient polities—from the Greek poleis to Teotihuacan—under the city-state banner. Marcus, in two contributions to *Archaic States* (Feinman and Marcus, 1998), downplays the utility of the city-state concept for comparative analysis. She views city-states as originating only from the collapse of large territorial states (Marcus, 1989, 1998a) and suggests that many of the contributors to *Archaic States* would like to see the city-state concept “phased out” (Marcus and Feinman, 1998, p. 8). The classicist Mogens Hansen, on the other hand, has edited two collections promoting a comparative concept of city-states based on explicit definitions of city-state and city-state culture (Hansen, 2000, 2002). We find Hansen’s approach superior to the overly broad and overly narrow conceptions of city-states of other scholars.

To Hansen, “a city-state is a highly institutionalized and highly centralized micro-state consisting of one town (often walled) with its immediate hinterland and settled with a stratified population” (Hansen, 2000, p. 19). A crucial component of his approach is the concept of “city-state culture”; this consists of a group of interacting nearby city-states that share a common culture and often a common language. City-states are almost always parts of city-state cultures. The political landscapes of city-state cultures are unified culturally but fragmented politically. In Hansen’s model, city-states are self-governing but do not necessarily possess

external sovereignty (or independence). Thus, the Aztec city-states of central Mexico (“*altepetl*” in Nahuatl) maintained their governing regimes after conquest by the Triple Alliance empire (Smith, 2003a, pp. 148–155). Most city-state kings were left in power, although they were legally subjects of the Aztec emperor and paid him tribute. However, since their local polities continued to function in most ways, central Mexico remained a city-state culture, even under imperial rule.

Hansen scoured the literature of ancient history and archaeology to find examples that fit his criteria for city-states and city-state cultures and published a collection of 30 case studies along with conceptual and historical chapters (Hansen, 2000). He includes three city-state cultures from Mesoamerica (the Classic Maya and the Postclassic Mixtec and Aztec examples); after his city-state collection went to press, Hansen discovered several other examples of city-state cultures and published an “update” (Hansen, 2002) that includes another Mesoamerican case (the *Bènzàa* or Zapotec of Oaxaca). He found no city-state cultures in South America. Hansen is not the first to remark about the absence of city-states in this area (Trigger, 2003; Wilson, 1997). It appears that territorial states and empires were the major forms of polities in the Andes, although Gose (1993) applies the segmentary state model to the Inka. Trigger’s (2003) massive comparative study of seven early states includes the Aztec and Maya as case studies for city-state cultures and the Inka as a case study for territorial states, his other major category of ancient state organization.

The chapters on the Mesoamerican city-state cultures in Hansen’s comparative volumes synthesize considerable recent scholarship on these groups of interacting polities. The Aztec empire was built on a base of city-states (Hodge and Smith, 1994), and these small polities have been studied through both archaeology and ethnohistory (e.g., Evans, 2001; García Castro, 1999; Nichols *et al.*, 2002). Major advances also have been made in the analysis of Postclassic city-states (both Mixtec and Zapotec) in Oaxaca (Byland and Pohl, 1994; Jansen *et al.*, 1998; Oudijk, 2000). Grube’s (2000) description of Classic Maya society as a city-state culture summarizes the results of his and Martin’s (Martin and Grube, 2000) masterful synthesis of Maya political history as reconstructed from new readings of hieroglyphic texts. Chapters by Webster and Pyburn in Nichols and Charlton (1997) also apply the city-state model to the Classic Maya. These Mesoamerican case studies join a growing number of comparative works on early states that use the city-state concept in a manner similar to Hansen’s approach (Adams, 2000; Trigger, 2003; Wright, 2002).

Alternative models applied recently to Maya polities include segmentary states (Fox *et al.*, 1996) and a “dynamic model” of alternating centralization and fragmentation (Iannone, 2002; Marcus, 1998a). The latter model has been criticized by Smith (2003, p. 122), however, for ignoring spatial dynamics while giving too much emphasis to temporal, “rise and fall” dynamics. The pace of Maya decipherment continues to be rapid, and recent review articles (Houston, 2000; Lucero, 1999) and books (Coe and Van Stone, 2001; Houston *et al.*, 2001;

Martin and Grube, 2000; Schele and Mathews, 1998) provide good overviews of the textual data and their implications for Maya political organization.

Political Dynamics and Power

One of the perennial political processes of interest in Latin American archaeology is the origin of states. Because of recent review articles on this topic (Spencer and Redmond 2004; Stanish, 2001a), we do not consider state formation in this article (see also Balkansky, 1998a). The institution of kingship and its associated political processes have received increasing attention among Mesoamericanists. For the Classic Maya, Schele was a driving force, coauthoring several influential books on the nature of sacred kingship as depicted in newly deciphered epigraphic texts (Schele and Freidel, 1990; Schele and Miller, 1986). Her last book in this series (Schele and Mathews, 1998) is a masterful synthesis of political history (from hieroglyphic texts) and urban architecture at seven Maya capitals.

Perhaps the most controversial aspect of Schele's model is the suggestion that Maya kings were shamans (see especially Freidel *et al.*, 1993). This view, extended back in time by her students to Olmec rulership (Reilly, 1996; Tate, 1999), was critically examined in *Current Anthropology*, where commentators engaged in vigorous debate (Klein *et al.*, 2002; see also Various authors, 2000). Clearly, scholars have not achieved consensus on the political role of shamanism in ancient Mesoamerica. Research on other Mesoamerican cultures also emphasizes the sacred nature of kingship (e.g., Graulich, 1998; Jansen, 1997; Kaplan, 1995; Martin and Grube, 2000; McAnany, 1995; Pohl, 1994; Urcid and Joyce, 2001). Some scholars confuse supernatural power (an imagined attribute of persons, places, or imaginary entities) and political power (a social relationship between individuals or institutions based on unequal resources), suggesting that ancient kings derived their political power from the supernatural power they claimed in public monuments and performances (Reese-Taylor and Koontz, 2001, pp. 1, 9; Swenson, 2003, pp. 275–276, 284–285). Although ancient kings often used supernatural power as part of their strategies of legitimation (Kurtz, 2001, pp. 63–64), this was not the source of their power (DeMarrais *et al.* 1996; Earle, 2002; Kurtz 2001). Lucero's (2003) materialist model of Maya kingship, also published in *Current Anthropology*, provoked considerable debate and discussion.

The role of warfare in ancient polities has seen increased attention in the past decade, with numerous studies of fortifications and other evidence for battles and warfare (e.g., Dahlin, 2000; Demarest *et al.*, 1997; Flannery and Marcus, 2003; García Cook and Merino Carrión, 1997; Hirth, 1995; Inomata, 1997; Quilter, 2002). The ideology of warfare is another topic of interest (Hernández Rivero, 1997; Taube, 1992b; Trejo, 2000). With the exception of Webster (2000, 2002) and Hassig (see their papers in Raaflaub and Rosenstein, 1999), however, New World scholars have done little to place their research within the wider framework

of comparative and theoretical studies of warfare and its political and social contexts (e.g., Otterbein, 1999; Simons, 1999). A recent edited volume on warfare in Mesoamerica (Brown and Stanton, 2003) takes a step in the right direction.

