

## **An Archaeology of Landscapes: Perspectives and Directions**

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*This review calls for the definition of a landscape approach in archaeology. After tracing the development of the landscape idea over its history in the social sciences and examining the compatibility between this concept and traditional archaeological practice, we suggest that archaeology is particularly well suited among the social sciences for defining and applying a landscape approach. If archaeologists are to use the landscape paradigm as a “pattern which connects” human behavior with particular places and times, however, we need a common terminology and methodology to build a construct paradigm. We suggest that settlement ecology, ritual landscapes, and ethnic landscapes will contribute toward the definition of such a broadly encompassing paradigm that also will facilitate dialogue between archaeologists and traditional communities.*

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### **INTRODUCTION**

The intellectual foundations of contemporary landscape approaches in archaeology may be traced back to at least the 1920s (Stoddard and Zubrow, 1999, p. 686; discussed later). Despite their historical depth in the discipline's development, until recently landscape approaches largely were subsumed within archaeological inquiry to provide a backdrop against which material traces were plotted and evaluated (Knapp and Ashmore, 1999). Now, as evident from a review of the previous decade of Society for American Archaeology Annual Meeting Abstracts,

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archaeologists increasingly are using the term *landscape* in the forefront of reporting their studies. Nevertheless, no commonly accepted understanding of what landscape studies are or should be exists. For example, authors use a multiplicity of landscape references that differentially emphasize natural (e.g., ecological, geomorphological, and hydrological) and cultural (e.g., technological, organizational, and cosmological) aspects of the human environment.

The wide variability among archaeological uses of *landscape* at first glance raises the question whether the word retains noteworthy meaning in archaeological practice. That is, has *landscape* simply become a synonym for *natural environment* or *settlement pattern* (e.g., see discussion by Whittlesey, 1997, p. 19)? Researchers expecting a singular landscape concept might construe the terminological imprecision and the multiplicity of approaches as symptomatic of a lack of clear theoretical grounding.

Archaeology is not alone in confronting the challenges posed by terminological and conceptual differences among varied landscape approaches. Fundamental intellectual tensions inherent within landscape concepts among Western social sciences today generally are traceable to the late nineteenth century debates led by Friederich Ratzel and Emile Durkheim (Hirsch, 1995). Both investigators viewed society from organismic perspectives.

Ratzel, a geographer, focused on how human groups extended themselves across space and differentiated themselves from one another in relationship to properties imposed by their natural environments (Buttimer, 1971, p. 28; Gregory, 1994a, p. 18). For Durkheim, who viewed society as the outcome of collective consciousness shaped by institutional frameworks, human relationships with their natural habitats are of indirect concern (Buttimer, 1971, p. 28). Given these intellectual traditions, it is not surprising that landscape concepts in geography and other social sciences have a multiplicity of meanings that fall variously along the nature–culture continuum (e.g., see Cosgrove, 1985; Hart, 1995; Jackson, 1984; Roberts, 1987; Stilgoe, 1982; Thompson, 1995b).

The abundance of terminologies and approaches that raises concerns over the usefulness of landscape concepts in archaeology is not simply the result of inappropriate borrowing of a singular well-developed idea from another discipline. At issue today, just as it has been for more than a century, is the fundamental nature of the relationship(s) between people and the spaces they occupy.

We view the rapid growth in the use of landscape concepts over the past decade as symptomatic of significant change in popular archaeological thinking about landscapes. Knapp and Ashmore characterize this difference as “that what was once theorized as a passive backdrop or forcible determinant of culture is now seen as an active and far more complex entity in relation to human lives” (1999, p. 2). Within this ongoing examination of the relationships between nature and culture in how communities transform physical spaces into meaningful places (Hirsch, 1995; Tuan, 1977; discussed later), the landscape approaches presented in

recent compendiums (e.g., Ashmore and Knapp, 1999; Bender, 1993a; Crumley and Marquardt, 1987; Carmichael *et al.*, 1994; Feld and Basso, 1996a; Fisher and Thurston, 1999a; Hirsch and O'Hanlon, 1995; Thompson, 1995a; Ucko and Layton, 1999) establish frameworks for building a more synthetic archaeology of "place."

As Fisher and Thurston (1999b, p. 631) observe, some of the most highly productive landscape research draws from complementary theoretical perspectives. Landscape approaches allow researchers to accommodate, if not integrate, different theoretical perspectives even while these constructs exist in tension with one another. Through this characteristic, an explicitly defined landscape approach might facilitate bridging the divide between processual and postprocessual archaeologies.

The purpose of this review is to examine the attraction that landscape concepts currently have among archaeologists. To complete this task, we consider two basic questions: What are landscapes? And how are landscape approaches relevant to building a fuller understanding of cultural and historical processes in archaeology?

For organizational purposes, our discussion has five sections. The first introduces a landscape paradigm and its underlying premises. In turn, these principles provide the foundations for assessing a landscape approach's usefulness in archaeological study. We suggest that a landscape approach is relevant to archaeology's goal to explain humanity's past through its ability to facilitate the recognition and evaluation of the dynamic, interdependent relationships that people maintain with the physical, social, and cultural dimensions of their environments across space and over time. A landscape approach also is relevant for its capacity to bridge the division between archaeological practice and the concerns of archaeology's many publics, including the people of indigenous communities who increasingly are vocal participants in discussions on the interpretation and management of their heritage.

In the second section, we review the ontogeny of landscape concepts over their history in the social sciences, including geography, cultural anthropology, and archaeology. Our intention is to show that the centrality of landscape's cultural context is both a material record of patterned behaviors within specific environmental contexts and a symbolic construction (after Olwig, 1996).

In the third section, we examine the historical compatibility between landscape concepts and common archaeological practice. That is to say, archaeologists, implicitly and informally, historically incorporate aspects of a landscape approach in their studies. We suggest that archaeology is well suited for applying an integrative landscape paradigm more explicitly and productively than are other social sciences, including geography, by virtue of its combined anthropological perspective and time depth.

The fourth section explores several of the elements and applications of landscape ideas in current literature that will contribute toward the definition of a

broadly encompassing landscape paradigm. Each of three approaches discussed—settlement ecology, ritual landscapes, and ethnic landscapes—emphasize different aspects of how humans define, shape, and use space.

In the final section, we consider the role of a landscape approach in current archaeological research directions and trends. Through the development of a coherent anthropology of place, archaeology appears well positioned to contribute to building a landscape paradigm and the development of appropriate methodologies for its application. The approach also facilitates dialogue between archaeologists and traditional communities.

### A LANDSCAPE PARADIGM AND ITS USEFULNESS IN ARCHAEOLOGY

A paradigm is a set of working assumptions, procedures, and findings that define a pattern of inquiry about the nature of our knowledge of the world or some aspect of the world (see Clark, 1993; Masterman, 1970; cf. Kuhn, 1970). A landscape paradigm for archaeological use, however, corresponds to the realm of a base construct paradigm rather than the overarching metaphysic paradigm by Kuhn (1970) or the intermediate-level sociological paradigm (Masterman, 1970, p. 65). While metaphysical paradigms generally consist of a way of seeing that organizes perception to affirm or assert the content of a scientific discipline (Masterman, 1970, pp. 65, 68–76), sociological paradigms refer to concrete scientific achievements accepted by divergent communities (Masterman, 1970, pp. 66–68). Construct paradigms, in comparison, are methodological in that they are systems of strategies and tools for approaching particular kinds of scientific inquiry as well as interpreting what they do (Masterman, 1970, p. 70). In this capacity, a landscape paradigm “is defined more by what it *does* than what it *is*” (Whittlesey, 1997, p. 20, emphasis in original; see also Masterman, 1970, p. 70).

Four interrelated premises provide the principal foundations for a landscape paradigm:

1. Landscapes are not synonymous with natural environments. Landscapes are synthetic (Jackson, 1984, p. 156), with cultural systems structuring and organizing peoples’ interactions with their natural environments (Deetz, 1990; see also Ingold, 1993, p. 152; Tuan, 1977, *passim*; Thompson, 1995b, p. xi; Zube, 1994, p. ‘1). As Cosgrove notes, “landscape denotes the external world mediated through subjective human experience” (1985, p. 13). Knapp and Ashmore add that by mediating between nature and culture, landscapes are “an integral part of Bourdieu’s *habitus*” (1999, p. 20, emphasis in original).
2. Landscapes are worlds of cultural product (after Boone, 1994, p. 7; see also Norton, 1989; Thompson, 1995b; Tuan, 1977; Wagner, 1995, p. 5).

Through their daily activities, beliefs, and values, communities transform physical spaces into meaningful places. Taçon notes, "Experience, history, value systems, relationships, circumstance, and individual choices all play a part in how landscapes are . . . described" (1999, p. 34). Accordingly, a "landscape is not merely the world we see, it is a construction, a composition of that world" (Cosgrove, 1985, p. 13). Thus landscapes are not the same as "built environments," which refer to designed physical constructions (after Domosh, 1995, pp. 48–49; Foote, 1995, pp. 294–295). Landscapes represent "a way in which . . . people have signified themselves and their world through their . . . relationship with nature, and through which they have underlined and communicated their own social role and that of others with respect to external nature" (Cosgrove, 1985, p. 15).

3. Landscapes are the arena for all of a community's activities. Thus landscapes not only are constructs of human populations but they also are the milieu in which those populations survive and sustain themselves. A landscape's domain involves patterning in both within-place and between-place contexts (Binford, 1982, p. 5; Deetz, 1990, p. 2; see also Hubert, 1994). Observable patterns of both material traces and empty spaces come from interactions between culturally organized dimensions and nonculturally organized resources and life-space distributions (Binford, 1983, p. 380). With landscapes organizing perception and action, economy, society, and ideation are not only interconnected but they also are interdependent (see Anschuetz, 1998).
4. Landscapes are dynamic constructions, with each community and each generation imposing its own cognitive map on an anthropogenic world of interconnected morphology, arrangement, and coherent meaning (Anschuetz and Scheick, 1998, p. 6; Jackson, 1984, p. 156; see also Hoskins, 1955; Parcero Oubiña *et al.*, 1998, p. 174). Because landscapes embody fundamental organizing principles for the form and structure of peoples' activities, they serve both as a material construct that communicates information and as a kind of historical text (Hugill and Foote, 1995, p. 20). Moreover, the landscape, as a system for manipulating meaningful symbols in human actions and their material by-products, helps define customary patterned relationships among varied information. Processes of behavioral change across space and over time necessarily result in an ever-changing landscape, however. Thus landscape is a cultural process (Hirsch, 1995; *contra* Cosgrove, 1984, p. 32).

A landscape paradigm is relevant in archaeological inquiry given its potential to contribute toward resolution of several crucial problems confronting the discipline today. First, archaeologists long ago recognized the need to shift from the investigation of single sites to the study of questions addressing regional change and variation (e.g., Binford, 1982, 1983; Deetz, 1990; Fish and

Kowalewski, 1990; Struever, 1971, to name only a few). Various nonsite, off-site, and archaeological landscape approaches (e.g., Cherry *et al.*, 1991; Dunnell, 1992; Ebert, 1992; Rossignol and Wandsnider, 1992; Yamin and Metheny, 1996; see also the later discussions) arose to consider the distribution and range of archaeological residues that do not conform either spatially or conceptually with commonly recognized site types. As a discipline, archaeology characteristically has lacked a concept of sufficient breadth and depth to implement this shift fully, however. Renfrew (1982) argues the cognitive background of communities is as important to archaeologists as is the understanding of the physical environment. Darvill (1997, p. 168) suggests the idea of the archaeological site might continue to represent the single greatest impediment to interpretive thinking because the scenes and edges of archaeological investigations can become confused with patterns of past activities that played out in differently defined arenas. As we have discussed later, a landscape approach provides cultural–historical frameworks to evaluate and interpret diverse observations about spatial and temporal variability in the structure and organization of material traces. Open to empirical observation and objective evaluation, a landscape approach provides guidelines whereby multiple investigators pursuing different research topics can contribute collectively to a more comprehensive understanding of past patterns of adaptation and culture change.

Second, as epitomized by the postprocessual critique over the past two decades, dissatisfaction exists for many current archaeological explanations of variability in past human behavior (Bradley, 1993a; Earle and Preucel, 1987; Knapp, 1996; Preucel, 1990; Trigger, 1986; Wylie, 1993a). Archaeologists unquestionably have made significant contributions in evaluating the structure and organization of technologies, in documenting physical environmental trends, and in refining dating methods. Unfortunately, the narrowness of our many existing explanatory constructs limits understanding of the creative role of human agency in defining and in altering their own conditions for living. Critics (e.g., Thomas, 1993) argue that, in processual examinations of archaeological traces across space, researchers tend to award material evidence a status that is more “real” than the society that produced it. Individuals only are known teleologically through their surviving works, while the dynamic social context that interconnects and imbues significance upon archaeological remains is missing (Thomas, 1993, p. 26). We believe that a landscape approach offers strategies and tools that will enable researchers to fulfill calls for constructions of the past populated with ideational actors (Cowgill, 1993; Trigger, 1991; Watson, 1995) rather than “faceless blobs” (Tringham, 1991) that simply responded to whatever natural environmental vagaries befell them. A landscape approach also provides a framework for considering “peoples’ histories,” which contribute to the variation observed in the archaeological record (after Trigger, 1991, p. 554). In the process of examining the complex interrelationships that people maintain with their environments, a landscape approach might help

bridge the chasm between scientific and humanistic perspectives in archaeology (Lekson, 1996).

