World-Systems Theory, Networks, and Modern-World Archaeology

Charles E. Orser, Jr.

Introduction

Archaeologists have been interested in research questions that by their nature spatially expand their investigations beyond the boundaries of a single site or even a small complex of related sites. Archaeologists with several topical specialties have investigated large topographical spaces, but an interest in extra-site space is particular pertinent to archaeologists examining the Postcolumbian world because of the global contacts that have occurred since about 1500 CE. This essay mainly focuses on world-systems theory, a set of concepts and approaches that permits the study of large networks of human interaction over broad spaces, and network theory, a less-specific, but perhaps more robust method of analysis of archaeology. Since its inception in the 1960s, world-systems theory has been used widely by archaeologists engaged in studying many aspects of human history. Within recent years, research in world-systems theory has grown, and this area of research today attracts a broad range of scholars from many different disciplines. Network theory has been less widely applied by archaeologists, despite the fact that it has abundant potential for archaeological analysis.

Theoretical Foundations

World-systems theory is not a conceptually unified way of examining the world. Rather, the theory is best conceptualized as an approach to conceptualizing macroscale cultural–historical phenomena that, in essence, has at least three common denominators: (1) a hesitancy to accept the independent validity of sociohistorical entities, such as tribes, peoples, and even nations as self-contained, isolated units; (2) an emphasis on a concept of relations to account for the interconnectedness of sociohistorical units through time and across space; and (3) some notion of systemic processes to help explain the nature of these relationships (Reno, 1996:6; see also Peregrine, 1996:1).

World-systems theory developed as part of the intellectual exercise directed toward understanding what it means to be "modern." Twentieth-century social thinkers who examined modernity—across a range of disciplines and using diverse conceptual models—have generally agreed that modernity represents a continuing process rather than a static condition or stage of evolutionary development. Not surprisingly, however, individual theorists have placed different emphasis on precisely what constitutes "the modern." For some, the act of becoming modern involves a relatively straightforward process that includes individuals confronting and taking advantage of key technological or scientific innovations (Antonelli et al., 1992; Black et al., 1991). Others perceive modernity to be reflected in a bureaucratically controlled consumerism (Lefebvre, 1984), while others conceptualize modernity as reflecting specific relationships between a society's base (where modernization occurs) and the superstructure (the ideological locus of modernism) (Jameson, 1991:310). Less important for archaeologists than how one may wish to define "modern times," or, once defined, to periodize this age, is the idea that a unique archaeology of the modern world

C.E. Orser, Jr. e-mail: corser@mail.nysed.gov

T. Majewski, D. Gaimster (eds.), *International Handbook of Historical Archaeology*,
DOI 10.1007/978-0-387-72071-5_14,

exists (Orser, 1996, 1999, 2000, 2004a, 2007b), and that world-systems theory provides one way to investigate it.

Understanding precisely how people and their social groups "become" modern naturally has occasioned considerable debate, both in academic and nonacademic policy-making settings. The seriousness of the debate was anchored in post-World War II attitudes toward "helping" non-Western peoples, with much of the decision-making by the developed nations being rooted in the belief that non-Westerners could improve their lot through a conscious acceptance of "modernization."

Ideas about the nature and effects of modernization are numerous and varied, but until recently they could be divided into two large categories: modernization theory and dependency theory. These theoretical camps developed after 1945 at the termination of the first military conflict that was truly global in nature. It must be noted, however, that the basic, overarching theoretical principles of modernization extend to the Enlightenment (see, e.g., Outram, 2005).

Modernization theorists tend to believe that all peoples, regardless of their customs, belief systems, or location in the world, can start on the road to modernity given the proper conditions. All that they require for the process to begin—for them to reach the so-called "take-off stage"—is for them to be presented with the opportunity. The most direct way to provide the conditions for "take-off" is for those with the most economic resources—usually large, industrialized, bureaucratic nations—to invest funds in non-industrialized places. Modernists believe, barring unforeseen complications, that this "investment in the future" should provide the necessary conditions for modernity to begin. The ultimate success of the process rests in the hands of those on the receiving end of the investment, because they must have the political structure, economic ability, and social desire to take advantage of the opportunity. Simply put, the people must have the will to "succeed." In addition, they must have political leaders who are willing to tackle the "modernization revolution" (Black et al., 1991:18). In reality, the political acceptance of modernization often includes making significant concessions to the contributing nations. These concessions can involve military intervention, political subservience, and loss of control over the developing nation's extractive products. The institutions promoting modern development typically encourage the construction of roads, dams, schools, factories, and other elements of "modern" living. If such tangible superstructural improvements do not foster modernization, that is "progress," the agents of modernization must work pragmatically to remove the "obstacles to improvement," whatever they may be (Gardner and Lewis, 1996:13–14). Such conscious action may include the destruction of "traditional" ways of life, programs that have considerable archaeological and anthropological import (Marliac, 1997, 2004; Miller, 1980; Robbins, 1999).

Dependency theorists disagree with modernization theorists. Though they work alongside modernization theorists, they offer a different interpretation of the modernization process. Heavily influenced by Marxian concepts, dependency theorists see modernization as an inherently unequal process. For them, "modern" nations exist only because their capitalist leaders have been willing and able to exploit the world's less technological peoples for their own gain (Hopkins, 1982:10–11). The underdevelopment of what was once called "The Third World" thus can be explained by the oppressive power of modern "haves" exploiting "have-nots," typically definable by their geographic location and their "non-modern" mode of living. This explanation for the material inequalities that became glaringly obvious during and immediately after World War II was not restricted to academic circles. Leftist revolutionary leaders in South America and elsewhere based their radical arguments against capitalist intervention on the work of dependency theorists in an effort to prove that programs of modernization could have deleterious implications for many of the world's peoples (Kirby, 1997:61–62).

Modernization and dependency theories had at least 20 years of serious longevity, but by the 1980s some development policy makers began to believe that neither theory had any lasting explanatory power. The "theoretical vacuum" that arose from the rejection of these two heretofore well-accepted, though controversial, theories led to an impasse in development thought (Booth, 1985; Schuurman, 1993). Many contemporary development theorists reject both theories in favor of a more postmodern perspective that views culture as an active discourse that involves the conscious actions of real men and women (and even children) who do not necessarily

act and react in accordance with large-scale grand theories (Gardner and Lewis, 1996; Kirby, 1997). The new perspective has been termed "articulation theory" (Reno, 1996:1–2). In a practical sense, though, many of the men and women who make daily decisions about development policy still use a modernization perspective, believing perhaps that investment capital can solve the world's problems. Critics use both dependency theory and postmodernism to refute the modernists' claims.

Dependency theorists created world-systems theory to explain inequality in global terms (Bach, 1982:165). World-systems theory has two varieties, each one being associated with a particular, prolific proponent. World-systems theory is identified with the work of sociologist Immanuel Wallerstein (and also more recently with sociologist Christopher Chase-Dunn), while world systems theory (with no hyphen) is mainly associated with the writings of political economist Andre Gunder Frank. Archaeologists have employed both variants in their research.

World-Systems Theory

As initially explained by Wallerstein (1974, 1979, 1980), the basis of world-systems theory is contained in the idea that, since the sixteenth century, a single capitalist world-economy has been the driving force behind the creation of the modern world. This "modern world-system" is exceedingly complex in its specific details, but in general, it incorporates three central features: (1) a single expanding economy, (2) expanding multiple states, and (3) the capital–labor relation (Hopkins, 1982:11).

The capitalist world-economy is distinguished by a mode of production organized around profitable exchange within a market economy (Wallerstein, 1979:159). The central structures of the world-economy are: (1) the world class system, (2) the core/periphery hierarchy, (3) the interstate system, and (4) the world market (Chase-Dunn, 1989:4). As a world-economy, capitalism incorporates a worldwide, single division of labor—simplistically modeled as divided between owners of the means of production and workers who use the means of production—situated within diverse cultural settings (see Blaut, 1993:206; Harvey, 2001:253–256). Capitalism, for all the power its agents can weld, is not political per se, and so the world-economy has an overarching economic structure but no consistent political framework. In fact, the integration of the system is maintained by the economic interdependence between the political units, not necessarily by political alliances (Chase-Dunn, 1992:11).