Some archaeologists have argued that a major source of power for Maya kings was their control over reservoirs and water (Lucero, 1999, 2002; Scarborough, 1998, 2003, pp. 108–115), but these interpretations remain speculative. The topic of political factions and factionalism saw a brief flurry of interest with the publication of an edited volume (Brumfiel and Fox, 1994), but interest soon waned because of empirical and theoretical problems with the concept of factions (Kurtz, 2001, p. 111) and their invisibility in the archaeological record.

Blanton *et al.* (1996) introduced a “corporate-network model” of political dynamics to distinguish alternative strategies of leadership and resource control in ancient polities (for a similar formulation, see Santley, 1989). Corporate strategies involve group-oriented practices where the prominence of individual leaders is muted and power comes from control of local resources. Network strategies, on the other hand, are pursued by leaders who are self-promoting, competitive aggrandizers and whose power base includes external connections with similar leaders of other polities. This framework has proven insightful for the analysis of key topics, particularly the contrast between the Maya polities and Teotihuacan in Classic period Mesoamerica (e.g., Feinman, 2001). Blanton’s (1998) important theoretical and comparative examination of corporate strategies redresses a major imbalance in anthropological and archaeological studies of state-level polities, most of which have focused exclusively on the network strategy. Flannery (1999, p. 15), however, finds fault with Blanton’s discussion of corporate strategies. The corporate-network model is receiving increased attention from archaeologists (e.g., Joyce *et al.*, 2001; LeCount, 1999). Many treatments, however, focus more on classification than analysis, and the ultimate limits and usefulness of the concept are not yet clear.

The production of ideological messages by rulers is becoming an important topic of research in the New World. An influential paper by DeMarrais *et al.* (1996) on the materialization of ideology synthesizes archaeological approaches and establishes a foundation for later work. State architecture typically encodes various levels of meaning (Rapoport, 1988), including political messages by rulers (see discussion below). Moore (1996) published an important and innovative example of this “built-environment” approach to ideology and architecture in the Andes, which unfortunately has been slow to take hold in New World archaeology (see below). Much has been written about the “ideology” of the Aztec Templo Mayor (D. Carrasco, 1999; López Luján, 1993; Matos Moctezuma, 1995), but as pointed out by Hicks (1996), much of this research is less concerned with state ideology (messages relating to power and social classes) than with cosmology or cosmovision (messages relating to widespread cultural beliefs not closely linked to class or political power). This confusion is more widespread; the term ideology has a wide range of definitions (Eagleton, 1991), and many New World archaeologists

retain an overly broad conception of ideology as ideas or as religion (Demarest and Conrad, 1992) in place of a narrower and more useful political definition of ideology.

Myth, ritual, and ceremony also are arenas for the materialization of ideology (DeMarrais *et al.*, 1996), a topic addressed by Brumfiel (1998, 2001) in several articles (see also Bauer, 1996; Cook, 1992). The role of Classic Maya writing as political propaganda was emphasized over a decade ago by Marcus (1992), but the majority of recent work focuses more on reading texts and reconstructing dynasties (e.g., Fash, 2002; Houston, 2000; Houston *et al.*, 2001; Martin and Grube, 2000) than on interpreting ideological or propagandistic messages (e.g., Johnston, 2001). Research on the ideology of royal inscriptions is far more advanced in the Near East (Porter, 1995; Smith, 2000; Winter, 1993, 1997), and New World scholars could benefit from applying some of the insights and methods of these and other scholars (for some explorations in this direction, see Kristan-Graham, 1993; Quilter, 2001; Reents-Budet, 1989).

URBANISM, THE BUILT ENVIRONMENT, AND SETTLEMENT PATTERNS

Most recent studies of urbanism and the built environment have concentrated on urban forms and the meanings of cities and buildings. Although almost any publication on an ancient city can be relevant to the study of urbanism, site reports that explicitly address issues of urbanism and urbanization provide the richest and most valuable information on the topic. Noteworthy Mesoamerican examples include Hirth's (2000) report on Xochicalco, Matos Moctezuma's (1999) report on the center of Tenochtitlan, and two outstanding German publications on Maya cities (Quintana and Wurster, 2001; Wurster, 2000). For the Andes, monographs on Pampa Grande (Shimada, 1994) and Tiwanaku (Kolata, 2003), and several major works on Moche (Bawden, 1999; Pillsbury, 2001; Uceda and Mujica, 1994, 2003) provide new perspectives on urbanism at these urban centers. A survey of Andean cities written for a nonspecialist audience (von Hagen and Morris, 1998) contains useful descriptions and citations. Other major works on New World cities and urbanism include two important collections on Mesoamerican cities (Ciudad Ruiz *et al.*, 2001; Sanders *et al.*, 2003), several studies of Teotihuacan (Cowgill, 1997; Pasztory, 1997; Storey, 1992), a series of papers by architectural historian Andrews (1995–1999), and the essays in Manzanilla (1997).

Urban Forms and Functions

Most studies of urban form have focused on specific architectural types or on the layout of cities. In Mesoamerica, archaeologists have analyzed a variety of urban building types, including royal palaces (Hohmann, 1998; Inomata and Houston, 2000, 2001), temples (Olmeda Vera, 2002; Schele and Mathews, 1998),

ballcourts (de Montmollin, 1997; Schultz *et al.*, 1994; Whittington, 2001), causeways (Chase and Chase, 2001; Shaw, 2001), other civic buildings (Driver, 2002; González Rul, 1998; Ohnersorgen and Varien, 1996), and urban housing (González Crespo *et al.*, 1995; Sánchez Alaniz, 2000). Important collections of papers on urban architecture include Kowalski (1999), Houston (1998), and Ciudad Ruiz *et al.* (2001). The visually attractive architectural reconstructions of Tenochtitlan published by Serrato-Combe (2001) are flawed by errors suggesting that the author—an architect—had trouble reading archaeological plans. Apart from the urban monographs cited above, there have been fewer studies of urban architecture in the Andes (e.g., McEwan, 1998; Pozorski, 1995); an important monograph by Moore (1996) is discussed below.

The study of urban layout and planning in the New World has not advanced very far. Most studies are heavily descriptive (García Cook and Merino Carrión, 1998; Masson, 1999a; Mastache and Cobean, 2000; Mastache *et al.*, 2002; Mundy, 1998; Quintana and Wurster, 2001; Rosenswig and Masson, 2002; Smith *et al.*, 1994; von Hagen and Morris, 1998). In one of the few explicit comparative discussions of urban planning, Gasparini (1993) discusses possible uses of orthogonal planning in the pre-Columbian New World. He couples a useful review of the grid layout at Inka cities with a speculative and probably faulty interpretation of pre-Hispanic orthogonal planning at Cholula in Mexico. More interesting are attempts to link spatial patterns to economic and political dynamics (e.g., Chase, 1998; Pollard, 1993; Smyth *et al.*, 1995). Archaeologists have identified farming on a significant scale within lowland Maya cities (Chase and Chase, 1998; Isendahl, 2002; Smyth *et al.*, 1995). Some Mayanists have advocated a “site-planning approach” focused on “the deliberate self-conscious aspect of settlement patterning, at scales from individual structures through regional landscapes” (Connell, 2003, p. 27). This research has yet to generate rigorous empirical results, however (Ashmore, 1989; Houk, 2003). The study of urban planning in ancient Latin America has still advanced little beyond Hardoy’s (1968, 1973) early works.

