CHAPTER 2

APPROACHES TO COMPARATIVE ANALYSIS IN ARCHAEOLOGY

Michael E. Smith and Peter Peregrine

Archaeology is inherently comparative. Comparison is necessary to understand the material record, for one cannot identify or understand an object never before seen without comparing it to a known object. Comparison is also necessary to understand variation over time and space, for one cannot identify or investigate variation unless one has examples spanning a range of variation, nor can one examine change without examples spanning a range of time. Comparative analysis is the only way to identify regularities in human behavior, and it is also the only way to identify unique features of human societies. Indeed, to Bruce G. Trigger the comparative nature of archaeological data and analysis places archaeology at the heart of the most important issues in the social sciences:

The most important issue confronting the social sciences is the extent to which human behavior is shaped by factors that operate cross-culturally as opposed to factors that are unique to particular cultures. (Trigger 2003:3)

In this chapter we outline the ways archaeologists have used comparison to understand the material record and to explore variation over time and space. After a brief history of comparative research on ancient societies, we review the variety of approaches used by the authors of this volume using seven dimensions of the comparative method in archaeology.

History of Comparative Research

The comparison of material traits to explore variation over space and time has a long history in archaeology. Indeed, one could argue that such comparisons were one of the major contributions made by nineteenth-century antiquarians in shaping what would become the discipline of archaeology (Trigger 2006). In one of the earliest examples of scientific archaeology in

the New World, Cyrus Thomas (1898) compared ancient earthen mounds in the eastern United States to one another and to historic accounts of mound building and mound use. Through this comparison, Thomas established that there were several distinct mound building traditions, and all appear to have been built by the ancestors of contemporary Native Americans. In Europe, Gustav Oscar Montelius (1888) traveled extensively to museums and archaeological sites comparing the artifacts found in sealed deposits such as burials and hoards. Montelius used the information about objects that were never found in association to define six major periods within the Bronze Age, each of which, he posited, represented a different cultural tradition that spread across all of Europe.

In contemporary archaeology, the comparison of material traits for culture-historical purposes has been largely supplanted by chronometric dating techniques, although comparison as a means to perform seriation and stratigraphy still has a place (O'Brien and Lyman 1999). More commonly, comparisons are performed to aid in the interpretation of the archaeological record or to better understand variation. One major form of this has been the comparison of societal types (e.g., bands, tribes, chiefdoms, and states).

Comparative studies of societal "types" that allegedly encompass a core package of nonmaterial traits became increasingly common in archaeology with the rebirth of evolutionism in the 1960s, and particularly following the publication of Elman Service's *Primitive Social Organization* (1966). However, the comparison of societal types was also fostered by research on the origins of states and the recognition that early states appeared to share numerous features, despite being located in different parts of the world and evolving over varying spans of time. Few works focused on the comparison of societal types can easily be divorced from questions of process and origin; indeed, it was the origin of these societal types that underlay most comparative efforts (e.g., Adams 1966; Childe 1950; Sanders and Price 1968). However, a better way to examine evolutionary processes, such as the origins of urban societies or states, is to examine them over time, that is, diachronically.

Diachronic comparison was a staple method among the founders of the discipline of anthropology. In *Principles of Sociology*, for example, Herbert Spencer (1898–99) attempted to construct a general law of cultural evolution in part by providing examples of various stages of cultural evolution that included pre-Columbian Mexico, Pharonic Egypt, and the Roman Empire, among others. Similarly, Edward Tylor in *Primitive Culture* (1871) used a crude form of diachronic comparison to trace cultural "survivals"

and build evolutionary sequences. Lewis Henry Morgan used diachronic comparison in *Ancient Society* (1878) to establish a universal sequence of cultural evolution. Unfortunately, these early attempts at diachronic comparison were doomed to fail because the available archaeological data were crude and lacked absolute dates, preventing the establishment of an empirical sequence of change. The lack of true diachronic data was a significant flaw in the work of the early evolutionists, a flaw that was rightly seized upon by Boas and his students, who launched a damning criticism of both comparative analyses and evolutionary theory (a critical perspective that continues to this day – see, e.g., Nisbet 1969; Giddens 1984; Hodder 1986; and Pauketat 2001).

Although the paucity of data and the Boasian reaction against these early evolutionists halted comparative research for a time, a second generation of evolutionists followed with comparisons based on better data and more rigorous theory (Hallpike 1986; Harris 1968; Sanderson 1999; Trigger 2006). Foremost among these scholars was Vere Gordon Childe, whose Social Evolution (1951) provided something of a blueprint for diachronic cross-cultural comparisons using archaeological data. His basic position was that "archaeology can establish sequences of cultures in various natural regions. And these cultures represent societies or phases in the development of societies. Potentially, therefore, archaeological sequences reveal the chronological order in which kinds of society did historically emerge" (Childe 1951:17). To unleash this potential, Childe (pp. 22-29) suggested that archaeologists needed to focus their efforts on clarifying archaeological sequences based on what can be most clearly observed in the archaeological record: technology and economy. Such changes in technology and economy, Childe argued, led to changes in other aspects of culture and, in turn, to cultural evolution.