One of the primary characteristics of world-systems theory is that it exhibits a special spatial model that consists of cores and peripheries. In the capitalist world-economy, the cores are central places from which production and capital emanate, whereas the peripheries are places that are dependent on the cores (Murray, 2006:81). Population densities tend to be greater in cores than in peripheries, and competitive wage labor is more likely to occur in the cores, while coerced labor tends to characterize the peripheries. In truth, the terms "core" (or center) and "periphery" are artifacts of the post-1945 era, with both being created by the United Nations' Economic Commission on Latin America in 1948 specifically to distinguish between the industrialized, capitalized North, and the impoverished, nonindustrialized South (Gardner and Lewis, 1996:16; Portes and Walton, 1981:4–7). These dichotomous terms are today largely outdated (Murray, 2006:38), but when couched in such terms, we may easily imagine the unequal relations that were created and maintained between cores and peripheries. And, because world-systems analysis by definition relates to Postcolumbian history, scholars often use the word "cores" to refer to states and "peripheries" to refer to nonstate dependencies. This neat dyad is complicated, however, by the identification of semiperipheral polities, sociopolitical organizations that have characteristics of both cores and peripheries (Wallerstein, 1982:93). To complicate matters further, a periphery of a core may function as a core to another periphery.

The overall goal of world-systems theory is to investigate the nature of the inequalities that were instituted and maintained between cores and peripheries within the capitalist world-economy. The temporal frame of reference for world-systems

theorists tends to begin with the sixteenth century and extend to the present, because the economic inequalities that were built into nascent capitalism continue to be expressed around the world today.

World Systems Theory

Capitalism, as a world-economy, is one of the central characteristics of world-systems theory as formulated by Wallerstein and his followers. As a result, the world-system is technically a modern, Postcolumbian phenomenon. Thus, all those socio-historical organizations that spread across the known world in Precolumbian times by definition were originally not part of this world-system (though the hard-line distinction between the world-system and the world system has been more fluid recently; e.g., Chase-Dunn and Anderson, 2005). Wallerstein (1979:5–6) refers to these polities as "world-empires." World-empires maintained long-distance trade networks that fostered intercultural contacts, to be sure, but the exchanges did not constitute a major part of their economies. In addition, world-empires were held together politically, but they did not have an overarching economic structure.

Some scholars who would otherwise intellectually accept the notion of large-scale, global systems openly reject a world-systems perspective that foregrounds Postcolumbian capitalism. These scholars see nothing particularly unique or special about capitalist expansion, and argue that world systems (without the hyphen) have been in existence for at least 5000 years. The major proponent of this "continuationist" school (Chase-Dunn, 1993:407) has been Andre Gunder Frank.

Frank anticipated Wallerstein's work by a number of years. In an influential article, Frank (1966) argued that the global spread of capitalism has tended to institutionalize underdevelopment. As agents of capitalism moved outward from metropolitan centers (cores), they created numerous dependent satellites (peripheries). As the centers exploited the satellites for their own benefit, they created and reinforced inequality. Frank used a now-famous term, "the development of underdevelopment," to characterize the patently unequal relations the core's agents forged between the satellites and the metropolises.

While studying unequal relations, Frank came to the conclusion that his ideas about world systems could be extended backward in time beyond the European, capitalist expansions of the sixteenth century. Using the work of two Swedish anthropologists as a springboard (Ekholm and Friedman, 1982; also see Friedman, 1994; Wilkinson, 1987), Frank (1993, 1994; Frank and Gills, 1993) argued that the features of the world-system that appeared with the commencement of Postcolumbian history were in truth one element of a larger Afroeurasian cycle that had operated for thousands of years before the birth of Columbus (Chase-Dunn, 1996:247). For him, the rise of Europe in the sixteenth century was only one expression of a cycle that witnessed the rise and fall of core states, a process that extended at least into the Bronze Age (Frank, 1993:389; Gills and Frank, 1992). According to Frank, core–periphery relations have existed for centuries across the globe and are nothing new. Therefore, he advised scholars of world history not to place too strong an emphasis on the European development of capitalism (and the concomitant transition from feudalism to capitalism) as the most important feature of world history. His hope was to develop a truly global perspective, rather than a perspective that emanated from Europe (see Frank, 1998:8–34).

Frank (1993) made his case about the longevity of world systems by using archaeological information from western and central Asia. Sites located in Mesopotamia and elsewhere in the region provide evidence for the interconnectedness of ancient peoples by the kinds of artifacts that co-occur in the deposits of spatially dispersed sites.

Historical analysis supports Frank's thesis. Using historical sources, Janet Abu-Lughod (1989) has documented that large, non-capitalist world systems existed well before the rise of Europe. She shows that between 1250 and 1350 CE, Europe was only a small upstart among the more established networks that then blanketed the Eastern Hemisphere. Each one of the eight commercial networks she identifies—stretching from Genoa to Canton—incorporated elements that also may appear in capitalism: a standard currency, systems of credit, mechanisms for sharing risk, and pooled capital resources. Merchants became vastly wealthy in

all eight systems and were practically identical economically. This research, coupled with Frank's (1998) more recent work, argues against European exceptionalism and downplays any kind of historical disjuncture that occurred because of the rise of capitalism.

To summarize, beginning in the 1960s, two strains of world(-)systems theory have been developed. Wallerstein's version begins with the European exploration of the world and the concomitant spread of the capitalist world-economy, whereas Frank's version posits that world systems have existed since the Bronze Age. We may well imagine that historical archaeologists would be interested in each theory, perhaps particularly in Wallerstein's since he specifically designed it around Postcolumbian history.

World-Systems Research in Archaeology

Archaeologists can find much in world-systems theory to interest them. At the very least, the large-scale, interregional perspective provides a structure for analyzing connections between peoples who are different in culture and location. At first glance, it may appear that prehistorians with such interests would be inclined to use Frank's variant of world systems theory because he refutes the centrality of capitalism. That Wallerstein tended to ignore pre- and non-capitalist societies was not lost on those prehistorians who first tried to employ world-systems theory in their research (e.g., McGuire, 1992:137). To be fair, however, Frank constructed his ideas on long-distance world systems at the time when archaeologists were only just discovering Wallerstein. As a result, in the initial years of adoption, archaeologists either used Wallerstein's ideas wholesale or sought to adapt them to their particular research environment.

The Early Years of Adoption

When they first discovered world-systems theory, some archaeologists attempted to employ its central tenets to their own research throughout the world (e.g., Algaze, 1993; Blanton and Feinman, 1984; Blanton et al., 1992; Champion, 1989; Chase-Dunn and Hall, 1991; Edens, 1992; Hall and Chase-Dunn, 1993, 1994; King and Freer, 1995; Kohl, 1987; Peregrine, 1995; Peregrine and Feinman, 1996; Rowlands et al., 1987; Sanderson, 1995; Schortman and Urban, 1987, 1992). These efforts are distinct and each cannot be assessed here. A brief examination of how archaeologists used world-systems theory in the 1980s to explore connections between the American Southwest and Mesoamerica, however, will help to illustrate some of the promise and problems of the application of world-systems theory to Precolumbian archaeology.

Before the development of world-systems theory, archaeologists seeking to investigate possible links between the prehistoric Southwest and Mesoamerica tended to use two interpretive frameworks to explain the similarities they observed between the regions (McGuire, 1980; Riley, 1980:14–15; Wilcox, 1986:14–28). "Isolationists" argued for independent, endogenous cultural development in the Southwest, whereas "imperialists" favored more exogenous explanations, often experimenting with diffusion and migration models to account for cultural similarities between the two regions (Upham, 1982:206, 1986). After some initial interest in these interpretations, archaeologists began to acknowledge their explanatory deficiencies, and so many began to investigate the relevance of the core–periphery concepts from Wallerstein's world-systems theory. The use of this model was inspired at least in part by the archaeologists' desire to understand "the actual mechanisms of interaction" between cultures in the Southwest and in Mesoamerica (Pailes, 1980:24).