Third, a landscape approach is relevant to how archaeologists present their discipline publicly in general and to how they interact with indigenous peoples in particular. In his *Distinguished Lecture in Archaeology* for the American Anthropological Association, Sabloff (1998, p. 869) criticizes the discipline for its failure to serve the public's interest in a productive and responsible fashion on a broader scale. Because landscapes communicate information on how communities interacted with their environments over time, they serve as a medium for meaningful cross-cultural dialogue on the construction and reproduction of affiliations with places. By providing a framework that legitimizes communities' customary understandings of affiliation and a context for understanding the importance of relationships in sustaining community traditions, foundations for respecting cultural differences in issues of land tenure claims, resource uses, and heritage sites are broadened. Through active participation in landscape studies, indigenous peoples both contribute in compiling information important to their communities and building an appreciation of how archaeological investigations serve their interests (Anschuetz and Scheick, 1999). In turn, a landscape approach facilitates the exchange of insights, which archaeologists then can use either to build upon existing scientific arguments or design new kinds of research about past peoples' interactions with their environments (e.g., Hena and Anschuetz, 2000). By engaging people from traditional communities as respected partners, and whose way of knowing past landscapes can enhance scientific understandings, archaeologists ensure the relevance of their discipline to a community that is greater than themselves (Echo-Hawk, 2000).

Because landscape is a synthetic abstraction, it provides a unifying concept for contrasting perspectives (after Crumley and Marquardt, 1990). The construct's usefulness in helping structure assessments of people's complexly woven interactions with their environments across space and over time lies in its ability "to bring together a disparate group of loosely related approaches under a single heading" (Preucel, 1998, p. 1; see also Gosden and Head, 1994, p. 113; Zube, 1994). As such, a landscape paradigm has the potential to facilitate identification of "the pattern which connects" (after Bateson, 1978) disparate observations on the breadth of communities' interactions with their environments. Bateson (1978) defines the pattern which connects as a metapattern of interacting and interdependent parts. Bateson maintains further that the elements cannot be understood by what they supposedly are in and of themselves. Instead, they are understood in terms of what they do in relation to one another within recursive processes.

Given our earlier comments on problems associated with terminological imprecision, we recognize a need to define parameters upon which researchers will continue to build and refine a landscape paradigm. Nevertheless, we anticipate that objective demonstration of the usefulness of a landscape approach as a processual,

interactive, contextual, and interdisciplinary framework for identifying patterns, explicating data, and explaining behavior nearly is at hand. In particular, we believe that a landscape approach helps contribute to the building of fuller understandings of relationships among the varied spatial, temporal, ecological, and cognitive contexts in which people creatively interact with their environments.

## DEVELOPMENT OF LANDSCAPE CONCEPTS

Investigators outside anthropology and archaeology initially defined the landscape concept for use in the social sciences. The intellectual framework for this definition derives from the debate between Ratzel and Durkheim (Hirsch, 1995). Neither researcher referred to the landscape concept explicitly, however. The first formal landscape definition comes from Carl Sauer's work in geography. Although it is more than 75 years old, the definition given by Sauer (1925, p. 46) remains current for archaeology in cogent ways.

The cultural landscape is fashioned from a natural landscape by a culture group. Culture is the agent, the natural area is the medium, the cultural landscape is the result. Under the influence of a given culture, itself changing through time, the landscape undergoes development, passing through phases, and probably reaching ultimately the end of its cycle of development. With the introduction of a different—that is, alien—culture, a rejuvenation of the cultural landscape sets in, or a new landscape is superimposed on the remnants of an older one.

As a counter to the influence of Ratzel's environmental determinism that pervaded the early twentieth century, Sauer's definition stands as a hallmark because he acknowledged the contributing role of institutional frameworks in shaping society. In his work, Sauer specifically "sought to stress the agency of culture as a force in shaping the visible features of delimited regions on the Earth's surface" (Cosgrove, 1994, p. 115). A deliberate empiricist who was intellectually close to anthropology colleagues Kroeber and Lowie at Berkeley, Sauer emphasized visible elements of physical environments that evoke human management and modification, such as water courses, plants, and animals. For Sauer, culture was "the impress of the works of man upon the area" (1925, p. 38), and he cited three basic factors to the study of landscape: "the physical environment, the character of the people, and time" (in Norton, 1989, p. 37). He played down landscape's subjective aspects "and stresses that landscape was an objective area to be studied scientifically through observation" (Duncan, 1994, p. 316).

In the 1960s and 1970s, geographers split along two contrasting trajectories in their approaches to the discipline. The first is an explicitly positivist science emphasizing spatial quantitative approaches in the documentation and evaluation of the human occupation of physical space. These approaches include movement, network, node, hierarchy, and surface models, among others (Chorley and Haggett, 1967; Christaller, 1966; Haggett, 1965; Harvey, 1969; see also Hodder and Orton,

1976). The second course was influenced by the adoption of a loose federation of humanistic philosophies and methodologies in the exploration of human values, beliefs, and perceptions (Buttimer, 1974; Hugill and Foote, 1995). These perspectives include existentialism, feminism, idealism, phenomenology, and interactionism (e.g., Entrikin, 1976, 1991; Ley and Samuels, 1978; Relph, 1976, 1985; Soja, 1989; Tuan, 1974, 1977; Zelinsky, 1975).

Researchers of the latter perspectives apply social and cultural theory to landscape interpretation in three complementary ways (cf. Cosgrove, 1994, p. 115; Duncan, 1994, p. 317; see also Cosgrove, 1984; Cosgrove and Daniels, 1988; Penning-Roswell and Lowenthal, 1986). First, they often show a greater concern for sociocultural and political processes in landscape-shaping processes than people's relations with specific natural environmental contexts. Second, they apply critical social and cultural theory in its humanistic interpretations. Third, they consider all forms of landscape, not just visible physical features, as cultural signifiers whose interpretation reveals cultural attitudes and processes. Within these approaches, contemporary geographers' landscape efforts range from strongly behavioral to symbolic, even artistic (e.g., see Thompson, 1995a). This work at times continues to overlap with archaeological research interests, especially where investigators consider landscapes as material constructs that embed information on the structure and organization of past occupations and that serve as a kind of historical text (Hugill and Foote, 1995, p. 20). Although a small number of researchers (Giddens, 1979, 1984; Gregory, 1978, 1981; Hägerstrand, 1976, 1988; Pred, 1984, 1990) obtain a certain accommodation of spatial scientific and humanistic perspectives in their studies, the discipline overall has not yet successfully integrated these fields, with some universities maintaining separate departments of human and physical geography (Anderson and Gale, 1992).

Although landscape as a social science concept has its origins in geography, some of the most spirited discussions of the idea over the last two decades have occurred in other fields, including architecture and environmental design, historical ecology, cultural anthropology, and archaeology. Within landscape architecture and environmental design, a number of scholars (Hayden, 1981, 1997; Jojola, 1990; Rainey, 1997; Stilgoe, 1982, 1998; Swentzell, 1990a; Zube 1994) view landscape not as a single uniform construct but as a multiplicity of coexisting texts that either provide unity for a community or serve as an arena of cultural tension and social conflict (after Groth, 1997). While physical landscape features—physiographic phenomena and buildings alike—may appear unchanged over time, the meanings bestowed on them silently may undergo subtle shifts or wholesale transformations.

The best known proponent in landscape architecture is John Brinkerhoff Jackson (1984, 1994, 1995; see also Meinig, 1979b), whose work implicitly forms an integral part of the intellectual foundation upon which some anthropologists now are building their own landscape approaches. For Jackson a landscape is “a

space or collection of spaces made by a group of people who modify the natural environment to survive, to create order, and to produce . . . society” (Jackson, 1995, p. 43; see also Jackson, 1984, 1994). In viewing varied landscape elements as products of human values and aspirations, Jackson maintains that a landscape “is never simply a natural space, a feature of the natural environment” (1984, p. 156). In emphasizing the synthetic characteristics of landscapes, he considers vernacular design. Where the organization of space is largely or entirely free of overt political influence, communities occupy and use spaces “governed by custom, held together by personal relationship” (1984, p. 150). Jackson elaborates further upon a landscape’s essential temporal dimension: “A landscape is thus a space deliberately created to speed up or slow down the process of nature” (1984, p. 8) and history becomes a substitute for “natural processes of growth and maturity and decay” (1984, p. 156).

Jackson’s emphasis on vernacular design and history as important elements of landscape studies resulted in a profoundly different view of landscape design than was common in architecture. Architects and environmental designers not only are artists of space but also of time (Brand, 1994; Rapoport, 1990). Rapoport (1990) argues for the centrality of meaning in material culture and for the relevance of studies that address culture-specific patterning in the remains human communities leave on the land. Rapoport recognizes a strong, recurring general pattern in his comparative study of environmental design. He observes, “People seem to shape and interact with built environments/material culture primarily through meaning and this seems to hold over time, cross-culturally, and in all kinds of environments, contexts, and situations” (Rapoport, 1990, p. 42). Even though generations of people might inhabit and modify multiple places within their community landscape differently, the residual material traces share elements of a common underlying organizational pattern as long as fundamental cultural traditions remain intact (e.g., see Rapoport, 1990, p. 17).

Explication of linkages between changing occupation patterns and time perhaps is developed fullest in regional environmental analyses known as historical ecology. Crumley and Marquardt’s study (1987) of historic Burgundian landscapes typifies a landscape approach in its use of a variety of textual, remote sensing, and GIS data. Kirch (1994, 1997; see also Kirch and Hunt, 1997) uses a comparable historical ecological approach in his comprehensive examination of Pacific culture history.

Historical ecologists characteristically embrace a traditional landscape concern of humanistic geographers, namely, the idea that vernacular and formally built landscapes reflect a group’s essential values and beliefs (e.g., Crumley, 1994). They follow humanistic geography by interpreting vernacular and formal landscapes in terms of communities’ values and beliefs. As Crumley and Marquardt espouse “people project culture onto nature” (1990, p. 73). In promoting the idea of interdependent senses of time and place, Winterhalder (1994, p. 18) observes,

We can isolate such things as sociocultural or environmental causal factors or processes. Important properties of these may depend on their location in time, that is, they may have a temporal dimension. Nonetheless, we cannot define or isolate time itself as a causal variable or process. The same is true of (so-called) spatial variables or processes[emphasis in original].

Historical ecologists argue that sociohistorical structures, such as class, kin, or interest groups, in combination with physical structures, such as climate, geology, and topography, determine landscape. By investigating social boundaries, they consider interactions of different communities and the effects of these relationships on landscapes. Their evaluations of the changing nature of boundaries, depending on time or scale of analysis, illustrate landscape dynamics. Finally, historical ecologists vigorously oppose the uncritical nesting they see in many archaeological and ecological landscape analyses (Crumley and Marquardt, 1987, 1990). They argue that changing risks and needs might subvert creation of a realistic hierarchy of parameters that condition regional behavior.

Cultural anthropologists offer much work on the ideas of place in terms of social identity and contestation (e.g., see Feld and Basso, 1996b, p. 4). Dialogues between indigenous peoples and anthropologists on heritage resources conservation and management of cultural properties illustrate the ways in which landscapes often are important to communities for sustaining memory and tradition (Carmichael *et al.*, 1994; Hena and Anschuetz, 2000; Kelley and Francis, 1994; Swidler *et al.*, 1997). In exploring the dynamic properties of landscapes, cultural anthropologists cite the uncertainties, discontinuities, and multiplicities of voices and action linked to contestation and movement. They challenge the common underlying idea that places are defined by static boundaries and relationships based on stable residence (Feld and Basso, 1996b, p. 5, citing Appadurai and Breckenridge 1988; Deleuze and Guattari, 1986; Kapferer, 1988; Rosaldo, 1988). Instead, researchers suggest that, in borderlands characterized by fluidity and hybridization, landscape relationships can be based on place indeterminacy (Feld and Basso, 1996b, pp. 5, 6, citing Appadurai, 1992; Gupta and Ferguson, 1992; Gupta *et al.*, 1992). Despite the absence of fixity among such “ethnoscapes” (Appadurai, 1992), communities are able to sustain coherent cognitive maps based on perceptions, direct experiences and distant memories, constructed meanings, and imagination.