What Childe and others (e.g., Fried 1967; Parsons 1966; White 1959) demonstrated is that diachronic comparison is an excellent way to study cultural evolution (for a recent discussion, see Yoffee 1993). Through diachronic comparison, presumed causes can be demonstrated to precede presumed effects, and evolutionary patterns and processes can be identified and studied over time. These conclusions are in no way groundbreaking – historians and evolutionary biologists had been working in a comparative framework for generations – but, as a consequence of the Boasian reaction against comparative research, it took anthropology much longer to realize the value of comparative methodology (for further discussion, see Harris 1968; Sanderson 1990; Yengoyan 2006). Recent books by Bruce Trigger (1998, 2003) explore the conceptual and empirical record of comparative research in anthropology and archaeology.

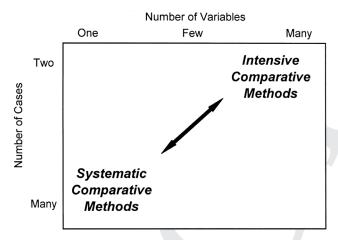


Figure 2.1. Intensive and systematic comparative strategies. After Caramani (2009:15); drawing by Miriam Cox.

Approaches to Comparison

There are many different approaches to comparative analysis in the social and historical sciences (e.g., C. R. Ember and Ember 2001; Gingrich and Fox 2002; Grew 1980; Hunt 2007; Mace and Pagel 1994; Mahoney 2004; Ragin 1987; Smelser 1976; Tilly 1984; Ward 2009; Westcoat 1994). Divergent approaches to comparison are sometimes discussed in terms of a contrast or continuum between what can be called systematic and intensive comparative methods (e.g., M. E. Smith 2006). Systematic studies, exemplified in anthropology by the cross-cultural research associated with the Human Relations Area Files, employ large sample sizes and typically use formal statistical methods of inference. In the social science literature on comparative analysis, systematic studies are often called "largescale" or "variable-oriented" studies (Caramani 2009). Intensive comparative research, on the other hand, focuses on a small number of cases, each analyzed in more depth and with greater contextualization (i.e., consideration of many variables). This approach is often called "small-scale" or "caseoriented" (Caramani 2009). Figure 2.1 illustrates the relationship between the systematic and intensive approaches in terms of the numbers of cases and variables typically employed. Although each approach has its value and usefulness (as do studies intermediate between the polar extremes), most researchers tend to be comfortable working with a particular kind of comparative analysis, and statements of the advantages of one or the other approach are common in the literature.

Comparative historians tend to be much more comfortable using intensive comparisons. Within the discipline of history, comparative studies occupy only a small number of scholars. As noted by Jürgen Kocka, "Many cherished principles of the historical discipline – proximity to the sources, context, and continuity – are sometimes in tension with the comparative approach" (2003:39). Those historians who do pursue comparative research argue forcefully in favor of context-heavy comparisons of only a few cases (Grew 1980; Haupt 2001; Kocka 2003; Tilly 1984). Charles Tilly, for example, concludes his book on comparative historical research with this statement:

It is tempting to look for finer and finer comparisons, with larger numbers of cases and more variables controlled. In the present state of our knowledge of big structures and large processes, that would be a serious error. It would be an error because with the multiplications of cases and the standardization of categories for comparison the theoretical return declines more rapidly than the empirical return rises. (Tilly 1984:144)

Some archaeologists agree with Tilly and other comparative historians and argue for the superiority of intensive comparisons over systematic approaches. Adam T. Smith, for example, explicitly positions his book toward the intensive end of the continuum:

The book is intended to help resuscitate a genre of anthropological writing that explores material in a comparative spirit without yielding to the reductionist tendencies that tend to cripple many such works. Thus, it was critical that each case be allowed to develop in its own right without the compression that results from traditional comparison. (A. T. Smith 2003:28)

The intensive approach to comparison has long been popular among anthropologists (Eggan 1954; Gingrich and Fox 2002; Yengoyan 2006) and archaeologists (Adams 1966; Earle 1997; Trigger 2003). Recently, comparative analysis has become an important approach among some Classicists, whose research clearly lies at the intensive end of the continuum (e.g., Dal Lago and Katsari 2008; Morris and Scheidel 2009; Scheidel 2009; Webster 2008). Within archaeology and anthropology, however, intensive comparative analysis has received little explicit methodological attention. Systematic comparative research, on the other hand, is the target of a significant body of methodological work. It seems logical that systematic comparison would be of great interest to archaeologists, because this approach is particularly well suited to the study of cultural evolution. As discussed earlier, the founders

9

of the discipline (Spencer, Tylor, and Morgan) employed systematic comparison, but their work was flawed by poor data and rudimentary statistical methods. The stigma of those flaws still haunts systematic comparison (e.g., autocorrelation bias is often called "Galton's problem," a reference to a question Francis Galton raised during one of Tylor's presentations to the Royal Anthropological Institute in 1889!), but well-designed samples like the Standard Cross-Cultural Sample (Murdock and White 1969), access to good ethnographic data through archives such as the Human Relations Area Files, and the development of statistical methods that can identify and correct flawed samples and data have led to greater confidence in systematic comparison (Peregrine 2001, 2004).