Urban functions are activities and institutions within cities that affect areas and peoples outside the city (Fox, 1977). Although the most fundamental urban function is a city’s role as an exchange node in a regional system (if only because urban dwellers need food from the countryside), surprisingly little recent research has been addressed at the regional economic systems of New World cities. The big exception here is Tiwanaku, where a number of fieldwork projects have examined interactions between the city and its nearby hinterland with respect to settlement and demography (Albarracín-Jordan, 1996; Albarracín-Jordan *et al.*, 1997), raised field agriculture (see discussion above), and the exchange of goods (Bermann, 1994, 1997; Janusek, 1999). Most survey projects discuss cities and their hinterlands at least briefly (Anschuetz *et al.*, 2001), but only a few studies are targeted at urban-based regional economies (Aoyama, 2001; Symonds *et al.*, 2002; Torres Rodríguez *et al.*, 1999). The function of cities as political capitals

has received far more attention (e.g., Balkansky, 1998b; Hansen, 2002; Kolata, 1993a; Smith and Montiel, 2001; Stark, 1999; von Hagen and Morris, 1998).

The possible early appearance of urbanism on the Peruvian coast has sparked debate over the nature of political and economic organization during the Initial period (1800–800 B.C.). Numerous large, planned, U-shaped platform complexes appeared at that time (Burger, 1992; Moore, 1996; von Hagen and Morris, 1998). While these obviously required major investments of labor, and some scholars would argue that these structures were built by states (Pozorski and Pozorski, 1992), most archaeologists find that their construction was carried out by less hierarchical societies (Burger, 1992). The site of Pampa de las Llamas/Moxeke is particularly impressive, with two huge platforms (Huaca A, at 1.5 ha, and Moxeke, at 2.7 ha) facing one another across a large plaza, more than 100 smaller possibly nonresidential structures arranged in lines, hundreds of houses, roads, and a clear overall planned layout (Pozorski and Pozorski, 1991, 1992, 1994, 1995). The excavators have interpreted the numerous small rooms on Huaca A as storerooms for food crops and other items. From a functional perspective on urbanism (Fox, 1977; Smith, 2002), this site was clearly urban in nature, with religious, administrative, and possibly economic urban functions. In the functional approach urbanism is not limited to states (Lewis and Stout, 1998), and thus the urban classification of Pampa de las Llamas/Moxeke (and other coastal sites) leaves open the question of the political status of local society.

There has been a veritable explosion of research on the north coast of Peru in the past decade. Most research continues to be empirical in nature, with emphases on elite architecture, tombs, and ceramics, mostly pertaining to the Moche culture of the Early Intermediate period. Two regional conferences, held in 1993 and 1999, have been published in well-edited and well-illustrated volumes (Uceda and Mujica, 1994, 2003). These include new data on the excavation of major temples and cemeteries, and the discovery and/or careful study of polychrome murals at several sites, notably the Huaca de la Luna and the Brujo Complex. Papers in these volumes also deal with a wide assortment of related topics, including human osteological remains, faunal remains, iconography, and craft production. Several papers treat more theoretical issues, including Moche state origins, sociopolitical organization, and demise. New studies that focus primarily on Moche art, but also consider political economy and craft production, include papers in a volume edited by Pillsbury (2001). Donnan and McClelland's work on Moche fine-line painting (Donnan and McClelland, 1999) richly illustrates this style and also convincingly identifies the work of individual artists.

Urban Meaning and Symbolism

There has been considerable interest in the symbolism and meaning of ancient cities. Rapoport's (1988, 1990) model of levels of meaning in the built

environment provides a useful way to approach this topic. High-level meaning describes cosmological and supernatural symbolism that may be encoded in buildings and city layouts; middle-level meaning refers to deliberate messages about identity and status communicated by the designers and constructors of buildings and cities; and low-level meaning describes the ways in which the built environment channels and interacts recursively with behavior and movement. Although middle- and low-level meanings in the past are far more amenable to empirical analysis in the absence of texts (Moore, 1996; Rapoport, 1988, 1993), New World archaeologists overwhelmingly concentrate on speculative analyses of the high-level meanings of ancient cities and buildings.

Archaeoastronomical research on building alignments is one of the more methodologically rigorous and explicit approaches to ancient high-level meanings (Aveni, 2001; Bauer and Dearborn, 1995; Bricker and Bricker, 1999; Peeler and Winter, 1995; Šprájc, 2000). Aveni's (2003) recent review article is an excellent introduction to the literature. Other studies focus on the specific symbolism of individual buildings (D. Carrasco, 1999; Houston, 1996; Sugiyama, 1993; Tate, 1992), areas within cities (Clancy, 1999), areas around cities (Bauer and Dearborn, 1995), or entire cities (Ashmore, 1992; Ashmore and Sabloff, 2002; Cowgill, 2000; Pasztory, 1997; Tate, 1992). These studies range from cautious and plausible discussions (e.g., Cowgill, 2000) to poorly grounded speculation (e.g., Pugh, 2001).

In parts of the world where written sources provide clear evidence for the cosmological symbolism of ancient buildings and cities (e.g., Higham, 2000; Spodek and Srinivasan, 1993; Steinhardt, 1990), scholarship on this topic can be empirically grounded and believable. In the absence of such documentation, modern studies of architectural symbolism in the past—even the recent past—can become absurd and unbelievable, as exemplified by works like Taylor (1967) and Proudfoot (1994). Such studies reveal far more about the authors than about the ancients. Barnes and Slive (1993) debunk the old chestnut that the Inka capital, Cuzco, was laid out to resemble a giant puma. For archaeological cases without written confirmation of cosmological symbolism for buildings and cities, it can be difficult or impossible to evaluate modern arguments (Kemp, 2000). More rigorous methods are needed in this area; Lynch (1981) and Rapoport (1993) provide starting points (Smith, 2003b).

A more fruitful approach to urban meaning addresses Rapoport's lower levels of meaning. The monumentality of cities and urban architecture communicates information about power, resources, and control (Trigger, 1990), but so far only a few explicit analyses of monumentality and communication have been carried out in the New World (Blanton, 1989; Marcus, 2003; Moore, 1996). Houses communicate messages about identity, wealth, ethnicity, and other social statuses (Blanton, 1994), but this topic also is underrepresented in recent research (Hendon, 1999). At the lowest of Rapoport's levels of meaning, the built environment

communicates messages about access and movement and visibility, participating in a recursive relationship with actions and behavior (Rapoport, 1990). Although this is a rich area for archaeological analysis (e.g., Ferguson, 1996; Richardson, 2003), Latin Americanists have only started to use methods like access analysis (Blanton, 1994; Hopkins, 1987; Liendo Stuardo, 2003; Moore, 1996) or line-of-sight studies (Inomata, 2001; Moore, 1996). These and other techniques hold much promise for the archaeological analysis of architecture, urbanism, and associated social processes.