Richard Pailes and Joseph Whitecotton (1979) were two of the first archaeologists to attempt to adopt Wallerstein's concepts to archaeological analysis. As part of this project, they developed the notion of the "Mesoamerican World Economy" as a nonexplanatory, descriptive device to indicate that cultures in the prehistoric Southwest were part of a system whose boundaries stretched beyond the traditional limits of the Southwest culture area (e.g., Willey, 1966:178–181). They argued that the creation of the new term helped to overcome the misconceptions caused by the application of classic archaeological terms like "Hohokam" and "Anasazi," which

are "isolationist." Such terms tend to imply the presence of culturally homogeneous social organizations in the prehistoric Southwest and to deny possibly significant extraregional, intercultural connections. Making the assumption that central Mexico was the system's core, Pailes and Whitecotton's task was to determine the role of the Southwest in the system and to identify its peripheries and semiperipheries. They thus proposed that the ancient Southwest was a periphery to Mesoamerica's core, with regular trade in various minerals and cotton cloth being conducted southward (Pailes and Whitecotton, 1979:113–118; also see Pailes, 1980:36). They argued that Hohokam assemblages do not show extensive Mesoamerican influence because that culture was only slowly drawn into the Mesoamerican World Economy (Pailes and Whitecotton, 1979:115). They note that the strongest evidence for the "systemic relationship" between the Southwest and Mesoamerica comes from the end of the Toltec period. Both Toltec and Hohokam cultures can be shown to have undergone similar cultural adjustments, including increased warfare, site abandonment, and migration (Pailes and Whitecotton, 1979:117–118). Similarities can be identified at archaeological sites in the region, but following Wallerstein's original intention to use world-systems theory to explain inequality, the relationship between the two areas would be judged to be unequal: Mesoamerica, as core, must have exerted more influence on the American Southwest, as periphery, than vice versa (Pailes, 1980:36).

Whitecotton and Pailes (1986) later refined their view of the American Southwest as a Mesoamerican periphery by addressing the criticisms they had faced after the publication of the first article (Blanton and Feinman, 1984; Blanton et al., 1981). As argued by Blanton and his coauthors (1981:246), the Mesoamerican system was neither an empire nor a world-economy in Wallerstein's sense, because Mesoamerica was not held together by a large-scale, systemic economic relationship. Rather, what held the system together was an elite prestige structure that did not encompass all possible interregional exchanges and social interactions. In their view, elites were the "principal social mechanism" behind Mesoamerican culture from about 1000 BCE on, and only in its last two, Precolumbian centuries can the region be perceived as part of a world-economy in the strict sense intended by Wallerstein (Blanton et al., 1981:246). Before that time, the two regions simply interacted according to the wishes of the elites.

This brief overview indicates that archaeologists clearly have encountered problems when attempting to adopt Wallerstein's world-systems perspective to the prehistoric American Southwest. Nonetheless, even given its deficiencies, the theory does offer "a more productive framework for understanding the nature of Mesoamerica as a social entity" than earlier models stressing diffusionist or culturological interpretations (Blanton and Feinman, 1984:674). Critics of the Mesoamerican World Economy stress that concepts from world-systems theory must not be used blindly. They correctly note that, unless forced, Prehispanic Mesoamerica does not fit the conceptual mold outlined by Wallerstein. To make Wallerstein's ideas useful, "an additional category of world economy"—a "precapitalist world economy"—must be formulated (Blanton and Feinman, 1984:676). This world-economy must be structured around the exchange of highly valued luxury items or "preciosities" (after Schneider, 1977) rather than on market mechanisms. Using this framework, archaeologists must fully understand the exchange and consumption of luxury items, because this trade provided the impetus for Mesoamerican expansion and conquest. A reformulation of Wallerstein's framework therefore must include a place for "the systemic properties" of the luxury trade (Blanton and Feinman, 1984:679). In keeping with this line of reasoning, Whitecotton and Pailes (1986:185) agree that the importance of the trade in luxuries, and their distinction from necessities, is a fundamental issue that archaeologists must resolve to comprehend any world-system.

Not all archaeologists accepted that Wallerstein's world-systems theory could find application in the prehistoric American Southwest. After assessing the use of this theory, Randall McGuire (1986, see also 1989) offered an alternative model that integrated regional production and interregional exchange, two key elements needed to postulate a Southwest–Mesoamerican connection. McGuire (1986:245) argues that Wallerstein's failure to account for precapitalist, large-system dynamics represents a major obstacle to prehistorians

attempting to use his conceptual framework. Given the many problems inherent in adapting a Postcolumbian model to prehistory, McGuire (1986:246) proposes that Wallerstein's world-systems theory may serve best as a heuristic device. It can be useful for illustration and inspiration even though it may have little substantive, interpretive value (see also Upham, 1982:6).

Another important point noted by McGuire (1986:245) is Wallerstein's strong emphasis on cores, while tending to downplay, or even ignore, the important roles played by peripheries. Archaeologists often conduct field research in places that might be considered peripheries, and so they cannot be satisfied simply with identifying certain archaeological sites and site complexes as peripheries and then attempt to determine how the core affected them. Such unidirectional analysis may obscure the often-substantial ways in which the peripheries affected the entire system. At the same time, the identification of prehistoric cores, peripheries, and semiperipheries may invent a past that may not have existed (McGuire, 1992:137, 1996:60–61). Any identification of a core is subject to question in the absence of written records supporting its core status.

McGuire's careful analysis amply demonstrates the numerous, potentially serious problems of attempting to use world-systems theory in prehistory. Some scholars have tried to solve the application problem by conceptualizing world-systems in general terms, in ways generally consistent with Frank's view. For example, to broaden the applicability of the theory to Precolumbian epochs, some analysts have adopted the more generic term "core/periphery structures" (Hall and Chase-Dunn, 1996:16). As this term implies, some archaeologists have chosen to ignore the role of capitalism in Wallerstein's original formulation, preferring instead to focus on the nature of the relationships between cores and peripheries. Analysts adopting this perspective have identified two kinds of core–periphery relations: core/periphery differentiation and core/periphery hierarchy (Hall and Chase-Dunn, 1996). Core/periphery differentiation operates when societies at different levels of sociopolitical complexity interact within a network. A core/periphery hierarchy operates when one society in a world-system exercises political, economic, or ideological domination over other societies in the same system. Having made this distinction explicit, Hall and Chase-Dunn (1996:17) construct a typology of core–periphery relations reminiscent of Wolf's (1982) framework, consisting of "kin-based," "tributary," and "capitalist" modes of accumulation.

As may be expected, not everyone has been willing to accept this reformulation. One archaeologist has charged that attempts to use the terminology of world-systems theory, but only after generalizing its characteristics (in effect removing Wallerstein's original intent), merely makes world-systems theory a shorthand for "interregional interaction system" (Stein, 1999:158–159). Prominent scholars using world-systems theory in Precolumbian settings have embraced this association, stating "World-systems are *intersocietal interaction networks* in which culturally different peoples are strongly linked together by trade, political-military engagement and information flows" (Chase-Dunn et al., 2005:92; emphasis added). Such reformulation demonstrates the recent conceptual linkage of Wallerstein's and Frank's frameworks into an analytical structure that is global and pan-temporal (see Chase-Dunn and Anderson, 2005).