During the 1970s, archaeologists began to use comparative ethnology to interpret the archaeological record. Comparative ethnology refers to the statistical evaluation of theories or hypotheses using data from large (often worldwide) and clearly defined samples of cultures (C. R. Ember and Ember 2001). The importance of this approach is that if one can find a strong association in a worldwide sample of cultures, then one can assume that the association fits human behavior in general, and not just the customs of a particular culture or historically related group of cultures (Sanderson 1990:211-32). And, particularly important for the archaeologist, there is no a priori reason for this generalization not to hold for prehistoric cultures as well (M. Ember and Ember 1995:95–96). Although a large number of material indicators of human behavior have been identified (Blanton and Fargher 2008; C. R. Ember 2003; M. Ember and Ember 1995; McNett 1979; Peregrine 2004), comparative ethnology has yet to develop into an important archaeological tool. As McNett (1979:40) succinctly puts it, "One is rather at a loss to explain why this method has not been used more for archaeological purposes."

Dimensions of Comparison

Although contrasting the systematic and intensive approaches to comparison highlights some of the important issues of comparative research, most comparative work in archaeology today transcends this dichotomy or continuum. As exemplified by later chapters, contemporary comparative research by archaeologists covers a wide range of approaches, methods, and styles. To describe this variety adequately, we break the intensive–systematic continuum into nine separate dimensions of comparison (see Table 2.1): sample size (how many cases are compared?); sample selection (how are the cases selected?); contextualization (how thoroughly are the

TΩ

THE COMPARATIVE ARCHAEOLOGY OF COMPLEX SOCIETIES

Table 2.1. Dimensions of comparison dimensions

Sample size Sample selection Contextualization Scale Primary vs. secondary data Archaeological vs. historical data Synchronic vs. diachronic Stage in the research trajectory Spatial and temporal domain

cases contextualized?); scale (do the comparisons focus on whole societies or a limited domain?); primary versus secondary data; archaeological versus historical data; diachronic versus synchronic comparisons; stage in the research trajectory at which comparison is invoked; and spatial and temporal domain.

- 1. Sample Size. The sizes of samples that archaeologists use in their comparative research vary widely. As a study in the holocultural tradition, Peregrine (Chapter 8) employs a larger sample than most of the case studies in this volume; at the other extreme is the chapter by Earle and Smith (Chapter 10), who compare just two examples: Aztec and Inka provincial societies. Their study shows that "sample size," however, is not always a simple construct. Although they are comparing two societies, each of those societies is represented by several archaeological sites, each of which contributes several individual excavated domestic contexts. Although quantitative measures are calculated for each of these domestic contexts, they are arrayed and combined in a form that illustrates the fundamental social comparison of interest (Aztec and Inka provincial societies). Most of the other studies in this volume employ sample sizes somewhere between two and ten cases. Stark and Chance (Chapter 9) draw on many more empirical cases than the other chapters, but their use of these examples differs from most of the others. As discussed later under "Stage in the Research Trajectory," their analysis is directed at documenting and understanding the range of variation in their topic (provincial imperial strategies) rather than at controlled comparisons of individual societies or empires.
- 2. Sample Selection. The ability of holocultural research to employ random sampling, coupled with the extensive discussions of methodological issues of sampling in this literature (C. R. Ember and Ember 2001;

APPROACHES TO COMPARATIVE ANALYSIS IN ARCHAEOLOGY

Peregrine 2003), give this approach a significant advantage over other comparative approaches in sample selection. On the other hand, research projects positioned at the more intensive end of the continuum typically *cannot* employ random sampling because there are simply too few cases with the requisite richness of data and contextual control. For many archaeological studies, the sample consists of all of the cases that the author(s) can assemble with sufficient data that the authors feel they can comprehend and analyze. For example, Stark and Chance (Chapter 9) have assembled cases from nearly all of the known empires in the ancient and historical New World. At the extreme of small sample size, Earle and Smith (Chapter 10) limit their sample to cases in which they have personally conducted fieldwork. The reasons for this limitation have to do with the difficulties of generating extensive comparable primary data from published accounts for rich, artifact-based analyses like this, coupled with the paucity of projects that have gathered extensive relevant household-level data.