Settlement Patterns

Regional settlement survey continues to be an important field method for studying New World complex societies. Settlement studies have moved dramatically beyond the simple cataloguing of sites to address issues that require a regional—rather than a site-specific—perspective. The landscapes covered by survey research are now viewed not as simple environmental settings for archaeological sites but as ancient social and sometimes sacred landscapes in which a wide range of human activities and processes can be studied (Anschuetz *et al.*, 2001; Ashmore, 2002). Because of the problem-oriented nature of New World surveys, we have already reviewed numerous case studies above (see also Smith and Schreiber, 2005).

Recent reviews (Billman and Feinman, 1999; Nichols, 1996; Sabloff and Ashmore, 2001) discuss the historical development and current context of settlement pattern research in Mesoamerica and the Andes. Beginning with the influential Virú Valley survey of Gordon R. Willey, New World survey archaeology has retained a strong focus on the region as the relevant scale for sampling and fieldwork. Current methods present an interesting contrast to survey archaeology in the Mediterranean region, where the scale of analysis has shrunk to “microregions” that are covered with a much higher level of intensity and a heavier use of sophisticated methods in geomorphology, artifact sampling, and remote sensing (Barker and Mattingly, 1999–2000; Cherry, 2002). Perhaps because of these methodological developments, nonsite approaches are far more common in the Mediterranean (Alcock *et al.*, 1994; Bintliff, 2000; Cherry, 2002) and the Near East (Wilkinson, 2000) than in Mesoamerica or the Andes, where a focus on sites remains the dominant approach. As pointed out by Blanton (2001), New World survey research is far more problem oriented and theoretically informed than work in the Mediterranean, if less sophisticated in its methods. One area where New World surveys do not lag behind their counterparts in the Mediterranean is in the use of GIS and other spatial technologies and approaches (Anaya Hernández, 2001; Estrada Belli, 1999; Gutiérrez Mendoza *et al.*, 2000; Hare, 2004; Jennings and Craig, 2001).

One problematic topic in settlement pattern analysis is the inappropriate use of rank-size analysis on regional-scale site data. Rank-size analysis was developed

by geographers and anthropologists to study the sizes of cities (not the sizes of settlements in general). Scholars noted a common pattern in which the second-largest city has roughly one-half the population of the largest city, the third-largest city has one-third the population, and so on. This distribution, known as the “log-normal” distribution, is illustrated by plotting city size (*Y*-axis) against rank (*X*-axis). When these variables are graphed using logarithmic scales, the log-normal distribution is expressed as a declining straight line. Two major kinds of deviations from the log-normal pattern have been discussed: primate distributions (where the largest city is “too large” for the log-normal pattern) and convex distributions (where there are “too many” very large cities). The literature on rank-size analysis focuses on the causes and implications of deviations from log-normal distributions (Berry, 1961; Kowalewski, 1982; Smith, 1990; Vapnarski, 1969).

Although the earliest archaeological applications of rank-size analysis followed the requirements of the model by analyzing distributions of city sizes (Blanton, 1976; Kowalewski, 1982), more recent studies violate its most basic assumption by applying the model to nonurban settlements. The model describes relationships among cities within a nation or macroregional setting, not relationships among small settlements within a region. The forces generating empirical city-size distributions involve demographic and economic interaction between cities and their hinterlands (e.g., rural–urban migration, commercial exchange), as well as exchanges among cities. When archaeologists apply the method to site sizes within a region, typically including numerous tiny settlements of a few hectares without any central place functions (that is, without their own hinterlands), they violate the basic assumptions of the model. Some time ago Pearson (1980, p. 455) warned archaeologists that rank-size models “do not apply to the lower ends of the settlement size distribution,” and that there is a small-size threshold “below which rank-size regularities do not hold,” but many subsequent studies have not heeded this caveat. Recent examples of this inappropriate use of rank-size analysis in Latin America include Estrada Belli (1999), Santley *et al.* (1997), Whalen and Minnis (2001), Brown and Witschey (2003), and Covey (2003); see Smith (2005a) for further discussion. No one has yet proposed a theoretical model to explain the significance of different rank-size distributions for tiny, nonurban sites.

RELIGION

As in other parts of the world, much scholarship on ancient New World religion, myths, and deities is highly particularistic in nature. In this section we focus on three broad themes that have been addressed from comparative and theoretical perspectives: (1) temples, offerings, and sacred landscapes; (2) death and sacrifice; and (3) domestic ritual; we also include a discussion of research

on Maya cosmology. Among the important recent general works on ancient New World religions are studies of the Classic Maya (Baudez, 2002; Freidel *et al.*, 1993; Gillespie and Joyce, 1998; Milbrath, 1999; Taube, 1992a), the Aztec (Graulich, 1997, 1999; Olivier, 1997, 2003; Vié-Wohrer, 1999), and the Andes (Bauer and Stanish, 2001; Benson and Cook, 2001; Dillehay, 1995; Kaulicke, 1997b; Millones and Onuki, 1993).

Sacred Buildings, Offerings, and Landscapes

Three works stand out among recent studies of ancient New World temples and public architecture. Moore's (1996) *Architecture and Power in the Ancient Andes: The Archaeology of Public Buildings* is the most innovative recent work on New World temples and shrines. Moore applies a variety of methods and concepts to a sample of temples and other public buildings from the coast of Peru; he includes access analysis, line-of-sight studies, monumentality, and other built-environment approaches to address a variety of issues of architectural communication and significance. This is the most extensive analysis to date of Amos Rapoport's middle and lower levels of architectural meaning. Although not without some limitations and problems (Dillehay, 2000), Moore's book shows the rich results that can be obtained without recourse to historical documentation or to speculation on high-order meanings. It is unfortunate that he missed the opportunity to address highland Andean architecture; the cities and buildings associated with Inka and Wari imperial expansion (see "Polities" section above) are ripe for Moore's methods and concepts.

In contrast to Moore's built-environment approach, two important studies of Classic Maya architecture focus on the uses and cosmological symbolism of individual buildings. In *The Code of Kings: The Language of Seven Sacred Maya Temples and Tombs*, Schele and Mathews (1998) make impressive advances in understanding a series of buildings and cities through the integration of new hieroglyphic decipherments and archaeological excavations. The authors contributing to *Function and Meaning in Classic Maya Architecture* (Houston, 1998) integrate textual and archaeological data from a wider variety of sites and buildings, using a broader array of methods and approaches. These two books contain only a few highly rudimentary discussions of built-environment concepts; impressive advances will surely result when some of Moore's methods and concepts are applied to the data on Classic Maya architecture (for some initial explorations, see Inomata, 2001; Liendo Stuardo, 2003). Other important recent studies of temples link religious architecture to state dynamics in both Mesoamerica (McCafferty, 1996; Sugiyama, 1993; Taube, 1992b) and the Andes (Cornejo, 1995; Goldstein, 1993; González Carré *et al.*, 1996; Manzanilla, 1992).