World-Systems Theory in Historical Archaeology

Archaeologists investigating Precolumbian sociohistorical settings have difficulty using Wallerstein's version of world-systems theory, essentially because he devised it as a model for Postcolumbian history. Excavators who have tried to use it either have had to mold it to their research designs (which for critics has meant diluting the theory to the point of making it unrecognizable) or have had to create cross-cultural, transhistoric frameworks that tend to be consistent with Frank's broader version of the theory. In either case, the use of world-systems theory has caused some measure of consternation among prehistorians. But what do historical archaeologists think about world-systems theory? We should easily imagine that because historical archaeologists—at least in one sense of the term—explicitly focus on Postcolumbian history (Orser, 2004b:21) they would be

drawn to world-systems theory in great numbers. At a minimum, we should suppose that world-systems theory has received considerable attention among historical archaeologists.

An interest in world-systems theory by historical archaeologists may be expected because some archaeologists seemed to anticipate it. For example, using artifact information collected from the late-nineteenth- and early-twentieth-century town of Silcott, Washington, William Adams (1976) demonstrated how the residents of the town were connected to a continent-wide network of trade. Adams's use of the term "interaction sphere" was reminiscent of the Hopewell Interaction Sphere (Struever and Houart, 1972), and thus may suggest an origin in the analysis of prehistory, but his research in this vein certainly has overtones of world-systems theory (also see Riordan and Adams, 1985). Also, in the same year that Wallerstein published *The Capitalist World-Economy*, an archaeologist explored the relationships between the distribution of artifacts at sites and the sites' place within national and local markets (Spencer-Wood, 1979). It seems logical in a capitalist economy that people living on major roads or on well-traversed waterways would have had greater access to consumer goods than men and women living in relatively isolated areas. Spencer-Wood (1979:125) concluded that "the location of a site strongly conditions the archaeological evidence of its involvement in the national market." But she also understood that though the relationship between location and market access appeared straightforward, the presence of consumer products at Postcolumbian sites is an extremely complicated issue that defies easy interpretation. Her research is not an example of world-systems theory, but it does have implications for further research using the theory. Though preliminary, her research offered two early directions for future inquiry. First, her attempt to link large-scale economics with specific archaeological sites and materials demonstrated the rich conceptual ground historical archaeologists might explore by using world-systems theory. Second, her research illustrated that archaeologists could contribute to an important area of research that up until then had appeared to be the sole domain of text-using, global thinkers.

Robert Paynter (1982) was perhaps the first historical archaeologist to offer an overt application of world-systems theory to the discipline. In his examination of early-nineteenth-century settlement in the Connecticut River valley of western Massachusetts, Paynter was specifically interested in understanding large-scale social relations as a framework for interpreting the material remains of the British world-system. Relying on world-systems models, he employed sophisticated computer analyses to argue that settlements in the river valley had been transformed from peripheries to cores in the 1800–1850 period.

Paynter's work stands out as an early example of the power of world-systems theory for interpreting Postcolumbian settlement, and it was generally well received at the time (see, e.g., Lightfoot, 1984). Some excavation-oriented archaeologists, however, may not have given Paynter's analysis much credence because he relied on cartographic and demographic historical sources and detailed statistics rather than excavated information (e.g., Adams, 1985). Towns constituted his smallest analytical unit, so he did not face the practical problem of having to relate the theory to tangible archaeological remains.

Paynter was not alone in excluding archaeological evidence from his use of world-systems analysis in the 1980s. For example, archaeologists in Australasia also were experimenting with the utility of world-systems theory. Dennis Jeans (1988) explored Australia's place in the capitalist world-economy and provided comments about the role world-systems theory might play in guiding further archaeological research in Australasian historical archaeology. Like Paynter, he did not provide an example using excavated remains. In a later study, Denise Gaughwin (1992) presented another study from the same region. Investigating extractive industries in Northeast Tasmania, Gaughwin began by explaining Tasmania's place in the world economy from 1850 to 1920, and used her considerable understanding of this economy to create a typology of archaeological sites based upon the amount of capital associated with each site. Thus, she distinguished sites where a mining company had spent a great deal of money from smaller, less-capitalized sites. Her model proposed that field surveyors should be able to distinguish these sites by the complexity of their physical remains and also by their importance within the larger world economy.

Like most historical archaeologists pursuing the investigation of overarching frameworks prior to empirical analysis, Gaughwin was careful to note that her ideas were tentative and preliminary. Also in the 1980s, Stanley South (1988) used excavated data to demonstrate how a sixteenth-century Spanish town on the South Carolina coast called Santa Elena was enmeshed in the Spanish world-system. South was explicit in his use of world-systems theory and presented 25 "arguments of relevance," or "postulates concerning the archaeological record" to account for the presence of specific artifacts at Santa Elena (South, 1988:39–43). In his first postulate, South states that the artifacts found at the site should be expected to reflect the change in Santa Elena's position in the world-system from an important power center from 1566 to 1576 to a tribute-collecting center from 1577 to 1587. He specifically designed his postulates to link the archaeological findings with the world-system that his extensive historical research indicated that Spain had operated in the sixteenth century.

By the late 1980s, world-systems theory was a topic of interest to historical archaeologists, although the precise amount of interest is difficult to gauge. In any case, the application of the theory to Postcolumbian archaeology was prominent enough to occasion evaluation and critique. At the time, Mark Leone and Parker Potter (1988) offered the most detailed critique of world-systems theory. They enumerated three strengths of the theory for historical archaeology (Leone and Potter, 1988:4–5). First, they proposed that conceptualizing Postcolumbian archaeological sites as existing within a global system allows archaeologists to conduct comparative studies that stretch across continents. Second, they noted that the world-systems perspective forces historical archaeologists to think about unequal wealth, power, and profit, and from these topics to the broader issues surrounding capitalism. And finally, they stated that the archaeological interest in frontiers (actual physical spaces on peripheries) ultimately speaks to colonialism, nationalism, and imperialism, all central issues in much historical archaeology.

Leone and Potter thus found much that is useful in world-systems theory, but at the same time, they were troubled by an equal number of unappealing features of the theory. They deemed these factors so serious that they considered the use of world-systems theory problematic even in the archaeology of Postcolumbian history. In the first place, because world-systems theory is inherently evolutionary, Leone and Potter did not believe that it could account well for failure, irrationality, or emotion. They observed that world-systems theory is a goal-directed perspective that models the unrelenting march of the capitalist enterprise without taking time to notice the often-tiny but yet significant sidesteps where "progress" is hampered by men and women who wish to remain outside the system. For them, this problem with the theory leads to a second issue that the theory does not provide for—the understanding of indigenous cultures. World-systems theorists may be expert at locating and describing a core's frontiers, but they are less successful in interpreting what happens beyond the cores. This omission is glaringly obvious to anthropologists (e.g., Wolf, 1982:23) and anthropologically trained archaeologists. And finally, Leone and Potter argued that world-systems theorists have generally been unable to create a strong connection between past and present. World-systems theorists may cast the past in terms of the present without being explicit about the ways in which one relates to the other. Leone and Potter thus see the root of the problem resting in the theory's essentializing functionalism. Its users tend to believe that "the elements of a society can be fitted together to achieve a view to how that society worked or works" (Leone and Potter, 1988:3).

At the time, Leone and Potter's critique was supplemented by archaeologists who rejected world-systems theory outright by arguing that archaeologists simply cannot excavate entire systems (Schuyler, 1988). After all, archaeology is, at its foundation, an intensely local endeavor, with a central focus usually being on one particular locale, or even one specific place within a locale. This stance is difficult to argue against on a practical level, and this criticism alone undoubtedly has kept many historical archaeologists from exploring world-systems theory. Accordingly, many historical archaeologists simply ignored world-systems theory. For example, the concept is totally absent in the oddly mistitled book, *Historical Archaeology in Global Perspective* (Falk, 1991). The closest approximation to any kind of global approach in

the book is James Deetz's (1991) call for an "international comparative approach to historical archaeology." Deetz (1991:8) clearly conceptualized something intellectually akin to world-systems theory in this approach, but he neither mentioned the theory by name nor explained how archaeologists could develop the international approach beyond the simple comparison of artifacts from one part of the world with those from another. He did mention linking cores and peripheries (which he termed "two different places") and he explored the affinities between England and the Eastern Cape province of South Africa. In the end, however, he offered few insights on how one could tie the places together.