Recent anthologies by Hirsch and O’Hanlon (1995) and Feld and Basso (1996a) offer useful comparative insights on the cultural construction of landscapes. The Hirsch and O’Hanlon (1995) volume consists of an art historian’s review of the landscape concept (Hirsch 1995) and ethnographic case studies that examine spatial history and place concepts cross-culturally. The volume illustrates the dynamic qualities of culturally constructed landscapes as people move between a “foreground” of everyday, unreflexive forms of experience among perceived images of place and a “background” of social potentiality among spaces and representations of those spaces (Hirsch, 1995, pp. 4, 5).

The Feld and Basso (1996a; see also Basso 1996) anthology focuses on native perceptions and experiences in giving meaning to particular localities. The collective goal of these essays is to examine “the complex ways in which places anchor lives in social formations ranging widely in geographical location, in economic and political scale, and in the accompanying realms of gender, race, class, and ethnicity” (Feld and Basso 1996b, p. 7). The essays illustrate how people creatively fashion themselves and their landscapes through their occupation of spaces, thereby illustrating the interdependence of the physical and the ideational within human environments. They provide examples of how negotiated social roles (e.g., age, gender, sex, kin group, class, and ethnicity), their interrelationships, and peoples’ identities are mapped variously on the landscape.

## **FOUNDATIONS FOR ADOPTING LANDSCAPE CONCEPTS IN ARCHAEOLOGICAL PRACTICE**

### **Distribution Studies and Settlement Patterns**

As Knapp and Ashmore observe, “As long as archaeologists have studied the human past, they have been interested in space, and consequently, in landscapes” (1999, p. 1). In the early twentieth century, British geographers and archaeologists together pioneered the use of distribution maps (e.g., Crawford, 1912, 1922; Fleure and Whitehouse, 1916; see also Daniel, 1964; Goudie, 1987). By accurately locating archaeological phenomena in space, these investigators quickly began building explanations of site distributions in terms of geographic features (Crawford, 1922, p. 257; Fox 1923, 1947). Clark adds that the distribution map “by its very existence implies the co-ordination of scattered evidences and the establishment of a synthetic relation with their geographical background” (1933, p. 232). As a product of environmental determinism that pervaded much of early twentieth century intellectual thought, this synthetic relationship was distinctly asymmetrical. With the increasing availability of evidence documenting climatic changes during the Quaternary, researchers began interpreting the changing patterns of site distribution over time in terms of natural environmental fluctuations (e.g., Childe 1928, 1952).

The innovation of regional archaeological settlement pattern research during the late 1940s and the early 1950s (e.g., Wauchope, 1956; Willey, 1953, 1956) was a descendent of these early distribution studies. The foundation of these approaches was the premise that settlement patterns not only reflect the natural environment but they also are shaped directly by cultural needs (Willey, 1953, p. 1; see also the later discussions).

Settlement pattern approaches were inspired, in part, by Steward’s (Steward, 1937, 1955) and Clark’s (Clark, 1939) pioneering efforts in ecological anthropology, which considers the relations between the structure and organization

of how a cultural group earns its living and the group's natural environment. Braidwood's (Braidwood, 1974) Iraq Jarmo Project and Caldwell's (Caldwell, 1958) work in the eastern United States provided further impetus by establishing the place of archaeological data in understanding economic, social, and political transformations.

Willey's (Willey, 1953) Virú Valley work in Peru quickly received recognition as a prototype for settlement pattern studies. Willey systematically examined approximately 350 sq km, using aerial photos and site drawings made from those photos. Documenting 315 sites, roughly a 25% sample, Willey developed a settlement typology focused on dwellings, cemeteries, hilltop redoubts, pyramids, and compounds.

Willey's articulation of the settlement pattern approach is more than a set of techniques for identifying, describing, and classifying archaeological sites and their natural ecology scattered across large spatial areas. Agnew observes that Willey's efforts generally followed geography's lead by defining regional study as "the areal variation of human and physical phenomena as they relate to other spatially proximate and causally linked phenomena" (1994, p. 25; see also Gregory, 1994b, pp. 507–509). By incorporating Ford's (Ford, 1949) ceramic studies for chronological control in his analysis, Willey contributed to the development of archaeological methods and data for interpreting long-term social changes within regions based on internal transformations rather than external factors such as diffusion or migration. Importantly, the emergent settlement pattern concept rested on basic principles that generally are compatible with a landscape paradigm today.

As Willey notes, "settlements reflect the natural environment, the level of technology on which the builders operated, and the various institutions of social interaction and control which culture maintained. Because settlement patterns are, to a large extent, directly shaped by widely held cultural needs, they offer a strategic point for the functional interpretation of archaeological cultures" (1953, p. 1). He subsequently adds that settlement patterns, in effect, "provide a key for the reconstruction of ecological, cultural, and social systems" (Willey, 1973, p. 270) and constitute "a basis for cross-cultural and causal generalization in the study of settlement forms" (Willey, 1974, p. 159).

After Willey's (Willey, 1953) breakthrough in Virú Valley study, archaeological site survey methods became increasingly rigorous in implementing regional and subregional scales of analyses. A number of Mesoamerican surveys during the 1960s and 1970s are classics for regional survey for their many methodological contributions (e.g., Blanton, 1978; Coe 1967; Parsons, 1971; Sanders, 1965; Sanders *et al.*, 1979; Spores, 1969). Elsewhere, Chang (1958, 1963, 1967) established precedents for examining settlement and social organization through the study of households, local social groups, and communities in his work in northern China. Conducting research on Mesopotamia's Diyala Plain, Adams (1965, 1981; Adams and Nissen, 1972) contributed innovative frameworks for evaluating how

political changes helped condition subsequent transformations in economic tactics and strategies.

The body of regional archaeological studies in just the past 15 years is expansive and diverse (e.g., see Billman and Feinman, 1999; Barton *et al.*, 1999; Blanton *et al.*, 1993; Feinman and Nicholas, 1990; Fish and Kowalewski, 1990; Hendon, 1992; Kowalewski *et al.*, 1989; Ramsden *et al.* 1995; Spencer and Redmond, 1997; Stark and Arnold, 1997). The productivity and sophistication of this work has been fueled, in part, by the increasing attention archaeologists gave to the relationships among central settlements, smaller residential sites, and varied assemblages of nonhabitation features found throughout their study areas (e.g., see Scarborough *et al.*, 1995; Schortman and Urban, 1994; Wells, 1994; Wilkinson 1994). The analytical power, the widespread availability, and the comparative ease of computerized applications of geographical model-based paradigms (shown earlier) within geographical information systems (GIS) packages is providing archaeologists now with a new set of quantitative tools for research of spatial patterns at macro- and microscales. GIS approaches range from natural environmental foci to those addressing the many nested relationships that people maintain with their physical settings and one another (see review by Kvamme, 1999).

### Settlement Systems

The intellectual bases of settlement pattern studies evolved in sophistication in tandem with the discipline's widespread embrace of the new archaeology throughout the 1960s and early 1970s (see Binford, 1972; Clarke, 1977; see also Caldwell, 1959). In systematizing their analyses, archaeologists moved beyond descriptive documentation of site distributions and organizational hierarchies within regions to interpretation of the multivariate dynamics underlying archaeologically observed patterns across the dimensions of space and time. Drawing from general systems theory (Bertalanffy, 1968), some archaeologists consider the interaction of variables—both natural and cultural—that they believe conditioned structural changes in settlement patterns. These researchers presume that the study of the interactions among such components allows a more comprehensive understanding of the system's functioning and its pattern of change. Clarke (1968, 1972, 1977) and Johnson (1975, 1977) are proponents for the use of locational analysis at various scales to understand the systemic variation and interaction among contemporary sites. This concern for explicating settlement pattern changes resulted in the adoption of settlement system approaches, which address "the set of [probabilistic] 'rules' that generated the [settlement] pattern in the first place" (Flannery, 1976, p. 162).

In promoting systematization of settlement pattern studies, Binford (1982) recognizes that even though "excavated sites are the archaeologists' bread and butter" (1983, p. 109), the *landscape*, not the *site*, is the arena for all of a group's

economic, social, and ideological activities. Binford adds, “*Site patterning* in both within-place and between-place contexts is a property of the archaeological record” (1982, p. 5, emphasis in original). Binford’s (Binford, 1980, 1982, 1983) now classic ethnoarchaeological studies, in turn, was a call for archaeologists to consider material traces and their contexts, including their depositional and spatial characteristics, beyond traditionally defined site boundaries. His recognition that observable patterns in both material traces and empty spaces come from interactions between culturally organized social dimensions and nonculturally organized resources and life-space distributions helps define the conceptual foundations for a landscape paradigm (Binford, 1983; discussed earlier).

An emphasis on documenting selected variables presumed to play key roles in conditioning cultural change is preeminent among settlement system approaches. In particular, archaeologists have expended considerable effort in explicating technology and subsistence patterns in relation to issues of ecological adaptation. For example, Struever argues that because a population’s subsistence tactics and strategies exert primary influence in how a cultural system functions, settlement patterns are “an essential corollary of subsistence” (1968, p. 133). Flannery (1972, among others) contributes further to the refinement of settlement systems by urging researchers to concentrate on building explanations for the patterns of change visible in the archaeological record in implementing settlement system approaches.

Settlement system approaches remain at the core of many recent interpretive regional and subregional studies (e.g., Albarracín-Jordan, 1996; Balkansky, 1998; Cherry *et al.*, 1991; Duke, 1995; Dunning *et al.*, 1999; Erickson, 1999; Fisher *et al.*, 1999; Gartner, 1999; Hyslop, 1990; Julien, 1993; Kolata, 1996; Marcus, 1998; Marcus and Flannery, 1996; Reeves-Smythe and Hammond, 1983; Schlanger, 1992; Schortman and Urban, 1992; Thurston, 1999; Whittlesey *et al.*, 1997; Wilshusen and Wilson 1995; Wilson, 1988). As an assemblage, these studies contribute varied insights into the diversity, the complexity, and the dynamic interdependence among humans’ technological structures, their social, political, and religious organizations, and the physical environments in which they live. Many of the humanistic interpretive approaches pioneered in Europe to address the social and symbolic aspects of landscapes (e.g., Hodder, 1984, 1987; discussed later) also share aspects of their intellectual heritage with the systems approach advocated more than a generation ago by Clarke (1968, 1977) and his contemporaries.

### **Distributional Archaeology as Archaeological Landscapes**

The settlement system studies confronted difficulties in areas where the distributions and ranges of archaeological traces did not conform either spatially or conceptually with traditionally recognized site types. In combination with Binford’s (1980, 1982, 1983; discussed earlier) call for going beyond traditionally defined site boundaries for evaluating archaeological traces, these challenges

provided the impetus for development of methodological approaches known as “nonsite,” “offsite,” and “distributional” archaeology (Cherry, 1983; Cherry *et al.* 1988, 1991; Dunnell, 1992; Dunnell and Dancy, 1983; Ebert, 1992; Foley, 1981; Rossignol and Wandsnider, 1992). These studies emphasize descriptive methods and site-formation concerns at the level of regional archaeological variation.

Proponents of distributional archaeological approaches are reacting to the reliability of archaeological sites as units of spatial analysis (Cherry, 1983; Cherry *et al.*, 1988, 1991; Dunnell, 1992; Dunnell and Dancy, 1983; Ebert, 1992; in Wandsnider, 1998, p. 94). Some investigators (Dunnell, 1992; Dunnell and Dancy, 1983; Ebert, 1992) forward the opinion that archaeological sites methodologically and theoretically are flawed units of analysis. Dunnell suggests the solution to this fundamental issue “lies not in ‘refining’ the notion of site or tinkering with density thresholds or other means of site delineation” but in “developing methods of constructing units of historical association from smaller-scale observational units” (1992, p. 33).

As summarized by Wandsnider (1998, p. 94), nonsite approaches are founded in these primary concerns. First, proponents identify the subjectivity inherent in survey-based site definitions (after Cherry *et al.*, 1988, 1991). Second, they suggest the units of analysis commonly used in settlement pattern and settlement system analyses are teleological (after Wandsnider, 1998). Third, nonsite researchers question the assumption that sites of the same temporal phase are strictly contemporaneous (after Dewar, 1992; Schacht, 1984). Instead, proponents emphasize that studies of the spatial distributions of artifacts, features, and other material remains offer a more accurate and precise picture of the archaeological record.