The Mesoamerican ballgame—an event that combined ritual, sport, and politics in poorly understood ways—continues to be the subject of considerable

research and speculation (Fox, 1996; Hill and Clark, 2001; Whittington, 2001; Zeitlin, 1993). Most major cities had one or more ballcourts, large stone structures typically located in the centers of sites. Much recent work has focused on the ballcourts (de Montmollin, 1997; Fox, 1996; Schultz *et al.*, 1994; Taladoire, 1998, 2001). Hosler *et al.* (1999) have reconstructed the ancient technology used to manufacture rubber used for the balls (see also Filloy Nadal, 2001). Unfortunately, scholars remain unable to clarify the nature and social significance of what must have been an important event in ancient Mesoamerica. The significance of a Mesoamerican-looking ballcourt on the coast of Peru (Pozorski and Pozorski, 1995) remains unclear.

Excavation and analysis of offerings placed in association with temples has received considerable recent attention in Mesoamerica. Maya temples and buildings often have both dedicatory and termination offerings (Boteler-Mock, 1998; Kunen *et al.*, 2002; Schele and Mathews, 1998) that relate to a notion of buildings as living organisms that experience birth and death. The spectacular offerings excavated at the Aztec Templo Mayor in the 1980s have taken some time to fully analyze and publish, and a number of important studies have been published recently (López Luján, 1994; Olmos Frese, 1999; Velázquez Castro, 1999). Related fieldwork is still ongoing (Matos Moctezuma, 1999), and spectacular new offerings continue to appear (e.g., Barrera Rivera *et al.*, 2001). New reports have appeared on excavations in the ceremonial zone of Tenochtitlan's twin city Tlatelolco (González Rul, 1996, 1998), and among the more interesting findings are a group of rich offerings placed in front of a circular temple (Guilliem Arroyo, 1997, 1999).

One area of active research is the archaeological documentation of rituals, offerings, and shrines described in Mesoamerican ethnohistorical sources. Recent studies include excavations of ritual deposits likely created during the Aztec New Fire ceremony (Elson and Smith, 2001), the identification of distinctive ceramic ritual objects that match depictions in the codices of the Borgia group (Uruñuela *et al.*, 1997), and the use of codices to identify a new type of Aztec ceremonial altar (Klein, 2000). This approach promises to yield important insights into Postclassic Mesoamerican ritual practices. It is aided by the continuing publication of facsimiles (Anders *et al.*, 1993; Quiñones Keber, 1995) and analyses (Boone, 2000; Jiménez García, 1999; Love, 1994; Quiñones Keber, 2002) of the ritual codices of central Mexico and the Maya area. Particularly noteworthy for archaeologists are two works organized by Durand-Forest that focus specifically on the material objects in the central Mexican codices (Durand-Forest and Eisinger, 1998; Durand-Forest *et al.*, 2000), and Olivier's (1997, 2003) masterful analysis of the Aztec god Tezcatlipoca, which contains extended discussion of temples, objects, and practices and their archaeological manifestations.

The peoples of Mesoamerica and the Andes attributed sacred prominence and supernatural powers to natural features of the landscape, and they constructed shrines and carried out a variety of ritual practices outside of settlements in accordance with these beliefs. Scholars have applied the notion of "sacred landscape"

as an analytical tool in the analysis of these beliefs and practices (Anschuetz *et al.*, 2001; Knapp and Ashmore, 1999; Koontz *et al.*, 2001; Townsend, 1992). The most successful studies of sacred landscapes focus on Inka and Aztec society, cases where archaeological evidence of settlements, temples, and shrines can be combined with written documentation of rituals and beliefs.

Perhaps the most remarkable recent study of sacred landscapes is Bauer's (1998) research on the ceque system of imperial Cuzco. Ceques, as described in written sources, were cosmological lines that radiated out from the central imperial temple into the hinterland. Although the documents described shrines along the lines, the material component of the ceque system was not clear from earlier scholarship (Zuidema, 1964). By combining intensive archaeological survey, ethnographic interviews, and study of the original documents, Bauer identified many of the constituent shrines and sacred places (huacas) on the ground and discovered that the radiating lines have clear material expressions. He discovered that many of the lines, described in the documents as straight, actually make one or more turns. The ceque system shows how cosmological concepts were materially inscribed on the Inka hinterland, producing a sacred landscape with a decided political component.

Recent analyses of Andean pilgrimage centers such as the Island of the Sun in Lake Titicaca (Bauer and Stanish, 2001) and Cahuachi in the Nasca region (Silverman, 1993, 1994) provide another dimension to the sacred landscape concept. Perhaps the best known of Andean pilgrimage centers is the site of Pachacamac (Eeckhout, 1999), on the central coast of Peru. Uhle's original 1903 publication has been reprinted, along with a new introductory chapter by Shimada, that updates the chronological and cultural context of the site (Shimada, 1991).

The collection *To Change Place: Aztec Ceremonial Landscapes* (Carrasco, 1991) includes a number of studies that link specific rituals and beliefs—as described in written sources—to particular places in the landscape of the Basin of Mexico (this book was reprinted in 1998 with a different title, *Aztec Ceremonial Landscapes*). Although the correspondences are not as extensive as those documented for the Cuzco ceque system, these studies do provide an important spatial anchor for the rich ethnohistorical descriptions of Aztec ceremonies and myths (see also Aveni, 2001; D. Carrasco, 1999; Iwaniszewski, 1994). For the Classic Maya, studies of sacred landscapes are dominated by research on caves. Caves were important cosmological features in all Mesoamerican societies, and the karst landforms of much of the Maya area are riddled with caves containing offerings, burials, and other material remains of ritual activity (Bassie-Sweet, 1996; Brady, 1997; Brady and Prufer, 1999; Dixon *et al.*, 1998; Stone, 1995). In contrast to the empirically grounded cave research, other work on Classic Maya sacred landscapes is highly speculative in nature (e.g., Koontz *et al.*, 2001; Stone, 1992, 2002); see discussion below. In an interesting development, a team led by Manzanilla (Manzanilla *et al.*, 1994, 1996) has shown that the famous “cave” under the Pyramid of the Sun at Teotihuacan was in fact a quarry excavated by humans,

not a natural cave. The implications of this finding for models of the cosmological significance of that cave (e.g., Heyden, 1981) have yet to be explored.

Death and Sacrifice

Mortuary ritual has long been a major topic of study in the Andes, partly because of the extraordinary preservation of organic remains in the dry coastal environment. This trend continues with the publication of several important monographs and collections in recent years. Kaulicke has published two major studies (Kaulicke, 1997a, 2000) and an edited volume (Kaulicke, 1997b) that present specific case studies of burial patterns from the coast of Peru. Isbell (1997a,b) has presented an interpretive—if controversial (Browman, 1998)—study of mortuary monuments and their changing social contexts through time. Shorter analyses of the social contexts and significance of mortuary ritual are found in the papers assembled by Dillehay (1995), in several chapters in Silverman and Small (2002), and in the article by Castillo Butters (1993). Two books written for nonspecialist audiences (Kirkpatrick, 1992; Muscutt, 1998) contain useful information on mortuary patterns in the Moche and Chachapoyas regions. Mortuary remains and their inferred ritual origins also have received considerable attention among Mesoamericanists. Monographs describing burials at a number of major sites have appeared recently, including Monte Albán (Winter, 1996), Teotihuacan (Manzanilla and Serrano, 1999), and Tula (Gómez Serafín *et al.*, 1994), and articles describe burial practices at other sites (Chase and Chase, 1996; Middleton *et al.*, 1998; Román Berrelleza and López Luján, 1999).