The reticence to explore the utility of world-systems theory in historical archaeology, however, was not universal. In the early 1990s, a number of students prepared doctoral dissertations that tested the application of world-systems theory to their areas of interest.

Aron Crowell (1994, later revised and published 1997) examined a number of sites on Kodiak Island, Alaska, explicitly using world-systems theory to conceptualize the late-eighteenth- and early-nineteenth-century Russian fur trade in North America. Crowell argued that the Russians instituted a mode of production in the region based upon the payment of a tax on the indigenous inhabitants of Alaska and Siberia. This structure constitutes an example of Wolf's (1982) "tributary system." Trade goods, given to indigenous hunters and headmen as rewards, were distributed throughout the system based on the intensity of Russian contact. The complexity of the system's operation was demonstrated in the archaeological remains by the Russian fur traders' reliance on Native material culture. Their growing dependency matched the Natives' reliance on the introduced material culture. Crowell's use of world-systems theory created a heuristic structure within which he could conceptualize and investigate capitalist expansion and exploitation. The well-developed core manufactured the goods given to the indigenous inhabitants of the peripheries, with production being manipulated to meet the demands of the Native fur trappers. In this tributary arrangement, the Natives were expected to supply the Russians with hostages, labor, and food. Earlier archaeologists may have modeled the relationship between the indigenous Unangan and Qikertarmiut groups and the Russian fur traders as one based purely on acculturation, but Crowell's use of world-systems theory immediately established their relations as unequal, hierarchical, and linked in a two-directional way.

In another study, Ronald Reno (1996) used world-systems theory to analyze charcoal production in the Eureka Mining District of Nevada between 1869 and 1891. After examining hundreds of features associated with the production of charcoal and after extensive archival research, Reno concluded that the charcoal industry was but one subsystem within industrial capitalism. A network of face-to-face social relations made the subsystem operate, rather than simply the iron fist of the mine owners. Middlemen linked miners and smelters into a single mode of production. As noted above, Reno used articulation theory to extend world-systems theory. Articulation theory relies less on the conceptualization of discrete entities, such as cores and peripheries, and more on the relations between interacting individuals and polities (see Berman, 1984 for further information). The society that developed around Eureka, Nevada, did not embody a rigid capitalist hegemony—as the strictest use of world-systems theory might demand—but rather was characterized by a series of negotiations between mine owners, their agents, and the workers. Reno's findings are significant because he indicates that social relations may be a more fruitful line of inquiry than a dogmatic adherence to world-systems theory.

In another doctoral dissertation, completed in 1998 and published in 2003, Mark Groover employed world-systems theory to investigate the Gibbs farmstead in southern Appalachia. Groover used the core–semiperiphery–periphery structure to model the economics of the region between 1790 and 1920—the dates of the site's occupation—because of the area's history of unequal development. Groover argued that southern Appalachia effectively operated as a periphery from which resources and commodities were extracted, beginning with the extensive deerskin trade of the eighteenth century. Equally important to the capitalist world-economy is the creation of a consumer culture, which Groover documented at the Gibbs site using excavated artifacts.

Is There a Future for World-Systems Theory in Historical Archaeology?

The continued use of world-systems theory, even in revised form, indicates the interest some historical archaeologists continue to show in the perspective. As noted above, however, use of world-systems theory is not without controversy, and individual archaeologists hold different opinions about the theory, ranging from complete acceptance to complete rejection. Some adopt a middle course, opting for a cautious acceptance based on modification.

Some archaeologists reject world-systems theory as "totalizing" (Lucas, 2006:39), but many others, in addition to those cited above, have adopted a more measured approach, arguing for careful evaluation before complete rejection (Baram and Carroll, 2000:13–15; Gibb, 1996:9; Jamieson, 2000:17). Most archaeologists who have explored the utility of world-systems theory in their research have concluded correctly that it must not be used slavishly. The model of cores–semiperipheries–peripheries should not be used to create a historical reality that did not exist (Kohl, 2007:246). The labeling of archaeological units in this fashion undoubtedly carries the risk of reification, though it must be said that this problem is not unique to the application of world-systems theory.

Scholars in many disciplines continue to explore the utility of world-systems theory for understanding both historical and contemporary life. Much of the recent research appears in the *Journal of World-Systems Research*, but other journals (such as *Globalizations*) also contain articles that help to extend the concept of global analysis. Sociologists continue to show sustained interest in world-systems theory (e.g., Bata and Bergesen, 2002; Grosfoguel and Cervantes-Rodríguez, 2002; Hall, 2000; Podobnik and Reifer, 2004), and geographers, too, have continued to investigate world-systems theory and other global models (Blaut, 1993; Harvey, 2001:253–266; Moore, 2003; Murray, 2006:31, 45). Historians and anthropologists have examined long-term history and large-scale geographical space in terms that generally are consistent with the basic tenets and goals of world-systems research, albeit usually without directly referencing it (e.g., Harland-Jacobs, 1999; King, 1997; Linebaugh and Rediker, 2000; Nussbaum, 2003; Tsing, 2000). Much of this research stresses the examination of globalization as a cultural phenomenon, rather than focusing on world-systems theory per se. Even many archaeologists continue to investigate large-scale issues, such as global change (Hardesty, 2007), but generally do so without acknowledging world-systems theory.

Archaeologists, even those investigating the modern world, have legitimate concerns about adopting world-systems theory in its entirety. The charge that its use may tend to force the creation of analytical units that do not match past actuality is perhaps the most serious charge against it.

Many of the problems associated with the application of world-systems theory to archaeological analysis can be overcome by adopting an overt network model. I have explored the archaeological use of network theory elsewhere (Orser, 1996:29–55, 2004b:61–62, 2004c:119–125, 2005, 2007a), so only a brief overview is necessary here. A salient point is that network theory is generally consistent with the goals of world-system theory, but without the need to reify or to give artificial preference to cores, semiperipheries, or peripheries. Rather, network theory emphasizes the connections between sociospatial entities however they are defined in each sociohistorical context.

The basis of social network theory, as opposed to the network theory of applied mathematics and physics, is that humans interact through a series of connections or social relations. The relations, which include complex human-to-human and human-to-environment associations, occur within distinct sociohistorical settings. As a result, the social relations only have meaning within that social milieu. Of course, however, the social milieu can be local, regional, or, in the case of Postcolumbian history, intercontinental and cross-cultural.

Social networks are easy to conceptualize as a collection of points (also called nodes or vertices) connected by lines (called links or edges) (Haggett and Chorley, 1969:5; Wasserman and Faust, 1994:93). Whereas sociologists may examine the way in which individuals interact in a social club or political institution, the archaeologist's concern with networks also must incorporate the role of material culture in fostering and maintaining social connections. Given the temporal strengths of archaeological research, archaeologists must keep in mind that social relations, both human and

environmental, extend through time and across space. Time depth and spatial expression are important components of network theory in archaeology, especially in the Postcolumbian era, when long-term, large-space affiliations were created as part of the capitalist world-system.

The role of capitalism in the sociohistorical formation under investigation, of course, must be determined, but, in general, the inclusion of capitalism as both an economic and an extra-economic variable means that issues of unequal power necessarily must be considered. Here, again, we can see the role of world-systems theory, because it models unequal relationships as given. In archaeological research, however, the direction of the unequal relations is not known a priori. For example, settlers from Europe in North America may have had greater technological power than indigenous peoples, but indigenous peoples definitely had greater power over the understanding of the environment.

One strength of network theory is that it permits the investigation of socio-spatial units on various scales. This ability of social network theory retains the basic goal of world-systems theory without the fear of reification. Archaeologists are never bound to the limits of a single site, nor are they required to decide whether and perhaps when a site, site complex, or regional cultural expression operated as core or periphery. Rather, they are free to examine the connections between peoples and places without the need for such identification.