### **Historical Landscapes: Landscape Archaeology in the Americas**

With the emergence of the new archaeology in the 1960s, Americanist archaeologists recognized that anthropogenic landscape modifications entail more than physical modifications of the environment; they also entail patterns linked to “social and ideological dimensions” (Deetz, 1990, p. 2). Initially, ventures into this archaeology of landscapes were historical treatises. This early work characteristically was cast as (1) large-scale phenomena transcending the strict boundaries of localities and (2) “the highest level of mediation between the natural and the cultural, against which all other mediating material culture is projected” (Deetz, 1990, p. 2). Although known primarily for their concentration on particular gardens, battlefields, and similar “offsite” phenomena (e.g., Fox, 1988; Kelso and Most, 1990; Leone, 1984; Miller and Gleason, 1994), their research perspective is broadening to consider historically documented landscapes more holistically, including changing settlement organization, demography, and sociopolitical relations (Lycett, 1995; Paynter, 2000; Yamin and Metheny, 1996; Zedeño, 1997; Zedeño *et al.*, 1997).

In their undertakings, these researchers recognize that landscapes exist “for reasons other than strictly practical and utilitarian” (Deetz, 1990, p. 2). To explore the cultural bases of landscapes and the roles of human actors in shaping and constructing meanings of places, these studies borrow heavily from humanistic geography (Cosgrove and Daniels, 1988; Groth and Bressi, 1997; Lewis, 1979; Meinig, 1979a; Tuan, 1974, 1977; Wagstaff, 1987) and postprocessual archaeology (Fritz, 1987; Hodder, 1987, 1991; Hodder *et al.*, 1995; Tilley, 1994) for their interpretive frameworks (see also the later discussions).

### **Social Formation and Symbolic Landscapes: Landscape Archaeology in Europe**

In Europe, but most especially in England, the foundations of landscape archaeology came in the middle twentieth century when field archaeology embraced intellectual perspectives offered by contemporary geographers and historians (Roberts, 1987, p. 78). The fruits of this interdisciplinary effort, as exemplified in the work of Michael Aston (1985), are comprehensive, systemic descriptions of “the landscape as a palimpsest of boundaries, mounds, abandoned villages, and field systems” (Thomas, 1993, p. 25). At this juncture, Europeanist studies generally resemble those of their Americanist counterparts.

Sustained interest in European megaliths and other monumental architectural remnants at regional scales, which represent kinds of human thought and action neglected by traditional approaches, fueled vigorous study of social and symbolic landscapes (Barrett, 1988, 1991; Barrett *et al.*, 1991; Bender, 1993b, 1998; Bradley, 1993b, 1998a, 1998b; Darvill, 1997; Hodder, 1984, 1987; McMann, 1994; Richards, 1990, 1996; Roberts, 1996; Tilley, 1996; Thomas, 1993, 1996). Rather than limiting their work to documentary case studies, these researchers used structuration theory (Giddens, 1979, 1984) and the concept of symbolic capital (Bourdieu, 1977) to analyze social action and the manipulation of material culture and space within a broader system of symbolic meaning.

Structuration theory, which recognizes the mutual dependence of social structure and agency, holds that “the structural properties of social systems are both the medium and the outcome of practices that constitute these systems” (Giddens, 1979, p. 69). This construct refers to recurrent patterning in the way people do things and relate to one another across the dimensions of space and time (Giddens, 1984). Symbolic capital, in turn, refers to how meanings assigned to material goods and other objects are critical to how individuals structure their world (after Earle and Preucel, 1987, p. 506). Moreover, space obtains importance through both its economic values and its strategic use by actors.

Drawing from geographers (Cosgrove, 1985; Cosgrove and Daniels, 1988; Daniels, 1989; Jackson, 1980, 1984; Meinig, 1979a; Tuan, 1974; Zelinsky, 1973), British archaeologists use material culture as products of social action and tangible

manifestations of belief systems. In this process, they are moving landscape archaeology studies into the realms of cognition and ideation (Bender, 1993b, 1998; Bender *et al.*, 1997; Bradley, 1993b, 1997; Renfrew, 1982).

## Discussion

In its early decades, settlement pattern studies characteristically focused on spatial interrelationships among sites with domestic or public architecture. As a product of their times, these studies overemphasized the descriptive constructs on *what* the past was like rather than explanations of *why* observed technological and organizational changes in settlement patterns occurred (e.g., see Sabloff, 1983, pp. 414–415; Willey, 1983, pp. 446–447). Settlement system, distributional, historical, and social/symbolic approaches each offer useful tools for explicating regional archaeological patterns. Individually, however, the approaches fell short of providing truly comprehensive explanations of past behavioral dynamics.

As we have noted earlier, development of the basic settlement pattern concept from its outset was linked closely with Steward's (1937, 1955) and Clark's (1939) contributions to cultural ecology. This association facilitated the rapid and widespread acceptance of ecosystem concepts and general systems theory perspectives promoted by cultural anthropologists, geographers, and ecologists (e.g., Butzer, 1971, 1982, 1994; Rappaport, 1968, 1979; Vayda and McCay, 1975) in archaeology. Because the cultural ecological approach draws concepts from ecology, history, political, and cultural theory into a single focus, archaeologists are better able to illuminate the many factors contributing to processes of cultural change. As Trigger notes, however, "In terms of causal factors, a systems approach serves to describe rather than to explain change" (1989, p. 308).

Reliance on ecological theory and cybernetic perspectives fueled a tendency for settlement pattern researchers to treat human populations "conceptually as the same as any other animal population struggling for survival amidst the complex webs of ecosystemic relations" (Watts, 1994, p. 111). Researchers traditionally tend to presume that the possible contributing roles of social organization and ideation in culture change are weaker and less recognizable than the role of people's relations with their physical environment through their productive technologies. Moreover, an implicit antihistoricism is evident in much of the work conducted during the 1970s and 1980s (Trigger, 1978, 1989, pp. 312–319; Wolf, 1982; see also Knapp, 1996, p. 141).

In responding to both Flannery's (Flannery, 1976) call for archaeology to build understandings of the "rules" that structure how people interact with their environments and occupy their landscapes and the postprocessual critique, settlement system studies have adopted a broader perspective. These studies increasingly are incorporating questions of history, perception, human agency, sociopolitical

relations, and identity into assessments of archaeologically visible spatial patterns. In doing so, researchers are redefining their understandings of the environment as layered physical, technological, economic, social, political, and ideational realms that seemingly represent aspects of the intellectual legacy that Hawkes (1954) outlined in his “ladder of inference” nearly a half century ago.

The redefinition of understanding comes from the recognition that the environment is partly a construction of people’s dynamic interactions with their physical settings. Moreover, these interactions are historically contingent, accretionary, and shaped through cultural perception and past human actions (after Fisher and Thurston, 1999b, p. 631; see also Feinman, 1999, p. 685). With refinement in the conceptualization of the human environment comes redefinition of the understanding of the web of interrelationships that is human ecology. As such, the study of settlement systems is moving toward the study of settlement ecology (e.g., see Stone, 1993, 1996).

Dependence upon historical or ethnohistorical documentation or both effectively constrains the time depth of traditional historical landscape studies. In practice, historical constructions tend to be insular, and the development of frameworks for cross-cultural comparisons are still in their initial stages. By their concern with understanding the varied processes that shape human life, however, historical approaches contribute information on how the surviving material traces making up the archaeological record provide insights into questions of differential access to resources and power (after Paynter, 2000). These efforts are yielding comprehensive information on particular localities, which provide researchers with opportunities to work through other archaeological analytical and interpretive approaches to construct fuller explanations of the past.

Associated with postmodernism generally and postprocessual archaeological approaches specifically, social formation and symbolic landscape approaches emphasize humanistic perspectives that prominently cast people as rational, creative, and aesthetic actors. These studies place great emphasis on building historically contextualized understandings. Humanistic archaeologists offer intriguing insights into the structure and organization of people’s behavior in the past, and, in turn, they are creating new conceptual categories that warrant consideration. Conceptualizations of the interaction between people and their natural environments tend to be defined narrowly, and the possibilities of natural environmental fluctuations often are considered less important than factors internal to society in processes of cultural change. As demonstrated through the recent work of Barrett (1994) and Bradley (1993b, 1997), however, humanistic perspectives now are constructing bridges back to the concerns of processual archaeologists (see Knapp 1996).

Given this short history of the diverse and sometimes seemingly incompatible perspectives used in contemporary archaeological practice, it is fair to question why archaeologists are embracing landscape concepts enthusiastically at this time. This trend is more meaningful and more important, however, than a simple assertion that

the ambiguity in *landscape* serves as an overarching gloss for any investigation that considers spatial distributions intermixed with references to sociopolitical relations and ideation.

Whitley (1992, pp. 76,77) and Knapp (1996, p. 147) observe that the discipline already has moved well beyond processual archaeology's methodological concerns and postprocessual archaeology's ethnography of the past at the end of the twentieth century. Contemporary archaeology calls for multiple research paths and interpretive perspectives in its conduct (after Preucel, 1991; Thomas, 1990; Wylie, 1993a, 1993b). The challenge is for researchers throughout the discipline to "learn to live with the notion of mutually irreconcilable views about the past" (Knapp 1996, p. 148, see also pp. 150–152) even while they seek common ground for different archaeologies. Knapp maintains that the historical aspects of archaeological theory must be recognized and emphasized if cognition, ideology, and . . . human agency . . . are to be accorded their proper role in the study of the past" (1996, p. 149).

A landscape paradigm offers the potential to accommodate, if not integrate, different theoretical perspectives even while these constructs seemingly exist in tension with one another in their presentation of alternative constructions of the past (see also the later discussions). The strengths of the major contemporary archaeological approaches—settlement system analysis, distributional archaeology, and historical, social, and symbolic landscape approaches—all contribute to the foundations of an archaeology of landscapes. The specific challenge of this endeavor is to build a broad, synthetic framework for comprehensive understandings of historically contingent processes.

## RECENT ARCHAEOLOGICAL USES OF LANDSCAPE CONCEPTS

Over the last few years, researchers have presented arguments representing the discipline's increasingly confident steps toward building a theoretically grounded and practical paradigm for the archaeology of landscapes. As we have discussed later, an articulated landscape paradigm, whose methodological bases remain to be defined explicitly, will emerge directly from these archaeological applications of landscape.

Three contrasting, yet complementary, general aspects of landscapes will likely contribute toward the definition of the paradigm's foundations: (1) settlement ecology, (2) ritual landscapes, and (3) ethnic landscapes. Each of these components emphasizes different aspects of how humans define, shape, and use space at particular times. Together, they address some of the essential historically contingent processes that underlie how people transform space into place (cf. Casey, 1996).

This list is neither exhaustive nor sufficient for defining a landscape paradigm comprehensively. To the contrary, this discussion provides only a partial

illustration. Other researchers will introduce a variety of more specific physical and humanistic aspects of landscapes that will serve to broaden and refine the framework sketched out here. The articulation of the many contrasting perspectives embodied in contemporary archaeological research is needed (shown later) to achieve a comprehensive, historically aware understanding of the past that is sensitive to the great breadth and interdependency among the parts forming the web of people's interactions with their environments.

### Settlement Ecology

Perhaps the most readily accessible of these emergent archaeological landscape approaches for many archaeologists is settlement ecology. Owing much intellectually to settlement pattern and system approaches, the redefined settlement ecology perspective recognizes history and cultural perception as contributing variables to the structure, organization, and tempo of culture change (e.g., Stone, 1993, 1996; see also Anschuetz, 1998; Roberts, 1996; Whittlesey *et al.*, 1997). As such, settlement ecology addresses issues of archaeologically observed patterns of land use, occupation, and transformation over time.

Settlement ecology acknowledges that landscapes are the products of people's interactions with their environments and considers this continuum defined by a matrix of land-extensive and labor-intensive tactics and strategies. This approach emphasizes natural environmental variables, including essential subsistence resources, other raw materials needed for physical comfort and health, and items for trade or exchange. The availability of many basic resources and common amenities often changes unpredictably across time and space from cultural and natural factors. Settlement ecology examines the central issue of dynamic risk management through a community's deployment of its economic, social, and ideational technologies (e.g., see Stone 1993, 1996).

Because settlement ecology also recognizes the social and ideational components of a group's effective environment, this approach considers the roles of culture and tradition as additional filters in how groups structure and organize their use and occupation of places. Culturally conditioned patterns of environmental perception and land use traditions in turn affect the mode and tempo of change in group interactions with their environment. For example, a series of gradual small-scale changes in archaeological patterns over time might represent adjustments that, over the short term at least, successfully dampen recurrent environmental perturbation. Rapid large-scale systemic changes, in comparison, might represent significant realignments to resolve contradictory operational and cognitive models for community interactions with their environment (see Rappaport, 1979, p. 168; see also Anschuetz, 1998, pp. 57–59). Transformations that necessarily respect and sustain a community's traditions and revolutions that are rejections and

restructuring of existing traditions are distinguishable by examining the continuities and discontinuities in archaeological spatial patterns over time.