Human sacrifice has emerged as a major topic of study in the Andes. Benson and Cook (2001) assembled a collection of studies illustrating widespread archaeological, osteological, and iconographic evidence for human sacrifice throughout the Andean past. Sacrifices at the city of Moche and high-altitude Inka offerings have received the greatest attention. Verano has conducted osteological and contextual analyses that reveal human sacrifice as a major form of ritual at the city of Moche (Verano, 2001a,b; Verano *et al.*, 1999). Frozen Inka sacrifices found in the high peaks of the Andes have attracted considerable media attention (Reinhard, 1996, 1997). Scholarly studies of these finds lag behind, although other less heavily publicized remains are now appearing in print (Schobinger, 2001). Research on Aztec human sacrifice has concentrated more on social and ideological explanations for the practice (Graulich, 2000; Winkelmann, 1998) and on iconography (Baquedano and Graulich, 1993) than on archaeological (Martínez Vargas, 1993) or osteological evidence (Pijoan and Mansilla Lory, 1997). Archaeological and osteological research on other Mesoamerican cultures now shows that human sacrifice was quite widespread in the Classic and Postclassic periods (Cid Beziez and Torres Sanders, 1995; Pereira and Stresser-Péan, 1995; Ramírez Urrea and Acosta Nieva, 1997; Torres Sanders and Cid Beziez, 1997).

Domestic Ritual

The analysis of ritual features and artifacts in domestic contexts has emerged as a major topic of study in Mesoamerica. Ceramic figurines, long relegated to typological, stylistic, and chronological analyses, have emerged as important components in social analyses of domestic rituals (Cyphers Guillén, 1993; Lesure, 1999, 2002; Marcus, 1996, 1998b). Studies of other ritual artifacts (such as censers), domestic burials, and shrines also are contributing to a growing understanding of the nature of ritual practices in the domestic realm (Brown, 2000; Masson, 1999b; McAnany, 1995; McAnany *et al.*, 1999; Plunket and Uruñuela, 1998; Rice, 1999).

Plunket's (2002) recent collection, *Domestic Ritual in Ancient Mesoamerica*, marks a culmination of this line of analysis and sets the groundwork for more detailed investigations of household-level ritual in the future. One issue that emerges in these essays is the relationship between domestic ritual and public or state-sponsored ritual. Several authors grapple with the question of whether comparisons of these two domains can inform us about dominant ideologies and their acceptance or rejection by commoners. Two of the themes discussed in Smith and Schreiber (2005)—ancestor veneration and feasting—also were important components of domestic ritual in Mesoamerica and the Andes.

Speculations on Classic Maya Cosmology

The Classic Maya have been the subject of considerable research on cosmology, myth, and religious symbolism (e.g., Bassie-Sweet, 1996; Freidel *et al.*, 1993; Paxton, 2001; Stone, 2002). Because there is very little direct empirical evidence for Classic Maya cosmology, interpretations generally rely on detailed analogies with later Maya peoples (from the Postclassic, the Spanish colonial, and the modern ethnographic periods). The existence of strong continuities in Maya thought across time and space is typically assumed, not demonstrated (e.g., Freidel *et al.*, 1993). Tate (1992, pp. 29–34), for example, talks alternatively about the Classic and Postclassic Maya as if there had been no change, claiming that Maya cities “tended to be unicultural, very conservative, and with a magic-cosmic worldview” (p. 34). Later, she suggests that this worldview still exists today (p. 142). This and other work on the Classic Maya has been criticized for presenting an “essentialized” view of the Maya (Cojtí Ren, 2002; Hervik, 1998; Klein, 1988; Pyburn, 1998, 1999). These critics point out unstated assumptions of an unchanging essence of “Maya-ness,” resistant to political and historical changes, which supposedly makes the Maya different from other peoples. This issue was one component of Klein *et al.*'s (2002) critique of research on ancient Mesoamerican shamanism, a view that was hotly contested by several Mayanist commentators.

Another trend in studies of Classic Maya cosmology is a willingness to offer wild speculations phrased in the language of reasoned interpretation. A few examples will show the nature of such works. For Fox (1996), a cache with

nine obsidian blades demonstrates that ballcourt features symbolized the Maya underworld (p. 485), and a cache with one shell and one bead in a Copan ballcourt “provides a microcosmic model of the universe, with the bead representing the earth and the shell the cosmic ocean” (p. 486). In Pugh’s (2003, p. 943) opinion, “The Castillo [a pyramid] and the Cenote Ch’en Mul formed the axis mundi (the primordial mountain-cave) of Mayapán, virtually standing between cosmic planes at the beginning of time.” In discussing *sacbeob* (roads or causeways), Shaw (2001, p. 266) states, “serving as axis mundi, sacbeob may have represented the Milky Way . . . [sacbeob] served as cosmograms, or models, of the Maya universe.”

The lack of direct evidence for Classic Maya “cosmograms” and the absence of explicit emic symbolic associations between the cosmos and features like causeways, reservoirs, or temples, do not deter the scholars cited above from freely speculating about Maya cosmology. Smith (2005b) discusses the application of the cosmogram concept to the ancient Maya; other scholars criticize this kind of speculative account of ancient cosmology (e.g., Flannery and Marcus, 1993; Kemp, 2000; Prem, 2000). Some studies of Maya cosmology and its possible architectural expressions are more carefully researched and cautiously phrased (Ashmore, 1991, 1992; Ashmore and Sabloff, 2002), but these too are open to criticisms of data and logic (Smith, 2003b). Many scholars seem to have a strong desire to reconstruct the meaning and symbolism of past buildings and cities. Unfortunately, they tend to focus on what Rapoport (1988, 1990) calls high-level meanings rather than the more archaeologically appropriate (and more easily recovered) middle- and low-level meanings (see discussion under “Urban Meaning and Symbolism” above). The analysis of ancient high-level meanings in the absence of textual data is usually a speculative endeavor. There is nothing wrong with speculation, but scholars should acknowledge when they are speculating instead of trying to pass off conjecture as empirical analysis.

HISTORY AND PROCESS

Archaeologists have used a wide variety of theoretical models to help understand processes of change in the complex societies of the ancient New World. In this section we briefly mention some of the more popular models and applications.