Unique in this collection, Peterson and Drennan (Chapter 6) employ a dynamic approach to sample size and sample selection. They began their comparative research on the historical trajectories of early complex societies with a comparison of three cases (Drennan and Peterson 2006). They subsequently identified an additional eight cases and added them to the original three for their discussion. These authors are actively seeking out additional cases that meet their data requirements (see Chapters 5 and 6), and thus their sample size will continue to grow.

One interesting approach to sample selection is to choose cases that are rich and diverse to explore new conceptual terrain. The goal of such comparisons is to build theory that will permit more rigorous and systematic comparisons at a later stage. Urban scholar Xavier de Souza Briggs (2004), for example, compares three "revelatory cases" (classical Rome, medieval Córdoba, and contemporary Los Angeles) to develop models of how large urban polities manage ethnic and cultural diversity. This was the context of one of the most influential comparative studies of early complex societies, Robert McC. Adams's (1966) *The Evolution of Urban Society*. Although Teotihuacan might have been a more appropriate choice of an early Mesoamerican urban society than much later Aztec Tenochtitlan, the richness of the historical data available for the latter case allowed Adams to develop a more sophisticated theoretical model for the rise of states, cities, and empires.

3. Contextualization. Contextualization in comparative research refers to the extent to which social, cultural, and historical details are provided to support and illuminate specific comparisons. As noted in the previous

discussion of systematic and intensive approaches, the nature and level of contextualization in comparative studies tend to vary inversely with the sample size. For example, the chapters with the largest sample sizes for formal comparisons – Peterson and Drennan (Chapter 6) and Peregrine (Chapter 8) employ lower levels of contextualization than do chapters with smaller sample sizes such as Fletcher (Chapter 11). But the level of contextualization also depends heavily on the scale of the comparisons (see next section). Earle and Smith (Chapter 10) have the smallest sample size (two cases), but because their comparison occurs on a narrow scale (households within economies), their level of contextualization is relatively low.

- 4. Scale. Productive archaeological comparisons can cover a wide range of analytical scales, from treatments of a single phenomena such as the shapes of houses (Whiting and Ayres 1968) or sedentism (Odell 1998) to comparisons of whole societies (Adams 1966; Trigger 2003). Most of the studies in this volume occupy a middle range, combining comparisons of specific features or institutions with broader contextual comparisons of societies as well. A common approach is to use one or more comparisons of specific traits in different cases to make inferences about the wider societies in question, with some discussion of how the societies compare on the broader scale. Whole-society comparisons can be interesting and illuminating, but at this stage of our understanding of ancient complex societies, comparisons at a more restricted scale may be more productive.
- 5. Primary Data, Secondary Data, and Interpretations. One of the important precepts of this book is that one should compare archaeological data rather than comparing interpretations of those data as made by diverse scholars (see discussion by Drennan and Peterson, Chapter 5). But the concept of data (defined as observations and measurements of empirical phenomena) is complex and multifaceted. Do we need to go back to original counts and descriptions of artifacts, or can we rely on published tabular data? What if not all analyzed contexts are included in the published reports? What if the contexts being compared have differing data-standardization procedures (e.g., percent vs. density, or percent of rim sherds vs. percent of all sherds)? These seemingly mundane issues present some of the biggest obstacles to formal comparative research using archaeological data. Earle and Smith (Chapter 10) discuss some of the problems of this sort that arose in their comparative study.

Most of the authors in this volume make an effort to base their analyses on primary archaeological data (and, in some cases, historical data). Stark and Chance (Chapter 9) and Monica L. Smith (Chapter 4) differ somewhat from

the other chapters in that their early-stage research relies, by necessity, on interpretations rather than primary data to a greater extent than the other chapters. One of the promising aspects of Drennan and Peterson's approach (Chapters 5 and 6) is their attempt to devise analytical approaches that are sufficiently robust to be applied to data sets that were not all collected or published in the same manner.