### Ritual Landscapes

Ritual landscapes are the products of stereotyped actions, including specific acts and sequences of acts (see Rappaport, 1999, pp. 35, 36), that represent the socially prescribed orders by which communities define, legitimize, and sustain their occupation of their traditional homelands. Less familiar than settlement ecology, ritual landscape studies rapidly are becoming a focal point for archaeological investigation (e.g., Bradley, 1998a, 1998b; Bradley and Chambers, 1988; Carmichael *et al.*, 1994; Carrasco, 1991; Darvill, 1997; Fowler and Stein, 1992; Freidel *et al.*, 1993; Hall, 1985, 1997; Ingold, 1993; Oosten, 1997; Richards, 1990, 1996; Robb 1998; Stein and Lekson, 1992; Tilley, 1994).

As Basso (1996) notes, traditional wisdom often is tied to places, thus the landscape is full of history, legend, knowledge, and power that help structure activities and organize relationships. Ethnohistorically known groups have full ritual calendars and a rich cosmology that structure, organize, and inform on much of their landscape, which community members perceive and with which they interact (e.g., Broda, 1991; Connor, 1982; Ferguson and Hart, 1985; Grinnell, 1922; Hall, 1997; Jorgensen, 1972; Kelley and Francis, 1994; Lowie, 1922; Morphy, 1995; Ortiz, 1969; Parks and Wedel, 1985; J. Rappaport, 1989; R. Rappaport, 1968; Tedlock, 1979; Townsend, 1992).

Ritual landscape studies build on traditional archaeological examinations of patterns in the spatial distributions of ritual features, such as public buildings, monuments, squares or plazas, petroglyphs or pictographs, and various vernacular markers. The combination of distributional approaches for examining nonsite assemblages with interpretive perspectives examining the "background" potentiality of spaces and social representations of those spaces (Hirsch, 1995) enhances the potential to evaluate critically the ritualized incorporation of special places on landscapes that are segregated from habitation and activity centers within a group's built environment.

Drawing on traditional knowledge for ideas on cosmological referents of presumed long history, researchers evaluate the social orders that help condition how communities structure and organize their physical occupation of places. Ritual landscape studies increasingly use analogical constructs for developing a range of reasonable and testable ideas rather than simply citing analogy as an explanatory tool (cf. Wylie, 1985). Researchers base their efforts in part on the premise that probabilistic statements are possible about what conditioning variables identified from idealized ethnographic models might or might not be applicable to the past.

Recognizing the impossibility of conducting ethnographic investigations using archaeological methods (see Whitley, 1992), researchers also work from the

premise that fundamental spatial configurations visible archaeologically might relate to certain social features and culturally specific cognitive maps (after Cowgill, 1993, pp. 562–564). Archaeologically quantifiable observations provide the material bases for probabilistic assessments of patterns based on coherent cognitive principles (after Rapoport, 1990, pp. 12, 15). Ritual landscape studies thus use idealized cognitive spatial models derived from ethnographic materials to look for patterns of similarity and dissimilarity in the past. These patterns possibly relate to changes in the deep patterning of ideationally informed guidelines that help condition the underlying structure, but not the specific content, of behavior (discussed later).

Physical alterations of spaces that correspond to astronomical or cosmological phenomena are some of the most testable aspects of ritual use of landscape. For example, researchers tie the arrangement of Maya cities, Plains medicine wheels, and various South American and eastern United States landscape features to astronomical or cosmological alignments (Ashmore, 1991; Aveni, 1986, 1991; Brumley, 1988; Eddy, 1974, 1977; Grey, 1963; Kehoe and Kehoe, 1977; Lekson, 1999; Parcerro *et al.*, 1998; Stein and Lekson, 1992; Swentzell, 1990b). In some cases, features still are in traditional use even though the history of their construction and use may be long and complicated.

### **Ethnic Landscapes**

Ethnic landscapes are spatial and temporal constructs defined by communities whose members create and manipulate material culture and symbols to signify ethnic or cultural boundaries based on customs and shared modes of thought and expression that might have no other sanction than tradition (after Johnston, 1994, p. 81, citing Bell and Newby, 1978). While the most challenging of the emergent landscape approaches at present, ethnic landscapes offer the promise of being a highly productive interpretive tool (e.g., see Reid, 1997; Snead, 1995; Stark *et al.*, 1995; Teague, 1993; Wilshusen and Ortman, 1999; Zedeño, 1997). The concept that landscape can be used to mark or re-create sociocultural identity is a fundamental one and already is well established in existing research (Ashmore, 1989; Bradley, 1993b, 1997; Gillespie, 1991; Hodder, 1987; Ingold, 1992; Linares, 1977; Taçon, 1994).

As we consider more fully later, archaeologists' efforts to implement ethnic landscape studies, just as in settlement ecology and ritual landscapes, depend on the challenge of defining the culture concept. The idea of an ethnic landscape in archaeology initially seems to have partial roots in Kroeber's (1923, 1939; see also Benedict, 1934) classic construction of the "culture area," even though contemporary uses of this approach now recognize that ethnicity is not tied to physical spaces.

The establishment of culture areas is central to Kroeber's (Kroeber, 1923, 1939) conception of the superorganic nature of human societies and their histories.

He viewed the culture area as a large geographical expanse with a common ecology and a common set of adaptations. Based on spatial distributions of material culture traits, customs, and institutions, the culture area concept embodies three aspects: (1) the *core*, where a particular cultural configuration has exclusive or near-exclusive predominance; (2) the *domain*, where one cultural arrangement predominates among several others; and (3) the *realm*, where a particular constellation of culture traits is subordinate to at least one other such constellation.

In traditional archaeological practice concerned with the construction of cultural-historical sequences (e.g., Willey and Phillips, 1958), investigators attempt to apply the cultural area concept through the comparative spatial distributions and frequencies of certain material culture traits considered diagnostic of particular cultural groups over time. In practice, however, archaeologists confronted conceptual obstacles in their constructions of the past as they shifted their analyses from “regions” occupied by disparate culture groups to “localities” occupied by culturally distinct communities. For this reason, the social and political dynamics of culturally constituted places encompassed within “regions” often have proven elusive. The difficulty might fuel common assumptions of the presence of a relatively homogeneous, localized population with a common history even as archaeological evidence inspires in-depth discussions of mobility and rapid change (e.g., Lipe *et al.*, 2000).

Ethnicity may be viewed as a way that individuals define their personal identity and as a type of social stratification that results when people form groups based on their real or perceived common origins (Hiebert, 1994, p. 172). Ethnicity is not uniformly important among all culture groups, however. In some cases, it might be viewed as an adaptive tactic. Moreover, ethnicity may or may not manifest itself with particular geographic spaces.

The ambiguities associated with the study and explanation of ethnicity pose formidable challenges to archaeological inquiry. Clearly, study of ethnic landscapes is not relevant to all archaeological investigation. Nevertheless, the intrigue of an ethnic landscape approach is twofold.

First, as a general observation, because ethnicity invariably involves both inclusionary and exclusionary behaviors, archaeologists reasonably expect to find evidence of differential ethnic representations in their morphological, stylistic, and spatial studies if such societal relationships were important within cultural communities at particular times and places. Based on analogies with other social science findings, ethnic expressions tend to be most cohesive and identifiable under circumstances of migration and asymmetrical power relationships (see Hiebert, 1994).

Second, although ethnic representations do not necessarily have spatial representations, the formation of ethnic communities is cast in terms of social action, guided through tradition, and played out in the arena of people’s interrelationships with their environments to create their landscapes (Anschuetz *et al.*,

2000). Whenever a network of interacting individuals is concentrated in, or even loosely associated with, a particular territory, communities can maintain a coherent sense of affiliation with place (after Appadurai, 1992; Appadurai and Breckenridge, 1988; Deleuze and Guattari, 1986; Gupta and Ferguson, 1992; Gupta *et al.*, 1992; Kapferer, 1988; Rosaldo, 1988).

Ethnic landscapes, clearly, like other landscapes, are extremely complicated because they are arenas of cultural process and change for multiple communities both simultaneously and sequentially. As such, landscapes exhibit variable histories and forever-changing occupation intervals (Barth, 1969; cf. Rouse, 1965). In recent archaeological studies, some researchers argue the restriction of ethnicities to state-level societies (e.g., Emberling, 1997). It is increasingly apparent, however, that ethnicity is an important feature of many prestate settings (e.g., Reid, 1997; Wilshusen and Ortman, 1999). Productive archaeological considerations of ethnicity that help establish the relevancy of this topic for inclusion in a landscape paradigm include Aldenderfer (1993), Cordell and Yannie (1991), Emberling (1997, pp. 320–324), Kowalewski *et al.* (1983), Lightfoot and Martinez (1995), Lipo *et al.* (1997), Murra (1982), Stark *et al.* (1995), and Stone and Downum (2000).

### Discussion

Building on and refining earlier archaeological approaches to the study of archaeological spatial distributions, settlement ecology, ritual landscapes, and ethnic landscapes address important aspects of landscapes. They also contribute useful, relevant insights into communities' past behavioral dynamics and patterns of change.

These three approaches also share the perspective that people are more than passive recipients of change imposed from outside their cultural systems. People are agents who contribute to conditions warranting the restructuring and reorganization of their interactions with their physical settings, with other members of their respective communities, and with residents of other communities. Because they emphasize different aspects of landscape relationships and dynamics, settlement ecology, ritual landscape, and ethnic landscape approaches complement one another. As a collection of related ideas, settlement ecology and ritual and ethnic landscape approaches help form a general framework for building a more comprehensive body of concepts for an archaeology of landscapes.

Before realizing this task, however, we must consider the underlying ideas shared by these approaches. The unification of settlement ecology and ritual and ethnic landscape approaches is possible in terms of four important anthropological concepts: culture (cf. Tylor, 1871; White, 1959), tradition (Peckham, 1990; Trigger, 1991), vernacular knowledge (after Atran, 1990), and the inevitability of socio-cultural change (Plog, 1974; see also Minnis, 1985).

Culture continues to be a central topic of discussion for anthropology since the discipline's beginnings more than a century ago. Although culture is a unifying concept over much of anthropology's history, its appropriateness increasingly has become a topic of debate since Kroeber and Kluckhohn (1952) noted the multiplicity of meanings ascribed to it by practitioners. Over the past decade, critiques of the culture concept generally focus on the theme that *culture* inevitably "suggests boundedness, homogeneity, coherence, stability and structure whereas social reality is characterized by variability, inconsistencies, conflict, change and individual agency" (Brumann, 1999, p. S1). In archaeology specifically, researchers point out repeatedly that "Culture . . . is clearly not monolithic" (Leonard and Reed, 1993, p. 649, emphasis in original).

As used here, *culture* with a capital "C" is a uniquely human cognitive and behavioral system for producing, storing, and transmitting information (e.g., see Anschuetz, 1998, pp. 31–80, after Ford, 1977; Hall, 1959, 1969; Kirch, 1980; Rappaport, 1979; Trigger, 1991; Tylor, 1871; White, 1949; among others). Such information flow patterns are highly selective in what kinds of data and how data are transmitted among living people and between successive generations. Moreover, perceptions and meanings assigned values within a human community are defined culturally. Thus, through daily activities, beliefs, and values, communities transform their physical surroundings into meaningful places on particular patterns of morphology and arrangement. Through physical modifications, intimacies of experiences, and sharing of memories, communities reshape the natural settings of their geographical spaces to legitimize the meanings they bestow upon the landscape. To paraphrase Boone (1994, p. 7), people generate a landscape of cultural product, which their contemporaries and descendants inherit and inhabit for their own purposes. In this process, a group's landscape conceptualization becomes a key element of its cultural heritage and provides the community with a particular sense of time and place.

Each cultural community's particular sense of place and time, in turn, helps organize the structure and pattern of their occupation of sustaining areas and their use of larger physical environments (see Anschuetz, 1998, pp. 47–50). Traditions, which generally relate to peoples' understandings of "how they became who they are" (Peckham, 1990, p. 2), unify how people of a cultural community create and occupy their landscapes across the dimensions of space and time. Peckham (1990, pp. 2–5) recognizes that, although traditions are prone to change (and thus can be analyzed logically from an evolutionary viewpoint [e.g., see Anschuetz, 1998, pp. 44–58 for a more complete discussion]) and are dynamic, they allow for persistence and continuity in meaning. These qualities sustain a group's senses of place and time on the landscape even as subtle changes in traditions occur throughout everyday use as people respond to and prepare for varying circumstances.

Trigger maintains that traditions arise out "of the need for patterns or structural principles that provide some degree of coherence and meaning to the inexhaustible

variety of concepts that the human mind is capable of inventing and manipulating” (1991, p. 557, citing Gellner, 1982, pp. 116, 117). As Anschuetz (1998, pp. 44–58) observes, shared comprehension of meanings defines the contents of traditions. Two crucial issues underlie this statement. First, as Whorf (1956, pp. 213, 214) argues, a common worldview among community members is implicit and obligatory. Second, building on Whorf’s thesis, Lakoff and Johnson (1980, p. 3) contend that fundamental concepts underlie and structure human thought; these concepts are matters not only of intellect but also of action and include mundane everyday matters. Consequently, we can expect people belonging to communities in formal and intense interaction with their environments to define and mark their occupation of physical spaces in patterned ways of residence, subsistence, and other activity.