The ability of archaeologists to move across temporal and spatial scales is of paramount importance. The application of world-systems and network theories depends upon it. Regarding world-systems theory, Feinman (1996:118) made this explicit: "as long as world-systems scholars proclaim the macro-scale to be the most important unit for sociohistorical analysis, I do not see world-systems perspectives gaining their deserved attention in archaeology." Thus, for world-systems theory to have any usage in archaeology, even historical archaeology, archaeologists must be willing to be ever mindful of the grand ideas of the theory, but yet always conscious of the tiny details at individual sites. The most recent research noted above demonstrates how the dual focus on macro- and microscales is possible.

Conclusion

Without question, world-systems theory has had an impact on archaeological research since Wallerstein and Frank first presented their ideas. Archaeologists immediately found their ideas and concepts intriguing because they appeared to provide ways to investigate both the small and the large. Archaeologists investigating Precolumbian history soon discovered, however, that perspectives that incorporated capitalism and other "modern" cultural expressions were difficult to mold to prehistory. Historical archaeologists have had considerably more success with the theory, but have found the greatest benefit in using some modified form of it. Much of the reformulation of the theory has the character of network theory, an apparently more robust set of concepts and approaches more suitable to archaeological research.

The future of world-systems theory in historical archaeology remains largely unresolved. Many archaeologists undoubtedly will continue to ignore it, favoring more ideational forms of analysis, but others surely will continue to explore its applicability to the archaeology of the modern world. The greatest potential for world-systems theory in historical archaeology appears to lie in the exploration of the socio-spatial relations between men and women who lived within the capitalist world-economy, or what I have elsewhere termed the "modern world." Studies of this nature will be challenging to create and difficult to present because, by their very nature, they must be detailed and broad at the same time. The use of network models in conjunction with selected concepts from world-systems theory offers abundant research potential for historical archaeologists. In any case, it has yet to be demonstrated conclusively that the theories have no place in the discipline.

References

Abu-Lughod, J.L., 1989, *Before European Hegemony: The World System, A.D. 1250–1350*. Oxford University Press, New York.

Adams, W.H., 1976, Trade Networks and Interaction Spheres—A View from Silcott. *Historical Archaeology* 10:99–112.

Adams, W.H., 1985, Review of *Models of Spatial Inequality: Settlement Patterns in Historical Archaeology* by Robert Paynter. *Historical Archaeology* 19(2):135–136.

Algaze, G., 1993, *The Uruk World System: The Dynamics of Expansion of Early Mesopotamian Civilization*. University of Chicago Press, Chicago.

Antonelli, C., Petit, P., and Tahan, G., 1992, *The Economics of Industrial Modernization*. Academic Press, London.

Bach, R.L., 1982, On the Holism of a World-System Perspective. In *World-Systems Analysis: Theory and Methodology*, edited by T.K. Hopkins and I. Wallerstein, pp. 159–180. Sage, Beverly Hills, California.

Baram, U., and Carroll, L., 2000, The Future of the Ottoman Past. In *A Historical Archaeology of the Ottoman Empire: Breaking New Ground*, edited by U. Baram and L. Carroll, pp. 3–32. Kluwer Academic/Plenum, New York.

Bata, M., and Bergesen, A.J., 2002, Global Inequalities: An Introduction. *Journal of World-Systems Research* 7:2–6.

Berman, B.J., 1984, The Concept of "Articulation" and the Political Economy of Colonialism. *Canadian Journal of African Studies* 18:407–414.

Black, C.E., Dupree, L., Endicott-West, E., Matuszewski, D.C., Naby, E., and Waldron, A.N., 1991, *The Modernization of Inner Asia*. M. E. Sharpe, Armonk, New York.

Blanton, R.E., and Feinman, G., 1984, The Mesoamerican World System. *American Anthropologist* 86:673–682.

Blanton, R.E., Kowalewski, S., Feinman, G., and Appel, J., 1981, *Ancient Mesoamerica: A Comparison of Change in Three Regions*. Cambridge University Press, Cambridge.

Blanton, R.E., Kowalewski, S., and Feinman, G., 1992, The Mesoamerican World-System. *Review* 15:419–426.

Blaut, J.M., 1993, *The Colonizer's Model of the World: Geographical Diffusionism and Eurocentric History*. Guilford, New York.

Booth, D., 1985, Marxism and Development Sociology: Interpreting the Impasse. *World Development* 13:761–787.

Champion, T.C., editor, 1989, *Centre and Periphery: Comparative Studies in Archaeology*. Unwin Hyman, London.

Chase-Dunn, C., 1989, *Global Formation: Structures of the World-Economy*. Blackwell, Cambridge, Massachusetts.

Chase-Dunn, C., 1992, Theoretical Approaches to World-Systems Analysis. In *Perspectives and Issues in International Political Economy*, edited by C. Polychroniou, pp. 3–20. Praeger, Westport, Connecticut.

Chase-Dunn, C., 1993, Comment on "Bronze Age World System Cycles" by A. G. Frank. *Current Anthropology* 34:407–408.

Chase-Dunn, C., 1996, World-Systems: Similarities and Differences. In *The Underdevelopment of Development: Essays in Honor of Andre Gunder Frank*, edited by S.C. Chew and R.A. Denemark, pp. 246–258. Sage, Thousand Oaks, California.

Chase-Dunn, C., and Anderson, E.N., 2005, *The Historical Evolution of World-Systems*. Palgrave Macmillan, New York.

Chase-Dunn, C., and Hall, T.D., editors, 1991, *Core-Periphery Relations in Precapitalist Worlds*. Westview Press, Boulder, Colorado.

Chase-Dunn, C., Álvarez, A., and Pasciuti, D., 2005, Power and Size: Urbanization and Empire Formation in World-Systems since the Bronze Age. In *The Historical Evolution of World-Systems*, edited by C. Chase-Dunn E.N. Anderson, pp. 92–112. Palgrave Macmillan, New York.

Crowell, A.L., 1994, *World System Archaeology at Three Saints Harbor, an 18th-Century Russian Fur Trade Site on Kodiak Island, Alaska*. Ph.D. dissertation, University of California, Berkeley. University Microfilms, Ann Arbor.

Crowell, A.L., 1997, *Archaeology and the Capitalist World System: A Study from Russian America*. Plenum Press, New York.

Deetz, J., 1991, Introduction: Archaeological Evidence of Sixteenth- and Seventeenth-Century Encounters. In *Historical Archaeology in Global Perspective*, edited by L. Falk, pp. 1–9. Smithsonian Institution Press, Washington, D.C.

Edens, C., 1992, Dynamics of Trade in the Ancient Mesopotamian "World System." *American Anthropologist* 94:118–139.

Ekholm, K., and Friedman, J., 1982, "Capital Imperialism" and Exploitation in the Ancient World System. *Review* 6:87–110.

Falk, L., 1991, *Historical Archaeology in Global Perspective*. Smithsonian Institution Press, Washington, D.C.

Feinman, G.M., 1996, Conclusions. In *Pre-Columbian World System*, edited by P.N. Peregrine and G.M. Feinman, pp. 115–121. Prehistory Press, Madison, Wisconsin.

Frank, A.G., 1966, The Development of Underdevelopment. *Monthly Review* 18:17–31.

Frank, A.G., 1993, Bronze Age World System Cycles. *Current Anthropology* 34:383–429.

Frank, A.G., 1994, The World Economy System in Asia Before European Hegemony. *The Historian* 56:259–276.

Frank, A.G., 1998, *ReOrient: Global Economy in the Asian Age*. University of California Press, Berkeley.

Frank, A.G., and Gills, B.K., editors, 1993, *The World-System: Five Hundred Years or Five Thousand?* Routledge, London.