- 6. Archaeological and Historical Data. The interrelationships among archaeological and historical data are much-discussed topics among archaeologists working on complex societies (e.g., Moreland 2006; M. E. Smith 1992b; Storey 1999). Several of the following case studies employ both types of data, using the insights of each as necessary for the problem at hand (e.g., Fletcher, Chapter 11; Stark and Chance, Chapter 9). Earle and Smith use historical data to establish the general parameters of the societies being compared, but then focus their analysis on archaeological data. Finally, a number of chapters deal entirely with archaeological data; these are Smith (Chapter 4), Peterson and Drennan (Chapter 6), and Kolb (Chapter 7).
- 7. Synchronic versus Diachronic. Although the most fundamental strength of archaeological data is their chronological context – their record of change over long periods of time – the most common approach to comparative analysis in archaeology focuses on synchronic comparisons. The reasons for this are complex and involve the nature of time, social change, archaeological chronology, and the relationships among these domains (Bailey 2007; Dunnell 1982; Holdaway and Wandsnider 2008; M. E. Smith 1992a). There is a large body of literature on methods for synchronic anthropological (and archaeological) comparisons (e.g., C. R. Ember and Ember 2001) and numerous published case studies. In contrast, the topic of diachronic comparisons – in archaeology and other disciplines – is less well developed (see earlier discussion). One of the few methodological treatments of diachronic comparisons is that of Bartolini (1993). In this volume Monica Smith (Chapter 4) and Peterson and Drennan (Chapter 6) contribute important new perspectives on diachronic archaeological comparisons. The remaining case studies all treat time and change in some manner, but they are fundamentally synchronic comparisons.
- **8. Stage in the Research Trajectory.** Historian Raymond Grew (1980: 769) states that "comparison can aid historians at four stages of their work: (1) in asking questions, (2) in identifying historical problems, (3) in designing the appropriate research, and (4) in reaching and testing significant conclusions." Although this four-part classification seems too schematic to

apply directly to archaeological research, the notion that comparisons can be useful at a number of points along the trajectory of research on a particular problem is important. Many of the chapters in this book employ comparisons relatively late in the research sequence, drawing conclusions based on carefully selected samples (e.g., Chapters 7 and 10). Others, however, employ comparisons much earlier in the research process (e.g., Chapters 4 and 9).

Stark and Chance (Chapter 9), for example, explore the concept of provincial strategies. Because this topic had not previously been synthesized or subject to comparative or theoretical analysis, their study is positioned relatively early in the trajectory of comparative research on provincial strategies. Now that they have identified a number of such strategies and their implications, the next step would be a more formal comparison of the provincial strategies employed in a sample of empires. Such early-stage comparisons differ from late-stage comparisons, such as Earle and Smith's study. In contrast to provincial strategies, there are large bodies of research on households in agrarian states (e.g., Allison 1999; Netting et al., 1984) and on ancient economies (Earle 2002; Feinman and Nicholas 2004; M. E. Smith 2004). This material permits Earle and Smith to ask rather detailed questions about the differences between provincial household economics in the Inka and Aztec empires.

The issue of stage in the research trajectory can be complex. For example, Smith's initial view was that the research by Peterson and Drennan (Chapter 6) falls at the later end of this scale (i.e., later in the research process), because they have relatively well-developed concepts and measures. Peterson and Drennan, on the other hand, would place their research earlier in the research trajectory, in at least some ways. They see their work as exploratory in the sense that it will lead to the generation of new questions about the dynamics that produce this variability. Drennan stated in an email to Smith (November 5, 2008), "The actual work that we've done, especially in the Peterson and Drennan chapter [Chapter 6] though, is at a much, much earlier stage. In our view, we've only just scratched the surface of characterizing the variation that we seek ultimately to understand better. So, we see the empirical comparisons here as at a very initial exploratory stage in research." Perhaps these views can be reconciled by suggesting that their research fits within Grew's stage 4, but at a very early position within that stage.

9. Spatial and Temporal Domain. Most recent comparative research by archaeologists fits within two broad domains: regional comparisons and

global comparisons. Regional comparisons consider the archaeological cultures within a specific region and compare them over time to understand similarities and differences in cultural evolutionary processes (e.g., Blanton et al., 1993; Marcus and Flannery 1996; Cutright et al., 2010). Often the attempt is focused on understanding variation in how cultures have adapted to a particular area. Global comparisons consider archaeological cultures from diverse parts of the world (e.g., Earle 1997; Maisels 1999). These types of comparison have typically focused on major questions in cultural evolution such as the origins of agriculture and states. Although variation is of interest in global comparative studies, the main focus is often on identifying a single or group of similar processes that led to the same result in many areas of the world.

The chapters in this book are situated in between the categories of regional and global comparisons. None limit their domain to a single geographical region, yet none are truly global in striving to compare *all* known examples of a particular phenomenon. Peterson and Drennan's analysis (Chapter 6) is the most "global" study in the volume in terms of inclusion of many world regions.

A third domain, discussed by Feinman (Chapter 3) but not represented here by an empirical study, is the comparison of ancient cases with contexts in the modern world. Drennan and Peterson's (Chapter 5) point that only recently have we generated sufficient high-quality archaeological data to make robust comparative claims applies to ancient-modern comparisons as well, but work in this area is even more poorly developed. Although early papers on this topic may now appear simplistic and naïve (e.g., Martin and Gregory 1973), archaeologists have yet to progress very far with rigorous and relevant comparisons of ancient and modern social phenomena. Elsewhere I focus on several urban issues to argue that the reasons for this lack of progress lie less in the lack of archaeological data than in the realms of concepts and methods. Archaeologists need to engage conceptually with work in other disciplines to make effective ancient-modern comparisons, and we need to analyze (or reanalyze) our data so that we can address the topics and concepts of interest (M. E. Smith 2010).