Even though traditions constrain the structure and organization of human behavior, culture does not play a tyrannically determinist role. Following Trigger, traditions are not wholly determining “because the human ability to reason allows individuals to manipulate and modify culture to varying degrees” (1991, p. 559) as they “realize their own changing needs and aspirations” (1991, p. 560). A consequence of this latitude in realized behavior is that human cultural systems encompass much greater internal behavioral variability than anthropologists and archaeologists recognize traditionally (Rambo, 1991, pp. 71–72; see also Trigger, 1991, p. 552). Nevertheless, the need for structural order and coherence of meaning frame the contingent variation of culture and its open-ended capacity for elaboration (Trigger, 1991, p. 561; see also Atran, 1990; Berlin, 1973; Berlin *et al.*, 1974; Lakoff, 1987; Nazarea, 1999a; Shore, 1996 for ethnoecological discussions of structures that condition perception and experience).

Given that traditions are the media for information transmission among humans, we necessarily need to consider how culture helps structure perception and information transmission patterns. The idea of the conditioning role of vernacular knowledge is relevant here.

Vernacular knowledge refers to the processes and results of certain kinds of ordinary thinking that people rely on as an indubitable source of truthful knowledge of their everyday world (see Atran, 1990, pp. 1–4, 275 n. 1 for his discussion of *common sense*). Vernacular knowledge refers to, and cognitively structures the consideration of, perceivable facts (after Atran, 1990, pp. 1–4). As universal propositions held by members of a society, the validity of such beliefs is beyond question. Peoples’ intimate relationships with incidental properties of certain worldly phenomena allow them to understand and describe accurately the essence of the things they experience. On one level, vernacular knowledge “is just the way humans are constitutionally disposed to think of things” (Atran, 1990, p. 2). On another level, vernacular knowledge defines and informs their worldview. As defined by Geertz, *worldview* is “a people’s picture of the way things, in sheer reality are, their concept of nature, of self, of society. It contains their most comprehensive ideas of order” (1973, p. 127 [1957]).

Although vernacular knowledge is not a singular manifestation between cultures or even within specific cultures, certain cross-cultural regularities occur in classificatory systems upon which common-sense beliefs are imposed. The importance of vernacular knowledge to landscape studies becomes clear with Nazarea's observation, "The landscape, or what's out there, is processed through human perception, cognition, and decision making before a plan or strategy is formulated and an individual or collective action is executed" (1999b, p. 91). Landscape, then, deals with every aspect of resource management that underlies a "people's sense of place—the lenses through which they construct the environment and estimate their latitudes of choice and opportunities for challenge and refutation" (Nazarea, 1999b, p. 105). Because questions of the structure and organization of behavior over time are focal archaeological interests, the varied material traces constituting the archaeological record help define and evaluate past landscapes.

Just as the natural environment, culture, tradition, and meanings assigned to common-sense classificatory schema change over time. These characteristics all are dynamic properties of human life; they are neither static nor immutable. As Plog (1974, pp. 8, 9, following Braidwood, 1968 and others) argues, explaining change has been archaeology's primary objective since the latter half of the twentieth century.

Although change is inevitable, the need to sustain order and coherence frame the contingent variation of culture and its open-ended capacity for elaboration (Trigger, 1991, p. 561). Marked discontinuities in the archaeological record signifying either the breakdown or revolutionary overthrow of established cultural frameworks that delimit certain ranges of behavior probably are rare. Instead, changes in historical landscape patterns for a particular cultural community will most likely sustain fundamental structural and organizational continuities through a community's identifiable tradition.

The question that remains is not whether landscape concepts are useful in archaeology, or whether they comport with traditional archaeological practice, or whether they can accommodate and address the postmodern critique. The question is whether archaeology can contribute to a systematic, scientific explanation of landscape dynamics over time.

## **BUILDING AN ARCHAEOLOGY OF LANDSCAPES**

Four major challenges to constructing an archaeology of landscapes exist. First, how does a landscape approach contribute to archaeological inquiry by focusing attention on sources of behavioral variability characteristically obscured by traditional archaeological space and time systematics? Second, what are the general assumptions behind, the validity of, and the limits to our understanding of the archaeology of landscapes? Third, how do investigators reconcile—or at least recognize—potential differences between traditional cultural views

and anthropology analyses of landscapes? Fourth, how does landscape fit into the larger challenge of making a scientifically viable, yet traditionally informed, anthropology?

### Archaeological Systematics and Landscapes

If researchers conceive of “landscape” as a spatial analytical scale, they might suggest that it serves to combine some of the integrative aspects of concepts such as “tradition” and “horizon.” For example, an archaeological landscape might be viewed as the intersection of the spatial continuity of a particular cultural system (i.e., an archaeological horizon) within a specific temporal tradition. The conceptualization of landscape simply as an analytical unit of scale is inappropriate, however. In most regions of the world, the most basic unit for defining the intersection of the spatial extent of an archaeological horizon and the temporal continuity of a tradition is a “phase.” A phase in its most basic form represents the local/regional expression of several occupation components. Although the spatial extent of a phase or a horizon within a region is relevant to archaeological inquiry, this in itself does not constitute a “landscape” approach.

A landscape approach is not isomorphic with space and time systematics. As cultural constructs that frame how people interact with their environments by structuring perceptions and meanings, they incorporate both objective (i.e., tangible and quantifiable in materialist terms) resources and subjective (i.e., less tangible in materialist terms and thus more qualitative) properties. Landscapes, after all, are the dynamic interaction of nature and culture, not just a superficial imposition of culture on nature. Each group introduces its own patterns of material and nonmaterial occupation, adding layers to the material traces of earlier or contemporary use by other cultural groups (Anschuetz *et al.*, 1999, p. 9).

Traditional archaeological space and time systematics characteristically view cultural space as something bounded geographically and time as a linear progression. Phase analyses, and similar spatial–temporal analytical frameworks, stress the material culture similarities of groups and tend to homogenize the remains to form cultural signatures. Phase analyses are not particularly good at focusing attention on potentially contemporary cultural phenomena whose patterning is conditioned in part by historically contingent processes based on contrasting cultural perceptions, actions, and relationships.

While the idea that culture is an open system is neither new nor foreign to many archaeologists, common identifications of culture groups and culture areas in narrowly defined typological criteria “implicitly carry a closed concept of culture” (Green and Perlman, 1985, p. 6). A landscape approach recognizes that the arenas of human occupation and action are multilayered and that each group in a particular physical setting imbues its own senses of place and time on that space regardless of the purposes, frequency, or intensity of use.

Landscapes incorporate aspects of mythic, past, and current histories concurrently; they have a quality of simultaneity. Because human actions and events are not isolated happenings on the land, temporality and historicity merge in the experiences of those who create order in their communities and reproduce society (Ingold, 1993, p. 157; see also Jackson, 1995, p. 43). People of culturally diverse communities simultaneously can share spaces on the physical environment with each drawing useful, but potentially contrasting, values (both material and nonmaterial) from the places they perceive and signify.

Landscape attributes of temporality and simultaneity make for a potentially confusing temporal mix of material culture. A variety of studies over the past two decades show that complex relationships exist among material culture traits, constructions of ethnicity or other group identity, and socioeconomic status (e.g., Barrett, 1994; Braun and Plog, 1982; Bronitsky *et al.*, 1985; Clark and Parry, 1990; Hodder, 1982, 1985, 1986; Longacre, 1991; Mills and Crown, 1995; Skibo *et al.*, 1995). Importantly, boundaries can manifest themselves differently between the domains of interpersonal behavior and the use, discard, and loss of material culture. Consequently, ideas of temporality and simultaneity require a shift in observational and analytical scales.

Although a landscape approach recognizes the inherent fluidity and permeability of narrowly delimited boundaries, the persistence of particular "places" within may serve to define a landscape. Archaeological information on qualitatively different economic tactics and strategies can serve to segregate contrasting coresident groups. In this way, it is possible to recognize two or more communities occupying the same physical space through offsetting landscape constructions that selectively favored qualitatively different ecological niches (Anschuetz *et al.*, 1999, p. 9).

The existence of interwoven, fluid cultural boundaries within a physical environment recalls the idea of borderlands or frontiers (Gupta and Ferguson, 1992; Gupta *et al.*, 1992) and ethnoscapes (Appadurai, 1992). Variation and change exhibited among broad historical patterns "often is the most visible, and in some cases most active, on the peripheries" (Green and Perlman, 1985, p. 9; see also Cordell and Yannie, 1991; Feinman, 1994; Marcus, 1992, 1998; Schortman and Nakamura, 1991). The concepts of borderlands and the indeterminacy of places together are potentially productive guidelines for examining spatial, temporal, productive, organizational, and ideational variability among landscape constructions of disparate communities within a common geographical area.

In light of the many contextual nuances conditioning the temporal and spatial distributions of archaeological remains, we more appropriately may think of landscapes in a fashion that traces the tactics and strategies underlying the occupation of geographic spaces that parallels the space and time systematics by Willey and Phillips (1958). Landscapes in this conceptualization are the intersection of a particular group's history with the places that define its spatial extent. In practice,

researchers will recognize multiple cultural communities and possibly a variety of ethnic or social groups within the “landscapes” they study. Consequently, archaeologists should anticipate the potential for multiple landscape histories to be represented in the archaeological record.

At first inspection, the many challenges to archaeological thought in the inherent multidimensionality and dynamics of landscapes may seem too formidable to warrant use of a landscape approach. Nonetheless, when one considers the many limitations imposed by traditional “phase” analyses, the potential merits of a landscape approach suggest that we should not dismiss it prematurely.

In adopting a landscape approach, the focus of archaeological study shifts to isolating and dating the occupational histories of particular communities within a given geographic space through the tactics and strategies they used to interact with and survive in their environments. As we trace the trajectory of past community development, we might be able to depict graphically, in a series of Venn diagrams, the various ways, including ecological, ritual, or ethnical ways, in which people occupied their particular landscape. In short, a landscape approach complements traditional archaeological space and time systematics through its processual and scientific means of analysis while at the same time integrating human history and agency into their constructions (discussed later).

### **Building an Epistemology for an Archaeology of Landscapes**

Archaeology is but one part of a landscape paradigm. Archaeology alone cannot address all parts of a truly integrative understanding of the anthropology of place. An integrated comprehension of the cultural constructions of the environment, like other aspects of human behavior, must include attention to space and time systematics. To build an epistemology for an archaeology of landscapes, there needs to be “correspondences between a *realm of knowledge*, e.g., concepts and propositions, and a *realm of objects*, e.g., experiences and things” (Gregory, 1994c, p. 168, citing Hindess, 1977, italics in original). Against this framework, we need to elucidate what is understood to be knowledge within this approach.

Cultural anthropologists and archaeologists are well suited for making cross-cultural comparisons. In terms of underlying time and space systematics, comparative studies by cultural anthropologists usually are synchronic and broadly geographic. By virtue of their great time depth and diachronic perspective, archaeologists are making notable advances in explaining processes of cultural change. Archaeologists, however, traditionally are less successful in identifying and interpreting variation in the morphology and arrangement of behavior within particular cultural systems, even at local scales (e.g., see Binford, 1983).

A landscape paradigm holds the promise for archaeologists of focusing their already considerable interpretive abilities along other productive research avenues. The approach facilitates identification and explication of the interactive processes

operating among the various economic, social, and ideational tactics and strategies used by human groups as they sustain their livelihoods and communities in the face of everchanging environmental conditions (after Stone, 1993, p. 78). Through its coherent framework, landscape considers that the variation observed in the physical properties and spatial patterns of archaeological assemblages across spaces might be part of a greater dynamic whole.

The task is to identify and evaluate the context, morphology, and arrangement of archaeological residues to explain human behavior and cultural processes. To accomplish this goal, archaeologists need to attend to time and space systematics within an increasingly integrative framework to examine how human communities organized their day-to-day interactions with their environments. We need to view material traces differently to enhance our pattern recognition skills and, ultimately, our explanatory abilities to achieve a higher level of historical ecological synthesis. Variation in the morphology and arrangement of archaeological assemblages across physical space, rather than an absolute signature of cultural difference, might permit comprehension of the suite of tactics and strategies used by people to retain resiliency in the face of unpredictable environmental conditions and sustain the coherence with their cultural communities from one generation to the next.