Friedman, J., 1994, *Cultural Identity and Global Process*. Sage, London.

Gardner, K., and Lewis, D., 1996, *Anthropology, Development, and the Post-Modern Challenge*. Pluto Press, London.

Gaughwin, D., 1992, Trade, Capital, and the Development of Extractive Industries of Northeast Tasmania. *Australasian Historical Archaeology* 10:55–64.

Gibb, J.G., 1996, *The Archaeology of Wealth: Consumer Behavior in English America*. Plenum, New York.

Gills, B.K., and Frank, A.G., 1992, World System Cycles, Crises, and Hegemonial Shifts, 1700 B.C. to 1700 A.D. *Review* 15:621–687.

Groover, M.D., 2003, *An Archaeological Study of Rural Capitalism and Material Life: The Gibbs Farmstead in Southern Appalachia, 1790–1920*. Kluwer Academic/Plenum, New York.

Grosfoguel, R., and Cervantes-Rodríguez, A.M., 2002, *The Modern/Colonial/Capitalist World-System in the Twentieth Century: Global Processes, Antisystemic Movements, and the Geopolitics of Knowledge*. Praeger, Westport, Connecticut.

Haggett, P., and Chorley, R.J., 1969, *Network Analysis in Geography*. St. Martin's Press, New York.

Hall, T. D., editor, 2000, *A World-Systems Reader: New Perspectives on Gender, Urbanism, Cultures, Indigenous Peoples, and Ecology*. Rowman and Littlefield, Lanham, Maryland.

Hall, T.D., and Chase-Dunn, C., 1993, The World-Systems Perspective and Archaeology: Forward into the Past. *Journal of Archaeological Research* 1:121–143.

Hall, T.D., and Chase-Dunn, C., 1994, Forward to the Past: World-Systems before 1500. *Sociological Forum* 9:295–306.

Hall, T.D., and Chase-Dunn, C., 1996, Comparing World-Systems: Concepts and Hypothesis. In *Pre-Columbian World Systems*, edited by P.N. Peregrine and G.M. Feinman, pp. 11–25. Prehistory Press, Madison, Wisconsin.

Hardesty, D.L., 2007, Perspectives on Global-Change Archaeology. *American Anthropologist* 109:1–7.

Harland-Jacobs, J., 1999, "Hands Across the Sea": The Masonic Network, British Imperialism, and the North Atlantic World. *Geographical Review* 89:237–253.

Harvey, D., 2001, *Spaces of Capital: Towards a Critical Geography*. Routledge, New York.

Hopkins, T.K., 1982, The Study of the Capitalist World-Economy: Some Introductory Consideration. In *World-Systems Analysis: Theory and Methodology*, edited by T. K. Hopkins and I. Wallerstein, pp. 9–38. Sage, Beverly Hills, California.

Jameson, F., 1991, *Postmodernism, or, The Cultural Logic of Late Capitalism*. Duke University Press, Durham.

Jamieson, R.W., 2000, *Domestic Architecture and Power: The Historical Archaeology of Colonial Ecuador*. Kluwer Academic/Plenum, New York.

Jeans, D.N., 1988, World Systems Theory: A Theoretical Context for Australian Historical Archaeology. In *Archaeology and Colonisation: Australia in the World Context*, edited by J. Birminghan, D. Baristow, and A. Wilson, pp. 57–63. The Australian Society for Historical Archaeology, Sydney.

King, A.D., editor, 1997, *Culture, Globalization, and the World-System: Contemporary Conditions for the Representation of Identity*. University of Minnesota Press, Minneapolis.

King, A., and Freer, J.A., 1995, The Mississippian Southeast: A World-Systems Perspective. In *Native American Interactions: Multiscalar Analyses and Interpretations in the Eastern Woodlands*, edited by M.S. Nassaney and K.E. Sassaman, pp. 266–288. University of Tennessee Press, Knoxville.

Kirby, P., 1997, *Poverty amid Plenty: World and Irish Development Reconsidered*. Trócaire and Gill and Macmillan, Dublin.

Kohl, P.L., 1987, The Use and Abuse of World Systems Theory: The Case of the Pristine West Asian State. In *Advances in Archaeological Method and Theory*, vol. 11, edited by M.B. Schiffer, pp. 1–35. Academic Press, San Diego.

Kohl, P.L., 2007, *The Making of Bronze Age Eurasia*. Cambridge University Press, Cambridge.

Lefebvre, H., 1984, *Everyday Life in the Modern World*. Edited by S. Rabinovitch, Transaction, New Brunswick, New Jersey.

Leone, M.P., and Potter, P.B., Jr., 1988, Introduction: Issues in Historical Archaeology. In *The Recovery of Meaning: Historical Archaeology in the Eastern United States*, edited by M.P. Leone and P.B. Potter, Jr., pp. 1–22. Smithsonian Institution Press, Washington, D.C.

Lightfoot, K., 1984, Review of *Models of Spatial Inequality: Settlement Patterns in Historical Archaeology* by Robert Paynter. *American Antiquity* 49:198–199.

Linebaugh, P., and Rediker, M., 2000, *The Many-Headed Hydra: Sailors, Slaves, Commoners, and the Hidden History of the Revolutionary Atlantic*. Beacon, Boston.

Lucas, G., 2006, Historical Archaeology and Time. In *The Cambridge Companion to Historical Archaeology*, edited by D. Hick and M.C. Beaudry, pp. 34–47. Cambridge University Press, Cambridge.

McGuire, R.H., 1980, The Mesoamerican Connection in the Southwest. *Kiva* 46:3–38.

McGuire, R.H., 1986, Economics and Modes of Production in the Prehistoric Southwestern Periphery. In *Ripples in the Chichimec Sea: New Considerations of Southwestern-Mesoamerican Interactions*, edited by F.J. Mathien and R. H. McGuire, pp. 243–269. Southern Illinois University Press, Carbondale.

McGuire, R.H., 1989, The Greater Southwest as a Periphery of Mesoamerica. In *Centre and Periphery: Comparative Studies in Archaeology*, edited by T.C. Champion, pp. 40–66. Unwin Hyman, London.

McGuire, R.H., 1992, *A Marxist Archaeology*. Academic Press, San Diego.

McGuire, R.H., 1996, The Limits of World-Systems Theory for the Study of Prehistory. In *Pre-Columbian World Systems*, edited by P.N. Peregrine and G.M. Feinman, pp. 51–64. Prehistory Press, Madison, Wisconsin.

Marliac, A., 1997, Archaeology and Development: A Difficult Dialogue. *International Journal of Historical Archaeology* 1:323–337.

Marliac, A., 2004, Is Archaeology Developmental? *International Journal of Historical Archaeology* 8:67–80.

Miller, D., 1980, Archaeology and Development. *Current Anthropology* 21:709–726.

Moore, J.W., 2003, The Modern-World System as Environmental History? Ecology and the Rise of Capitalism. *Theory and Society* 32:307–377.

Murray, W.E., 2006, *Geographies of Globalization*. Routledge, London.

Nussbaum, F.A., editor, 2003, *The Global Eighteenth Century*. Johns Hopkins University Press, Baltimore.

Orser, C.E., Jr., 1996, *A Historical Archaeology of the Modern World*. Plenum, New York.

Orser, C.E., Jr., 1999, Negotiating Our "Familiar" Pasts. In *The Familiar Past? Archaeologies of Later Historical Britain*, edited by S. Tarlow and S. West, pp. 273–285. Routledge, London.

Orser, C.E., Jr., 2000, Taking the Pulse of Emerging Modernity. *International Journal of Historical Archaeology* 4:275–280.

Orser, C.E., Jr., 2004a, The Archaeologies of Recent History: Post-Medieval, Historical, and Modern-World. In *The Blackwell Companion to Archaeology*, edited by J. Bintliff, pp. 272–290. Blackwell, Oxford.

Orser, C.E., Jr., 2004b, *Historical Archaeology*, 2nd ed. Pearson Prentice Hall, Upper Saddle River, New Jersey.