The delay of archaeologists in seriously engaging ancient—modern comparisons (see Feinman, Chapter 3) has not stopped nonarchaeologists from doing this, however, and they frequently use outdated information or misuse archaeological data (Childs 2007; Pugh 2000). We agree with Feinman (Chapter 3) that it is up to archaeologists to engage the present as well as the past in our comparative endeavors.

The Chapters that Follow

The chapters in this book encompass a great diversity of approaches to comparison along the nine comparative dimensions discussed earlier. They are arranged in a rough progression from more general accounts to more specific accounts, and from relatively simpler to more complex societies. Gary Feinman (Chapter 3) makes an eloquent plea for expanding the conceptual and empirical domains of comparison within archaeology. Monica Smith (Chapter 4) compares three regional Neolithic trajectories toward greater complexity (the Levant, the Indus Valley, and the U.S. Southwest), focusing on the actions and decisions of individuals as key elements of change and stability.

Robert Drennan and Christian Peterson (Chapter 5) present a sophisticated conceptual and methodological discussion of issues in the comparison of archaeological trajectories. Then in Chapter 6, Peterson and Drennan apply their insights through an innovative and productive method for the rigorous comparison of settlement data from around the world. In Chapter 7, Michael Kolb shows some of the benefits of using a carefully delimited domain for comparison in a study of monuments in island societies. Peter Peregrine (Chapter 8) follows with the most systematic comparison represented in the book, a statistical study of the political strategies of leaders. Chapters 9 and 10 address New World empires, but using very different approaches and data. Barbara Stark and John Chance (Chapter 9) assemble an impressive range of archaeological and historical data on both pre-Hispanic and Spanish Colonial empires to identify a series of strategies that provincial peoples (rulers, elites, commoners) employed when confronted by expanding empires. In Chapter 10, Timothy Earle and Michael Smith compare provincial household economies before and after conquest by the Inka and Aztec empires.

Roland Fletcher, in Chapter 11, discusses a type of urban settlement – the low-density agrarian city – that is documented archaeologically in a number of regions. Chapter 12 by Smith draws together some of the insights and implications of the other chapters for the continuing development of comparative analysis as a productive approach in archaeology.

References Cited

Adams, Robert McC. 1966 The Evolution of Urban Society: Early Mesopotamia and Prehispanic Mexico. Aldine, Chicago.

Allison, Penelope M. (editor) 1999 The Archaeology of Household Activities. Routledge, New York.

- Bailey, Geoff N. 2007 Time Perspectives, Plimpsests, and the Archaeology of Time. *Journal of Anthropological Archaeology* 26:198–223.
- Bartolini, Stefano 1993 On Time and Comparative Research. *Journal of Theoretical Politics* 5:131–67.
- Blanton, Richard E. and Lane F. Fargher 2008 Collective Action in the Formation of Pre-Modern States. Springer, New York.
- Blanton, Richard E., Stephen A. Kowalewski, Gary M. Feinman, and Laura Finsten 1993 *Ancient Mesoamerica: A Comparison of Change in Three Regions.* 2nd ed. Cambridge University Press, New York.
- Briggs, Xavier de Souza 2004 Civilization in Color: The Multicultural City in Three Millennia. *City and Community* 3:311–42.
- Caramani, Daniele 2009 Introduction to the Comparative Method with Boolean Algebra. Quantitative Applications in the Social Sciences, vol. 158. Sage, Los Angeles.
- Childs, Craig 2007 Phoenix Falling? Will Phoenix Continue to Boom...or Bust Entirely? The Answer May Lie in the Ancient Hohokam City Buried Beneath. *High Country News* 37(April 16):10–16.
- Cutright, Robyn E., Enrique López–Hurtado, and Alexander J. Martin (editors) 2010 Comparative Perspectives on the Archaeology of Coastal South America/Perspectivas comparativas sobre la arqueología de la costa Sudamericana. Center for Comparative Archaeology, Pontificia Universidad Católica del Perú, and Ministerio de Cultura del Ecuador, Pittsburgh, Lima and Quito.
- Dal Lago, Enrico and Constantina Katsari (editors) 2008 Slave Systems, Ancient and Modern. Cambridge University Press, New York.
- Drennan, Robert D. and Christian E. Peterson 2006 Patterned Variation in Prehistoric Chiefdoms. *Proceedings of the National Academy of Sciences* 103:3960–67.
- Dunnell, Robert C. 1982 Science, Social Science, and Common Sense: The Agonizing Dilemma of Modern Archaeology. *Journal of Anthropological Research* 38:1–25.
- Earle, Timothy 1997 *How Chiefs Come to Power: The Political Economy in Prehistory*. Stanford University Press, Stanford.
- ______. 2002 Bronze Age Economics: The Beginnings of Political Economies. Westview Press, Boulder, CO.
- Eggan, Fred 1954 Social Anthropology and the Method of Controlled Comparison. American Anthropologist 56:743–63.
- Ember, Carol R. 2003 Cross-Cultural Research and its Relevance for Archaeological Inference. Paper presented at the Santa Fe Institute, Working Group on Language and Prehistory, Santa Fe, NM.
- Ember, Carol R. and Melvin Ember 2001 Cross-Cultural Research Methods. Alta Mira, Walnut Creek, CA.
- Ember, Melvin and Carol R. Ember 1995 Worldwide Cross-Cultural Studies and Their Relevance for Archaeology. *Journal of Archaeological Research* 3:87–111.
- Feinman, Gary M. and Linda M. Nicholas (editors) 2004 Archaeological Perspectives on Political Economies. University of Utah Press, Salt Lake City.
- Fried, Morton H. 1967 *The Evolution of Political Society: An Essay in Political Anthro*pology. Random House, New York.