Two complementary groups of analytical units are necessary for the implementation of a comprehensive archaeological approach: archaeological and environmental (Scheick *et al.*, 2000). Neither represents a departure from traditional analytical units common in archaeological practice today. What differs is the careful attention to subdividing unit groups, measuring them, and designing analyses to examine them. Archaeologists need methodologies for isolating, observing, and measuring archaeological observations that ensure the data do not assume the very behavioral processes they are interested in explaining. From these resulting information sets, we need to create analytical units relevant to archaeological and physical landscape definition and landscape construction (Scheick *et al.*, 2000).

The archaeological landscape is the palimpsest of cultural residue that results from both natural and cultural processes operating at different spatial and temporal scales (see Wandsnider, 1998, pp. 87, 90). As such, it represents a convoluted but patterned distribution of archaeological traces across space. The natural environment is the sum of the biotic and geological elements within a particular geographical space. Their spatial and temporal distributions determine the physical environment's dynamic structure, which, in turn, helps to condition people's decision making and activities for sustaining their survival.

The archaeological and environmental units identified for study are descriptors of the archaeological and physical landscapes, respectively. Variation in the archaeological units represents, in part, the outcomes of choices made by groups through their interactions with the physical spaces they occupied. The environmental units monitor some of the natural variation with which the people interacted. At the same time, the variation in natural environmental units helped structure the group's decision-making matrices and actions.

To construct an archaeology of landscapes, archaeologists must begin by defining the natural and cultural parameters that differentially conditioned how people occupied particular places and organized their activities across the dimensions of space and time (Scheick *et al.*, 2000). By defining these parameters, we can understand better the structure and organization of human actions within their environments. Parameter definition involves four hierarchical steps: (1) definition of the archaeological and physical landscape segments that are the focus of our studies, (2) identification of the linkages between these landscape segments, (3) establishment of their intersections, and (4) definition of the landscape through the integration of these intersections.

Through analyses, archaeologists need to characterize the internal variation within their analytical units, examine the spatial variation between and among those units, and identify and assess factors that might be responsible for some of the observed variation (after Scheick *et al.*, 2000). Through pattern recognition and statistical analyses, we need to consider possible correspondences between and among the analytical units and ultimately between the archaeological and physical landscape segments. During this process, we might (1) define some of the cultural and physical parameters that shaped landscape constructions within a particular geographic space, and (2) identify and assess observable patterning that links the archaeological and physical landscape segments.

In documenting and assessing variation within and among the archaeological analytical units, researchers can describe and evaluate the archaeological landscape comprehensively. In distinguishing between onsite and offsite components of the archaeological record, we might discern areas of intensive and nonintensive land use, with the former representing occupied spaces on the land and the latter representing activity spaces. Through study of spatial distributions and interrelationships among isolated archaeological traces, composite archaeological assemblages, and nonmaterial open space, we might identify aspects of the archaeological landscape structure. Included in archaeological landscapes are (1) action spaces within which people focused their economic, social, and ideational interactions with their environments, (2) search spaces within which people interact to fulfill particular needs, and (3) awareness spaces about which groups maintain a minimal level of knowledge even though they might never visit the places directly (after Clark, 1998, pp. 4, 29, 360). Contributing further to archaeological landscape structure are the dynamic processes underlying the physical landscape that operate on a variety of scales to affect what investigators see in the contemporary archaeological record (Wandsnider, 1998).

### **Traditional and Archaeological Views of Landscapes**

Documentation of historical contexts that identify and justify significance to scientists concerned principally with constructing and explaining the past is much

less relevant to traditional communities concerned primarily with contemporary social issues concerning their cultural survival (Levine and Merlan, 1993, p. 55). For those archaeologists who work with traditional cultural properties (e.g., Parker, 1993; Parker and King, 1990), there is much to recommend the concept of landscapes as way of linking the past with the present. Landscapes (1) are associated with cultural practices or beliefs rooted in the histories of living communities and are essential to sustaining cultural identities (after Parker and King, 1990; see also Parker, 1993), (2) are shaped by people to serve their needs and reflect their culture (after Friedman, 1994), and (3) simultaneously are viewed by people of different cultural communities (after Cowley, 1991, 1994).

The “language” of landscapes is much more readily accessible to people from traditional communities than the usual archaeological terminology used in scientific research or legislation designed to protect cultural resources, such as sites, and traditional cultural properties, such as medicine gathering areas (Anschuetz and Scheick, 1999; Carroll, 1993; Cushman, 1993; Echo-Hawk, 1997, 2000; Ferguson *et al.*, 1993). To speak of past places as removed from the present and no longer a part of contemporary landscapes makes little sense among people in traditional knowledge systems. Many non-Western land-based communities view history as part of a living process that makes the past a referent for the present and the landscape as memory itself (Anyon *et al.*, 1997; Kuchler, 1993; Morphy, 1993; see also Anschuetz *et al.*, 2000; Ferguson *et al.*, 1993; Jackson, 1980; Parker, 1993). Because landscape concepts held by the people of traditional communities characteristically are land based and process oriented, the landscape immediately is understood to be more than the present built environment (Tallbull and Deaver, 1997) or simply a protected cultural resources site (Cleere, 1995). Important sources of knowledge from the past about the material consequences of how people used, occupied, and transformed their landscapes are embedded in each community’s cultural–historical narratives. History is continuously reenacted in the present through the group’s traditional beliefs and practices, thereby continually reaffirming the community’s cultural–historical associations with its landscapes (after Parker, 1993, p. 4). Landscapes, in turn, become a mirror of a community. Landscapes are products of communities’ relationships with their surroundings, as each generation lives its life and bestows meaning on those surroundings.

As archaeologists, it is important also to consider the past in terms of indigenous peoples, not just of our discipline. Comprehension that the physical spaces, including tracts of rangeland, surrounding built residential centers are neither natural nor exclusively part of nature is an indispensable first step. A landscape’s physical spaces are not silent on questions of community history and cultural heritage.

Although a landscape approach is not a complete bridge by itself, it facilitates active dialogue between the traditional groups with ties to a place and the

archaeologists working in the locality. Such dialogue presupposes the recognition that landscape includes both quantifiable archaeological resources (i.e., artifacts, features, and sites) and cultural properties (i.e., qualitative characteristics people associate with and use to sustain their conceptual occupation of places and community identity). Many places exist that qualify as traditionally important cultural properties or significant archaeological resources (or both) whose management should be parts of a larger landscape. The ethic of place (Wilkinson, 1992, pp. 132–161) and anthropology of place (shown earlier) might be a vital point of overlap for traditional communities concerned with their cultural survival and contemporary archaeology.

### SUMMARY AND CONCLUSIONS: LANDSCAPES, ANTHROPOLOGICAL ARCHAEOLOGY, AND EXPLAINING THE PAST

The terminological and methodological eclecticism in the present use of *landscape* in archaeological analyses appears to result from researchers attempting to solve many different kinds of problems in isolation, using a concept whose paradigmatic underpinnings have yet been fully defined. An archaeology of landscapes has the promise for bridging some nagging problems in archaeology by providing a set of interdisciplinary methodologies that accommodate, if not integrate, contrasting theoretical perspectives.

Because landscapes are worlds of cultural product and represent the record of dynamic processes of human interaction with their environments, they warrant further consideration. A landscape approach provides a framework for assessing sources of behavioral variability in the archaeological record and allow observations in a context beyond the limits of the physical locations and boundaries of sites. The approaches emphasize the contextualization of onsite findings in terms of the open spaces among the activity remnants observed archaeologically and that people almost certainly moved through and used during their daily activities (after Morrow, 1997, p. 161). Through a landscape approach, researchers can frame questions on how the morphology and arrangement of archaeological materials represent either a design with or an imposition on nature (after McHarg, cited in Price 1997, p. 227). The spatial and temporal distributions of archaeological assemblages can be used to evaluate changes in the patterning of cultural traditions as realignments of behavior.

Because material culture encodes information in patterned ways, the use of inductive methods can decode archaeological observations to help make inferences about past meanings that underlie observed regularities and deviations (Rapoport, 1990, p. 86). By combining a landscape approach with traditional spatial and temporal systematics, it is possible to incorporate the dynamic scale of landscape

analysis with the fine-scaled spatial and temporal analysis of patterns characteristic of traditional archaeological practice.

Common archaeological techniques, such as settlement pattern, distributional, historical, social formation, and symbolic analyses, all can contribute toward the building of a landscape approach. Each may offer partial answers to the larger questions the landscape paradigm enables us to ask. Current research on settlement ecology, ritual landscapes, and ethnic landscapes offers glimpses into the potential power of a landscape approach. Such an integrative methodological approach might facilitate examination of issues such as ritual use and ethnic identity that are assuming prominence in archaeological inquiry. Because a landscape is the arena for all of a group's economic, social, and ideational behavior, studies under this approach must consider within-place and between-place contexts. Moreover, that landscapes are dynamic constructions necessitates a more comprehensive search for patterning and development of holistic explanations in which people as actors contribute to changes in their conditions for living.

The twentieth century ideas of Sauer and Jackson still have currency. Landscape truly might be "the pattern which connects" (Bateson, 1978) seemingly disparate constructs. Landscape enables us to perceive and comprehend the great breadth and interdependency among the parts forming the heterarchical web of people's interactions with their environments.

Archaeology, as an integral part of anthropology and armed with its great time depth, has the potential to unify this truly interdisciplinary approach into a coherent whole. In doing so, a landscape paradigm might allow archaeology to contribute substantively to an understanding of the anthropology of place by demonstrating the limits of strict cultural materialism in explaining how people creatively fashion their environments.

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### REFERENCES CITED

- Adams, R. McC. (1965). *Land Behind Baghdad: A History of Settlement on the Diyala Plains*, University of Chicago Press, Chicago.

- Adams, R. McC. (1981). *Heartland of Cities: Surveys of Ancient Settlement and Land Use on the Central Floodplain of the Euphrates*, University of Chicago Press, Chicago.
- Adams, R. McC., and Nissen, H. J. (1972). *The Uruk Countryside: The Natural Setting of Urban Societies*, University of Chicago Press, Chicago.
- Agnew, J. A. (1994). Areal differentiation. In Johnston, R. J., Gregory, D., and Smith, D. M. (eds.), *The Dictionary of Human Geography*, 3rd edn., Blackwell, Oxford, pp. 25–26.
- Albarracín-Jordan, J. (1996). Tiwanaku settlement system: The integration of nested hierarchies in the lower Tiwanaku Valley. *Latin American Antiquity* 7: 183–210.
- Aldenderfer, M. S. (ed.) (1993). *Domestic Architecture, Ethnicity, and Complementarity in the South-Central Andes*, University of Iowa, Iowa City.
- Anderson, K., and Gale, F. (eds.) (1992). *Inventing Place: Studies in Cultural Geography*, Longman Cheshire, Melbourne.
- Anschuetz, K. F. (1998). *Not Waiting for the Rain: Integrated Systems of Water Management for Intensive Agricultural Production in North-Central New Mexico*, Ph.D. dissertation, Department of Anthropology, University of Michigan, University Microfilms, Ann Arbor.
- Anschuetz, K. F., and Scheick, C. L. (1998). Unveiling archaeological tierra incognita: Evaluating time, place-making and tradition through a cultural landscape paradigm. Paper presented at the 63rd Annual Meeting of the Society for American Archaeology, Seattle.
- Anschuetz, K. F., and Scheick, C. L. (1999). Rio Grande Foundation for Communities and Cultural Landscapes. *Archaeology Southwest* 13(3): 9.
- Anschuetz, K. F., Scheick, C. L., Mack, S. R., Dorshow, W. B., and Baugh, T. G. (1999). *A Regional Approach to the Cultural Landscapes of Northeast New Mexico: A Research Design for the Ration Properties: Nahkéyaa: Our Footprints Are There*, Southwest Archaeological Consultants Research Series 425a, Southwest Archaeological Consultants, Santa Fe.
- Anschuetz, K. F., Ferguson, T. J., Francis, H., Kelley, K. B., and Scheick, C. L. (2000). “That Place People Talk About”: *Ethnographic Landscape Literature Essays, Petroglyph National Monument, Community and Cultural Landscape Contribution, No. 5*, Rio Grande Foundation for Communities and Cultural Landscapes, Santa Fe.
- Anyon, R., Ferguson, T. J., Jackson, L., Lane, L., and Vicenti, P. (1997). Oral tradition and archaeology: Issues of structure. In Swidler, N., Dongoske, K. E., Anyon, R., and Downer, A. S. (eds.), *Native Americans and Archaeologists: Stepping Stones to Common Ground*, Altamira Press, Walnut Creek, CA, pp. 77–87.
- Appadurai, A. (1992). Global ethnoscaapes: Notes and queries for transnational anthropology. In Fox, R. (ed.), *Recapturing Anthropology: Working in the Present*, School of American Research Press, Santa Fe, pp. 191–210.
- Appadurai, A., and Breckenridge, C. (1988). Why public culture? *Public Culture* 1(1): 5–9.
- Ashmore, W. (1989). Construction and cosmology: Politics and ideology in lowland Maya settlement patterns. In Hanks, W. F., and Rice, D. S. (ed.), *Word and Image in Maya Culture: Explorations in Language, Writing, and Representation*, University of Utah Press, Salt Lake City, pp. 272–286.
- Ashmore, W. (1991). Site-planning principles and concepts of directionality among the ancient Maya. *Latin American Antiquity* 2: 199–226.
- Ashmore, W., and Knapp, A. B. (eds.) (1999). *Archaeologies of Landscape: Contemporary Perspectives*, Blackwell Publishers, Malden, MA.
- Aston, M. (1985). *Interpreting the Landscape: Landscape Archaeology in Local Studies*, Batsford, London.
- Atran, S. (1990). *Cognitive Foundations of Natural History: Towards an Anthropology of Science*, Cambridge University Press, Cambridge.
- Aveni, A. F. (1986). The Nazca lines: Patterns in the desert. *Archaeology* 39(4): 32–39.
- Aveni, A. F. (1991). Mapping the ritual landscape: Debt payment to Tlaloc during the month of Atlcahualo. In Carrasco, D. (ed.), *To Take Place: Aztec Ceremonial Landscapes*, University Press of Colorado, Niwot, CO, pp. 58–73.
- Balkansky, A. K. (1998). Urbanism and early state formation in the Huamelulpan Valley of southern Mexico. *Latin American Antiquity* 9: 37–67.
- Barrett, J. C. (1988). The living, the dead, and the ancestors: Neolithic and Early Bronze Age mortuary practices. In Barrett, J. C., and Kinnes, I. A. (eds.), *The Archaeology of Context in the Neolithic*