Orser, C.E., Jr., 2004c, *Race and Practice in Archaeological Interpretation*. University of Pennsylvania Press, Philadelphia.

Orser, C.E., Jr., 2005, Network Theory and the Archaeology of Modern History. In *Global Archaeological Theory: Contextual Voices and Contemporary Thoughts*, edited by P.P. Funari, A. Zarankin, and E. Stovel, pp. 77–95. Kluwer Academic/Plenum, New York.

Orser, C.E., Jr., 2007a, *An Archaeology of Race and Racialization in Historic America*. University Press of Florida, Gainesville, forthcoming.

Orser, C.E., Jr., 2007b, The Global and the Local in Modern-World Archaeology. In *Constructing Post Medieval Archaeology in Italy: A New Agenda*, edited by S. Gelichi and M. Librenti, Università Ca' Foscari Venezia, Venice, forthcoming.

Outram, D., 2005, *The Enlightenment*. 2nd ed. Cambridge University Press, Cambridge.

Pailes, R.A., 1980, The Upper Rio Sonora Valley in Prehistoric Times. *Transactions of the Illinois Academy of Science* 72(4):20–39.

Pailes, R.A., and Whitecotton, J.W., 1979, The Greater Southwest and the Mesoamerican "World" System: An Explanatory Model of Frontier Relationships. In *Comparative Studies*, edited by W.W. Savage, Jr. and S.I. Thompson, pp. 105–121. The Frontier, vol. 2. University of Oklahoma Press, Norman.

Paynter, R., 1982, *Models of Spatial Inequality: Settlement Patterns in Historical Archaeology*. Academic Press, New York.

Peregrine, P.N., 1995, Networks of Power: The Mississippian World-System. In *Native American Interactions: Multiscalar Analyses and Interpretations in the Eastern Woodlands*, edited by M.S. Nassaney and K.E. Sassaman, pp. 245–265. University of Tennessee Press, Knoxville.

Peregrine, P.N., 1996, Introduction: World-Systems Theory and Archaeology. In *Pre-Columbian World Systems*, edited by P.N. Peregrine and G.M. Feinman, pp. 1–10. Prehistory Press, Madison, Wisconsin.

Peregrine, P.N., and Feinman, G.M., editors, 1996, *Pre-Columbian World Systems*. Prehistory Press, Madison, Wisconsin.

Podobnik, B., and Reifer, T.E., 2004, The Globalization Protest Movement in Comparative Perspective. *Journal of World-Systems Research* 10:3–9.

Portes, A., and Walton, J., 1981, *Labor, Class, and the International System*. Academic Press, New York.

Reno, R.L., 1996, *Fuel for the Frontier: Industrial Archaeology of Charcoal Production in the Eureka Mining District, Nevada, 1869–1891*. Ph.D. dissertation, University of Nevada, Reno. University Microfilms, Ann Arbor.

Riley, C.L., 1980, Trade and Contact in the Prehistoric Southwest. *Transactions of the Illinois Academy of Science* 72(4):13–19.

Riordan, T.B., and Adams, W.H., 1985, Commodity Flows and National Market Access. *Historical Archaeology* 19(2):5–18.

Robbins, R.H., 1999, *Global Problems and the Culture of Capitalism*. Allyn and Bacon, Boston.

Rowlands, M., Larsen, M., and Kristiansen, K., editors 1987, *Centre and Periphery in the Ancient World*. Cambridge University Press, Cambridge.

Sanderson, S.K., editor, 1995, *Civilizations and World-Systems: Two Approaches to the Study of World-Historical Change*. Altamira, Walnut Creek, California.

Schneider, J., 1977, Was There a Pre-Capitalist World-System? *Peasant Studies* 6:20–29.

Schortman, E., and Urban, P., 1987, Modeling Interregional Interaction in Prehistory. In *Advances in Archaeological Method and Theory*, Vol. 11, edited by M.B. Schiffer, pp. 37–95. Academic Press, San Diego.

Schortman, E., and Urban, P., editors, 1992, *Resources, Power, and Interregional Interaction*. Plenum Press, New York.

Schuurman, F.J., editor, 1993, *Beyond the Impasse: New Directions in Development Theory*. Zed, London.

Schuyler, R.L., 1988, Archaeological Remains, Documents, and Anthropology: A Call for a New Culture History. *Historical Archaeology* 22(1):36–42.

South, S., 1988, Santa Elena: Threshold of Conquest. In *The Recovery of Meaning: Historical Archaeology in the Eastern United States*, edited by M.P. Leone and P.B. Potter, Jr., pp. 27–71. Smithsonian Institution Press, Washington, D.C.

Spencer-Wood, S.M., 1979, The National American Market in Historical Archaeology: Urban versus Rural Perspectives. In *Ecological Anthropology of the Middle Connecticut River Valley*, edited by R. Paynter, pp. 117–128. Department of Anthropology, University of Massachusetts, Amherst.

Stein, G.J., 1999, Rethinking World-Systems: Power, Distance, and Diasporas in the Dynamics of Interregional Interaction. In *World-Systems Theory in Practice: Leadership, Production, and Exchange*, edited by P.N. Kardulias, pp. 153–177. Rowman and Littlefield, Lanham, Massachusetts.

Struever, S., and Houart, G.L., 1972, An Analysis of the Hopewell Interaction Sphere. In *Social Exchange and Interaction*, edited by E.N. Wilmsen, pp. 47–79. Museum of Anthropology, University of Michigan, Ann Arbor.

Tsing, A., 2000, The Global Situation. *Cultural Anthropology* 15:327–360.

Upham, S., 1982, *Politics and Power: An Economic and Political History of the Western Pueblo*. Academic Press, New York.

Upham, S., 1986, Imperialists, Isolationists, World Systems, and Politics Realities: Perspectives on Mesoamerican-Southwestern Interactions. In *Ripples in the Chichimec Sea: New Considerations of Southwestern-Mesoamerican Interactions*, edited by F.J. Mathien and R.H. McGuire, pp. 205–219. Southern Illinois University Press, Carbondale.

Wallerstein, I., 1974, *The Modern World-System I: Capitalist Agriculture and the Origins of the European World-Economy in the Sixteenth Century*. Academic Press, New York.

Wallerstein, I., 1979, *The Capitalist World-Economy*. Cambridge University Press, Cambridge.

Wallerstein, I., 1980, *The Modern World-System II: Mercantilism and Consolidation of the European World-Economy, 1600–1750*. Academic Press, New York.

Wallerstein, I., 1982, World-Systems Analysis: Theoretical and Interpretive Issues. In *World-Systems Analysis: Theory and Methodology*, edited by T.K. Hopkins and I. Wallerstein, pp. 91–103. Sage, Beverly Hills, California.

Wasserman, S., and Faust, K., 1994, *Social Network Analysis: Methods and Applications*. Cambridge University Press, Cambridge.

Whitecotton, J.W., and Pailes, R.A., 1986, New World Precolumbian World Systems. In *Ripples in the Chichimec Sea: New Considerations of Southwestern-Mesoamerican Interactions*, edited by F.J. Mathien and R.H. McGuire, pp. 183–204. Southern Illinois University Press, Carbondale.

Wilcox, D.R., 1986, A Historical Analysis of the Problem of Southwestern-Mesoamerican Connections. In *Ripples in the Chichimec Sea: New Considerations of Southwestern-Mesoamerican Interactions*, edited by F.J. Mathien and R.H. McGuire, pp. 9–44. Southern Illinois University Press, Carbondale.

Wilkinson, D., 1987, Central Civilization. *Comparative Civilizations Review* 17:31–59.

Willey, G.R., 1966, *North and Middle America*. An Introduction to American Archaeology, vol. I. Prentice-Hall, Englewood Cliffs, New Jersey.

Wolf, E.R., 1982, *Europe and the People without History*. University of California Press, Berkeley.