Cultural Evolution and Agency

In spite of criticism from Marxists (McGuire, 2002), postprocessualists (Johnson, 1999), and other social theorists (Mann, 1986), cultural evolutionism continues to be the dominant paradigm for understanding change in ancient Latin America. Drawing on a wide range of theoretical sources (Carneiro, 2003; Earle,

2002; Trigger, 1998), cultural evolutionism has “evolved” considerably from the simplistic unilineal models of the 1960s and 1970s (Spencer, 1993, 1997, 1998; Spencer and Redmond, 2001b, 2004). Four recent monographs—two each in Mesoamerica and the Andes—apply evolutionary models to substantial bodies of archaeological data, illustrating the power and diversity of this approach. Blanton *et al.* (1999) apply a model of change focusing on the systems concepts of boundaries, scale, and integration to the development of social complexity in the Valley of Oaxaca. This work is the latest in a line of continuing development of a distinctive evolutionary approach to ancient Mesoamerica (Blanton *et al.*, 1993, 1996). Their interpretations should be compared with Marcus and Flannery’s (1996) somewhat different model of the same evolutionary sequence. In contrast to Blanton *et al.*’s emphasis on settlement pattern data and varying spatial scales of analysis, Marcus and Flannery focus more heavily on excavated data viewed from the perspective of action theory (Flannery, 1999).

In an impressive monograph on cultural evolution in South America, Wilson (1999) focuses less on evolutionary theories and more on the explanation of ethnographic and archaeological data in terms of ecological variation. Stanish (2003) published a study of cultural evolution more comparable to the Mesoamerican works; he analyzes changing settlement patterns in the Titicaca region over time and generates a political economy-based model to explain the trajectory of change. Several recent edited collections contain papers on cultural evolutionary processes in Mesoamerica and the Andes (Feinman and Manzanilla, 2000; Feinman and Marcus, 1998; Haas, 2001), and these give a good overview of the diversity of current evolutionary approaches. Trigger (2003, p. 27) criticizes the model of cultural evolution used in the volume *Archaic States* (Feinman and Marcus, 1998) as limited and unilinear, proposing a more complex evolutionary model in its place (see also Smith, 2003; Trigger, 1998).

A number of Mesoamericanists have jumped on the “agency and praxis” bandwagon (Dobres and Robb, 2000; Pauketat, 2001), producing a wide range of social interpretations. As Dornan (2002) points out, archaeologists assign a plethora of meanings to the term “agency.” For some, agency refers to the heroic deeds of great men (Clark and Blake, 1994; Fash, 2002); for others “agency” suggests that people other than “great men” made a difference in the past (Joyce *et al.*, 2001; Robin, 2001). Some archaeologists present agency approaches as alternatives to the structural or institutional dominance of the cultural evolution paradigm (e.g., Hendon, 1996; Love, 2002), whereas others argue that agency is now a standard component of the basic cultural evolutionary approach (Marcus and Flannery, 1996, pp. 244–245; Spencer, 1993, 1997). Most agency approaches focus on the actions of individuals (Dornan, 2002), but Gillespie (1999, 2000, 2001) has developed a model suggesting that groups of people, not just individuals, had agency in ancient Mesoamerica. Houston and McAnany’s (2003) critique of “social constructionism” in Mesoamerican archaeology can be read as a criticism of some of the current agency models.

For many of the contributors to a recent collection (Hendon and Joyce, 2004), concepts of agency are now standard parts of archaeological arguments. We find the definition of agency in the glossary of that book underwhelming, however: “Agency. The ability of a person to choose to act in one way, given the possibility of alternative forms of action. Not all action is agency, and not all agency is consciously strategic” (Hendon and Joyce, 2004, p. 323). Interestingly, this is almost identical to the standard archaeological definition of style: “style involves a choice among various alternatives” (Hegmon, 1992, p. 518). This vague concept of agency provides some scholars (e.g., Hutson, 2002; Levi, 2002) with an excuse for publishing theory-driven speculation with little empirical support. In an article titled “Process and agency in early state formation,” Flannery (1999) concludes, “most processes are just long-term patterns of behavior by multiple agents” (p. 18). We agree with Flannery on this point and wonder whether agency theories have really advanced our understanding of ancient Mesoamerica; perhaps Andeanists have been wise to avoid jumping onto this bandwagon.

The formal analysis of complex systems is another social scientific bandwagon, but one Latin Americanist archaeologists have yet to flag down. There is an emerging interdisciplinary approach, associated particularly with research at the Santa Fe Institute, that synthesizes work in systems theory, simulation modeling, economics, psychology, chaos theory, and other disciplines (Gell-Mann, 1994; King, 2000; Lansing, 2003). Some of this literature deals with processes of cultural evolution (Bowles and Gintis, 1998; Shalizi, 1999), and a few Southwestern specialists have taken up the challenge of applying systems models to archaeological data (Kohler and Gumerman, 2000; Tainter and Tainter, 1996). Apart from a few isolated studies, however (e.g., Stanish, 2004), Latin Americanists have not yet answered Adams’ (2001) call to adopt complex systems models for the analysis of ancient state dynamics. An interest in nonformal approaches to social complexity, particularly rural complexity (Feinman and Marcus, 1998; Iannone and Connell, 2003; Richards and van Buren, 2000) represents a continuation of a strand of innovative research from the mid-1990s (Schwartz and Falconer, 1994; Stein and Rothman, 1994).

Linguistic Prehistory and Migration

Anthropologists have argued extensively over the extent to which language, genes, and material culture are closely associated over time. Those adopting the so-called “genetic model” argue that in many areas, including parts of Mesoamerica, these features were stable for long periods (Marcus, 1983; Marcus and Flannery, 1996; Renfrew, 1992, 2000; Vogt, 1964, 1994). If correct, this allows archaeologists to trace ethnic or linguistic groups back many centuries into the past. A recent development of this line of thought is the “wave of advance” model for the spread of languages with agricultural expansions (Bellwood, 2001; Bellwood

and Renfrew, 2003; Diamond and Bellwood, 2003; Renfrew, 2000). Other scholars, however, argue for the “ethnogenesis” model (Jones, 1997; Moore, 1994; Terrell, 2001) in which variation in languages, genes, and material culture is seen as independent. From this perspective, material culture can rarely be used to study linguistic or ethnic groups in the distant past. In one of the few applications of this approach in Latin American archaeology, Braswell (2001, 2003) explains the adoption of Nahua symbolism and objects by Postclassic highland Maya elites as a product of emulation and ethnogenesis rather than migrations of Nahua speakers.

Language distributions, however, make it clear that speakers of Nahua—like speakers of other native languages—did in fact move around in ancient times (although perhaps not in the case analyzed by Braswell). Historical linguists reconstruct protolanguages and trace migrations and contact episodes among speakers of different languages (Nichols, 1997; Renfrew *et al.*, 2000). Although this research has numerous implications for our understanding of New World complex societies, scholarship by linguists and archaeologists is generally conducted separately with only limited interaction. Linguists typically ignore archaeology or else use the data poorly (e.g., Dakin and Wichman, 2000; Hill, 2001), and archaeologists repay the favor by ignoring current research in historical linguistics; Smith (2003a, pp. 34–37), for example, uses outdated data on Nahuatl linguistics in his discussion of the Aztlan migrations (for current linguistic data on Nahuatl, see Kaufman, 2001). After a flurry of studies correlating archaeology and linguistics in the 1980s (e.g., DeBoer and Raymond, 1987; Josserand *et al.*, 1984; Joyce, 1983; Marcus, 1983; Smith, 1984), research slowed down in Latin America and there have been fewer recent studies (Browman, 1994; Goldstein, 2000; Sugiura Yamamoto, 1998). This is unfortunate given recent advances in historical linguistics (Justeson and Broadwell, 1996; Kaufman, 1994, 2001; Torero, 2002).