- Giddens, Anthony 1984 The Constitution of Society: Outline of the Theory of Structuration. University of California Press, Berkeley.
- Gingrich, Andre and Richard G. Fox (editors) 2002 *Anthropology, By Comparison*. Routledge, New York.
- Grew, Raymond 1980 The Case for Comparing Histories. *American Historical Review* 85:763–78.
- Hallpike, Christopher R. 1986 The Principles of Social Evolution. Clarendon Press, Oxford.
- Harris, Marvin 1968 The Rise of Anthropological Theory: A History of Theories of Culture. Thomas Y. Crowell, New York.
- Haupt, Heinz-Gerhard 2001 Comparative History. In *International Encyclopedia of the Social and Behavioral Sciences*, edited by Neil J. Smelser and Paul B. Baltes, pp. 2397–403. Pergamon, Oxford.
- Hodder, Ian 1986 Reading the Past: Current Approaches to Interpretation in Archaeology. Cambridge University Press, New York.
- Holdaway, Simon and LuAnn Wandsnider (editors) 2008 *Time in Archaeology: Time Perspectivism Revisited*. University of Utah Press, Salt Lake City.
- Hunt, Robert C. 2007 Beyond Relativism: Comparability in Cultural Anthropology. Altamira Press, Lanham.
- Kocka, Jürgen 2003 Comparison and Beyond. History and Theory 42:39-44.
- Mace, Ruth and Mark Pagel 1994 The Comparative Method in Anthropology. *Current Anthropology* 35:549–64.
- Mahoney, James 2004 Comparative-Historical Methodology. *Annual Review of Sociology* 30:81–101.
- Maisels, Charles Keith 1999 Early Civilizations of the Old World: The Formative Histories of Egypt, the Levant, Mesopotamia, India, and China. Routledge, New York.
- Marcus, Joyce and Kent V. Flannery 1996 Zapotec Civilization: How Urban Society Evolved in Mexico's Oaxaca Valley. Thames and Hudson, New York.
- Martin, Paul S. and David A. Gregory 1973 Prehistoric and Contemporary Problems. In *The Archaeology of Arizona: A Study of the Southwest Region*, edited by Paul S. Martin and Fred Plog, pp. 361–68. Doubleday, Garden City.
- McNett, Charles W. 1979 The Cross-Cultural Method in Archaeology. *Advances in Archaeological Method and Theory* 2:39–76.
- Montelius, Oscar 1888 The Civilisation of Sweden in Heathen Times. Macmillan, New York.
- Moreland, John 2006 Archaeology and Texts: Subservience or Enlightenment. Annual Review of Anthropology 35:135–51.
- Morgan, Lewis Henry 1878 Ancient Society. H. Holt, New York.
- Morris, Ian and Walter Scheidel (editors) 2009 The Dynamics of Ancient Empires: State Power from Assyria to Byzantium. Oxford University Press, Oxford.
- Murdock, George P. and Douglas R. White 1969 Standard Cross-Cultural Sample. *Ethnology* 9:329–69.
- Netting, Robert McC., Richard R. Wilk, and R. J. Arnould (editors) 1984 *Households:* Comparative and Historical Studies of the Domestic Group. University of California Press, Berkeley.