Of the various known mechanisms of language spread and change (Thomason and Kaufman, 1988), migration is probably the most promising topic for joint archaeological/linguistic analysis. The archaeological study of migration is only now emerging from several decades of languor. Recent methodological advances (e.g., Anthony, 1997; Burmeister, 2000; Moore, 2001) have yet to find much application in Mesoamerica or the Andes (although see Beekman and Christensen, 2003). In both Mesoamerica and the Andes in late pre-Hispanic times, immigration from distant lands was a common theme in myths of ethnic origins. Many scholars are content to accept such myths as historically accurate accounts rather than as ideologically charged mythical charters that may lack empirical validity (e.g., Asselbergs, 2001; Boot, 1997). In the Andes, according to oral traditions recorded by the Spanish, the Inka migrated to Cuzco, where they established their capital, from some point in the south. Recent work in the Cuzco heartland, however, supports a local origin for the Inka state (Bauer, 1992; Bauer and Covey, 2002; Covey, 2003), while ongoing research to the south finds merit in the possibility of migration from the area around Lake Titicaca (McEwan *et al.*, 2002).

New methods of bone chemistry analysis provide exciting data on potential movements of individuals from one environment to another (Price *et al.*, 2000; Tomczak, 2003; White *et al.*, 1998, 2000, 2001, 2002). Most interpretations of these data, however, are far more tentative and equivocal than archaeologists would like, and they will remain hypothetical until the analytical methods are refined further and combined with more extensive archaeological evidence. The ethnic/linguistic enclaves discussed in Smith and Schreiber (2005) provide the most secure current archaeological examples of ancient migrations among the complex societies of the New World. When new archaeological approaches to migration are integrated with historical linguistics and improvements in bone chemistry (and with a more critical approach to native historical migration stories), we will be in a much better position to address ancient movements of people in the New World.

The Effects of Climate and Environmental Change

A dramatic explosion of scientific data on Holocene climate and environmental changes promises to revise scholarly understanding of many episodes of social change among the complex societies of the New World. There is not space to review this literature here, and we refer the reader to recent monographs and collections (Bawden and Reycraft, 2000; Fowler, 2002; Gill, 2000; Lentz, 2000; Markgraf, 2001; McIntosh *et al.*, 2000b; Thompson *et al.*, 2000). Unfortunately, a number of theoretical and methodological obstacles stand in the way of integrating the new scientific data with the results of archaeological fieldwork. Theoretically, there is a polarization of scholars between groups that can be called environmentalists and culturalists. The environmentalists tend to take a simplistic view of human history and social change, assuming that documented environmental crises—from droughts to volcanic eruptions—must have had major impacts on human societies. If there were droughts around the time that a city or state collapsed, according to the environmentalists, then we need look no further for an explanation of the collapse. Examples of scholars taking this perspective include Binford *et al.* (1997), Gill (2000), Haug *et al.* (2003), Kolata *et al.* (2000), Moseley (1997), Siebe *et al.* (1996), and Weiss and Bradley (2001). The culturalists, on the other hand, emphasize human agency and resilience, arguing that environmental forces influence human society only indirectly, through the actions and beliefs of people. These scholars are strongly and vocally opposed to simple correlations between environmental or climatic events and social changes (Demarest, 2001; Erickson, 1999).

What is lacking in most debates over the role of environmental change is a middle ground between the obvious limitations of the two polar viewpoints; for the role of drought in the Classic Maya collapse, Webster (2002, pp. 239–247) is one of the few scholars with a reasoned interpretation between the two extremes. Part of the problem is theoretical; there are few conceptual or comparative models that

can integrate environmental data with archaeological data to produce explanations of social change (although see papers in Crumley, 1994; McIntosh *et al.*, 2000a). Much of the problem, however, is methodological. Without rigorous and precise chronologies, scholars have been able to argue for opposing positions using the same data. The city of Tiwanaku, for example, collapsed somewhere around A.D. 1000 (Kolata, 1993a, 1996). Kolata and colleagues present evidence of a major drought ca. A.D. 1100 (Binford *et al.*, 1997; Kolata, *et al.*, 2000). The drought presumably lowered the level of Lake Titicaca and drastically reduced the yields of raised fields that fed the city (leading to crisis and collapse).

Although no one is questioning the validity of the paleoenvironmental data, its relevance to the collapse of Tiwanaku cannot be evaluated until two major issues are resolved: the chronologies of the drought and the city, and the theoretical issue of how humans likely responded to drought in the Titicaca region (Erickson, 1999; Kolata *et al.*, 2000). A similar situation exists with respect to the possible association between the collapse of the Moche IV polity and a series of severe El Niño events around A.D. 600 (Moseley, 1997, 2002; Uceda and Canciani, 1993). Williams (2002) has constructed a more nuanced sequence of events, considering the effects of both drought and political change in the Moquegua Valley, in the late Middle Horizon. He finds that the expansion of Wari control in the upper valley, and especially the increased use of water to irrigate newly built agricultural terraces there, made the Tiwanaku occupation of the middle valley much more susceptible to the effects of drought.

We do not mean to sound too pessimistic about the new paleoenvironmental data and its usefulness. Current research that integrates archaeology and natural science data now provides more solid results that avoid the polar extremes of the environmentalists and the culturalists (Dunning *et al.*, 2002; Fisher *et al.*, 2003; Panfil *et al.*, 1998; Sheets, 2002; van Buren, 2001; van der Leeuw and Redman 2002). When more studies of this nature are published we will be in a far better position to evaluate models for the collapse of the lowland Classic Maya and Tiwanaku polities and other ancient processes of social change.

CONCLUSIONS

Given the increasing pace of archaeological fieldwork, analysis, and publication on the ancient states and empires of the New World over the past decade, the effort to summarize all new archaeological research has been a daunting task. The sheer volume of material precludes delving deeply into some of the topics we have touched on, but we have attempted to cover as many topics as evenly as space would allow. We conclude from this exercise that some areas of research have been particularly productive and successful over the past decade, especially in the realms of empires, mortuary rituals, and settlement patterns, and we expect that these areas will continue to receive productive attention in the future.

Other topics have received considerable attention from archaeologists, yet one is left with an odd feeling of dissatisfaction, a sense that scholars are spinning their wheels and not moving forward and providing new insights in these areas. We would include studies of religion and cosmology, as well as urban forms and meaning, in this category, and urge scholars to break out of their conceptual shackles and move in more productive and innovative directions. Impressive methodological advances in related fields, from historical linguistics to human genetic history to paleoenvironmental reconstruction, are beginning to have impacts on archaeological research agendas, but in many cases we scholars have yet to develop the methodological and conceptual tools to fully integrate these findings with our own data. We expect this situation to change for the better over the next decade, as our own theoretical models and understandings of the past grow more sophisticated and allow us to fruitfully integrate insights from other fields.

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