- Nisbet, Robert A. 1969 Social Change and History. Oxford University Press, New York.
- O'Brien, Michael J. and R. Lee Lyman 1999 Seriation, Stratigraphy, and Index Fossils: The Backbone of Archaeological Dating. Kluwer, Norwell, MA.
- Odell, George H. 1998 Investigating Correlates of Sedentism and Domestication in Prehistoric North America. *American Anthropologist* 90:335–56.
- Parsons, Talcott 1966 Societies: Evolutionary and Comparative Perspectives. Prentice Hall, Englewood Cliffs.
- Pauketat, Timothy R. 2001 Practice and History in Archaeology: An Emerging Paradigm. *Anthropological Theory* 1:73–98.
- Peregrine, Peter N. 2001 *Outline of Cultural Materials*. Human Relations Area Files, New Haven.
- _____. 2003 Atlas of Cultural Evolution. World Cultures 14:2–88.
- 2004 Cross-Cultural Approaches in Archaeology: Comparative Ethnology, Comparative Archaeology, and Archaeoethnology. *Journal of Archaeological Research* 12:281–309.
- Pugh, Cedric 2000 Squatter Settlements: Their Sustainability, Architectural Contributions, and Socioeconomic Roles. *Cities* 17:325–37.
- Ragin, Charles C. 1987 The Comparative Method: Moving Beyond Qualitative and Quantitative Strategies. University of California Press, Berkeley.
- Sanders, William T. and Barbara J. Price 1968 Mesoamerica: The Evolution of a Civilization. Random House, New York.
- Sanderson, Stephen K. 1990 Social Evolutionism. Blackwell, Oxford.
- ______. 1999 Social Transformations: A General Theory of Historical Development. Rev. ed. Rowman and Littlefield, Lanham, MD.
- Scheidel, Walter (editor) 2009 Rome and China: Comparative Perspectives on Ancient World Empires. Oxford University Press, New York.
- Service, Elman R. 1966 *Primitive Social Organization*. Random House, New York. Smelser, Neil J. 1976 *Comparative Methods in the Social Sciences*. Prentice Hall Methods in the Social Sciences.
- ods of Social Science Series. Prentice Hall, Englewood Cliffs, NJ.
- Smith, Adam T. 2003 The Political Landscape: Constellations of Authority in Early Complex Polities. University of California Press, Berkeley.
- Smith, Michael E. 1992a Braudel's Temporal Rhythms and Chronology Theory in Archaeology. In *Annales, Archaeology, and Ethnohistory*, edited by A. Bernard Knapp, pp. 23–34. Cambridge University Press, New York.
- ______. 1992b Rhythms of Change in Postclassic Central Mexico: Archaeology, Ethnohistory, and the Braudellian Model. In *Annales, Archaeology, and Ethnohistory*, edited by A. Bernard Knapp, pp. 51–74. Cambridge University Press, New York.
- ______. 2004 The Archaeology of Ancient State Economies. *Annual Review of Anthropology* 33:73–102.
- . 2006 How Do Archaeologists Compare Early States? Book Review Essay on Bruce Trigger and Adam T. Smith. Reviews in Anthropology 35:5–35.
- 2010 Sprawl, Squatters, and Sustainable Cities: Can Archaeological Data Shed Light on Modern Urban Issues? *Cambridge Archaeological Journal* 20:229–53.
- Spencer, Herbert 1898–99 *Principles of Sociology*. 3 vols. Appleton, New York.

- Storey, Glenn R. 1999 Archaeology and Roman Society: Integrating Textual and Archaeological Data. *Journal of Archaeological Research* 7:203–48.
- Thomas, Cyrus 1898 Report on Mound Explorations of the Bureau of American Ethnology. *Annual Report of the Bureau of American Ethnology* 12:3-742.
- Tilly, Charles 1984 Big Structures, Large Processes, and Huge Comparisons. Russell Sage Foundation, New York.
- Trigger, Bruce G. 1998 Sociocultural Evolution: Calculation and Contingency. Blackwell, Oxford.
- _____. 2003 Understanding Early Civilizations: A Comparative Study. Cambridge University Press, New York.
- ______. 2006 A History of Archaeological Thought. 2nd ed. Cambridge University Press, New York.
- Tylor, Edward B. 1871 Primitive Culture. 2 vols. J. Murray, London.
- Ward, Kevin 2009 Towards a Relational Comparative Approach to the Study of Cities. *Progress in Human Geography* 33:1-17.
- Webster, Jane 2008 Less Beloved: Roman Archaeology, Slavery, and the Failure to Compare. *Archaeological Dialogues* 15(2):103–23.
- Westcoat, James L., Jr. 1994 Varieties of Geographic Comparison in the Earth Transformed. *Annals of the Association of American Geographers* 84:721–25.
- White, Leslie A. 1959 The Evolution of Culture: The Development of Civilization to the Fall of Rome. McGraw-Hill, New York.
- Whiting, John W. and B. Ayres 1968 Inferences from the Shape of Dwellings. In *Settlement Archaeology*, edited by Kwang Chif Chang, pp. 117–33. Yale University Press, New Haven.
- Yengoyan, Aram A. (editor) 2006 Modes of Comparison: Theory and Practice. University of Michigan Press, Ann Arbor.
- Yoffee, Norman 1993 Too Many Chiefs? (or, Safe Texts for the '90s). In *Archaeological Theory: Who Sets the Agenda?* edited by Norman Yoffee and Andrew Sherratt, pp. 60–78. Cambridge University Press, New York.