- and Bronze Age, Department of Archaeology and Prehistory, University of Sheffield, Sheffield, pp. 30–41.
- Barrett, J. C. (1991). Towards an archaeology of ritual. In Garwood, P., Jennings, D., Skeates, R., and Toms, J. (eds.), *Sacred and Profane*, Oxford University Committee for Archaeology, Oxford, pp. 1–9.
- Barrett, J. C. (1994). *Fragments of Antiquity*, Blackwell, Oxford.
- Barrett, J. C., Bradley, R., and Green, M. (eds.) (1991). *Landscape, Monuments, and Society: The Prehistory of Cranborne Chase*, Cambridge University Press, Cambridge.
- Barth, F. (1969). *Ethnic Groups and Boundaries: The Social Organization of Culture Difference*, Little Brown, Boston.
- Barton, C. M., Bernabeu, J., Aura, J. E., and Garcia, O. (1999). Land-use dynamics and sociopolitical change: An example from the Polopalto Valley. *American Antiquity* **64**: 609–634.
- Basso, K. H. (1996). *Wisdom Sits in Places: Landscape and Language Among the Western Apache*, University of New Mexico Press, Albuquerque.
- Bateson, G. (1978). The pattern which connects. *The Co-Evolution Quarterly Summer*: 4–15.
- Bell, C., and Newby, H. (1978). Community, communion, class and community action: The social sources of the new urban politics. In Herbert, D. T., and Johnson, R. J. (eds.), *Social Areas in Cities: Processes, Patterns and Problems*, John Wiley, Chichester, pp. 283–302.
- Bender, B. (ed.) (1993a). *Landscape: Politics and Perspectives*, Berg, Oxford.
- Bender, B. (1993b). Stonehenge—contested landscape (medieval to present-day). In Bender, B. (ed.), *Landscape: Politics and Perspectives*, Berg, Oxford, pp. 245–279.
- Bender, B. (1998). *Stonehenge: Making Space*, Berg, New York.
- Bender, B., Hamilton, S., and Tilley, C. (1997). Leskernick: Stone worlds; alternative narrative; nested landscapes. *Proceedings of the Prehistoric Society* **63**: 147–178.
- Benedict, R. (1934). *Patterns of Culture*, Houghton Mifflin, Boston.
- Berlin, B. (1973). The relation of folk systematics to biological classification and nomenclature. *Annual Review of Systematics and Ecology* **4**: 259–271.
- Berlin, B., Breedlove, D., and Raven, P. (1974). General principles of classification and nomenclature in folk biology. *American Anthropologist* **75**: 214–242.
- Bertalanffy, L. von. (1968). *General Systems Theory: Foundation, Development, Applications*, G. Braziller, New York, and Allen Lane, London.
- Billman, B. R., and Feinman, G. M. (eds.) (1999). *Settlement Studies in the Americas: Fifty Years since Virú*, Smithsonian Institution Press, Washington, DC.
- Binford, L. R. (1972). *An Archaeological Perspective*, Seminar Press, New York.
- Binford, L. R. (1980). Willow smoke and dog's tails: Hunter-gatherer settlement systems and archaeological site formation. *American Antiquity* **45**: 4–20.
- Binford, L. R. (1982). The archaeology of place. *Journal of Anthropological Archaeology* **1**: 5–31.
- Binford, L. R. (1983). *Working at Archaeology*, Academic Press, New York.
- Blanton, R. E. (1978). *Monte Alban: Settlement Patterns at the Ancient Zapotec Capital*, Academic Press, New York.
- Blanton, R. E., Kowalewski, S. A., Feinman, G. M., and Finsten, L. (1993). *Ancient Mesoamerica: A Comparison of Change in Three Regions*, 2nd edn., Cambridge University Press, Cambridge.
- Boone, J. L. (1994). Is it evolution yet?: A critique of “Darwinian archeology.” Paper presented at the 59th Annual Meeting of the Society for American Archaeology, Anaheim.
- Bourdieu, P. (1977). *Outline of a Theory of Practice*, Cambridge University Press, Cambridge.
- Bradley, R. (1993a). Archaeology: The loss of nerve. In Yoffee, N., and Sherratt, A. (eds.), *Archaeological Theory: Who Sets the Agenda?* Cambridge University Press, Cambridge, pp. 131–133.
- Bradley, R. (1993b). *Altering the Earth*, Monograph Series, No. 8, Society of Antiquaries of Scotland, Edinburgh.
- Bradley, R. (1997). *Rock Art and the Prehistory of Atlantic Europe*, Routledge, London.
- Bradley, R. (1998a). *The Significance of Monuments: On the Shaping of Human Experience in Neolithic and Bronze Age Europe*, Routledge, London.
- Bradley, R. (1998b). Ruined buildings, ruined stones: Enclosures, tombs and natural places in the Neolithic of south-west England. *World Archaeology* **30**: 13–22.
- Bradley, R., and Chambers, R. (1988). A new study of the cursus complex at Dorchester on Thames. *Oxford Journal of Archaeology* **7**: 271–289.

- Braidwood, R. J. (1968). Archaeology: An introduction. *Encyclopedia Britannica* 2: 225–227.
- Braidwood, R. J. (1974). The Iraq Jarmo project. In Willey, G. R. (ed.), *Archaeological Researches in Retrospect*, Winthrop, Cambridge, pp. 59–83.
- Brand, S. (1994). *How Buildings Learn: What Happens After They're Built*, Viking, New York.
- Braun, D. P., and Plog, S. (1982). Evolution of “tribal” networks: Theory and prehistoric North American evidence. *American Antiquity* 47: 504–525.
- Broda, J. (1991). The sacred landscape of Aztec calendar festivals: Myth, nature, and society. In Carrasco, D. (ed.), *To Take Place: Aztec Ceremonial Landscapes*, University Press of Colorado, Niwot, CO, pp. 74–120.
- Bronitsky, G., Marks, A., and Burelson, C. (1985). Baptists and boundaries: Lessons from Baptist material culture. In Green, S. W., and Perlman, S. M. (eds.), *The Archaeology of Frontiers and Boundaries*, Academic Press, San Diego, pp. 325–340.
- Brumann, C. (1999). Writing for culture: Why a successful concept should not be discarded. *Current Anthropology* 40(Suppl.): S1–S27.
- Brumley, J. H. (1988). *Medicine Wheels of the Northern Plains: A Summary and Appraisal*, Manuscript Series, No. 12, Archaeological Survey of Alberta.
- Buttimer, A. (1971). *Society and Milieu in the French Geographic Tradition*, Association of American Geographers, Chicago.
- Buttimer, A. (1974). *Values in Geography*, Resource Paper, No. 24, Commission on College Geography, Association of American Geographers, Washington, DC.
- Butzer, K. W. (1971). *Environment and Archeology: An Ecological Approach to Prehistory*, Aldine, Chicago.
- Butzer, K. W. (1982). *Archaeology as Human Ecology*, Cambridge University Press, Cambridge.
- Butzer, K. W. (1994). Toward a cultural curriculum for the future: A first approximation. In Foote, K. E., Hugill, P. J., Mathewson, K., and Smith, J. M. (eds.), *Re-Reading Cultural Geography*, University of Texas Press, Austin, pp. 409–428.
- Caldwell, J. R. (1958). *Trend and Tradition in the Prehistory of the Eastern United States*, Memoir, No. 88, American Anthropological Association, Menasha, WI.
- Caldwell, J. R. (1959). The new American archaeology. *Science* 129: 303–307.
- Carmichael, D. L., Hubert, J., Reeves, B., and Schanche, A. (eds.) (1994). *One World Archaeology. Vol. 23: Sacred Sites, Sacred Places*, Routledge, London.
- Carrasco, D. (ed.) (1991). *To Change Place: Aztec Ceremonial Landscapes*, University Press of Colorado, Niwot, CO.
- Carroll, C. (1993). Administering federal laws and regulations relating to Native Americans: Practical processes and paradoxes. *Cultural Resource Management* 16 (Special issue: Traditional cultural properties): 16–21.
- Casey, E. S. (1996). How to get from space to place in a fairly short stretch of time: Phenomenological prolegomena. In Feld, S., and Basso, K. H. (eds.), *Senses of Place*, School of American Research Press, Santa Fe, pp. 13–52.
- Chang, K. C. (1958). Study of the Neolithic social grouping: Examples from the New World. *American Anthropologist* 60: 298–334.
- Chang, K. C. (1963). *The Archaeology of Ancient China*, Yale University Press, New Haven.
- Chang, K. C. (1967). Major aspects of the interrelationship of archaeology and ethnography. *Current Anthropology* 8: 227–243.
- Cherry, J. F. (1983). Frogs round the pond: Perspectives on current archaeological survey projects in the Mediterranean region. In Keller, D. R., and Rupp, D. W. (eds.), *Archaeological Survey in the Mediterranean Area*, International Series, No. 155, British Archaeological Reports, Oxford, pp. 394–397.
- Cherry, J. F., Davis, J. L., Demitrack, A., and Mantzourani, E., Strasser, T. F., and Talalay, L. E. (1988). Archaeological survey in an artifact-rich landscape: A Middle Neolithic example from Nemea, Greece. *American Journal of Archaeology* 92: 159–176.
- Cherry, J. F., Davis, J. L., and Mantzourani, E. (1991). *Landscape Archaeology as Long-Term History: Northern Keos in the Cycladic Islands from Earliest Settlement until Modern Times*, Monumenta Archeologica 16, UCLA Institute of Archaeology, Los Angeles.
- Childe, V. G. (1928). *The Most Ancient East: The Oriental Prelude to European Prehistory*, Routledge and Kegan Paul, London.

- Childe, V. G. (1952). *New Light on the Most Ancient East*, 4th edn., Routledge and Kegan Paul, London.
- Chorley, R. J., and Haggett, P. H. (1967). *Models in Geography*, Methuen, London.
- Christaller, W. (1966). *Central Places in Southern Germany* (Baskin, C. W., trans.), Prentice-Hall, Englewood Cliffs, NJ.
- Clark, A. N. (1998). *Dictionary of Geography*, 2nd edn., Penguin, London.
- Clark, J. E., and Parry, W. J. (1990). Craft specialization and cultural complexity. *Research in Economic Anthropology* **12**: 289–346.
- Clark, G. A. (1993). Paradigms in science and archaeology. *Journal of Archaeological Research*, **1**: 203–234.
- Clark, J. G. D. (1933). Review of the 'The Personality of Britain.' *Antiquity* **7**: 323–234.
- Clark, J. G. D. (1939). *Archaeology and Society*, Methuen, London.
- Clarke, D. L. (ed.) (1968). *Analytical Archaeology*, Methuen, London.
- Clarke, D. L. (ed.) (1972). Models and paradigms in contemporary archaeology. In Clarke, D. L. (ed.), *Models in Archaeology*, Methuen, London, pp. 1–60.
- Clarke, D. L. (ed.) (1977). *Spatial Archaeology*, Academic Press, London.
- Cleere, H. (1995). Cultural landscapes as world heritage. *Conservation and Management of Archaeological Sites* **1**: 63–68.
- Coe, W. R. (1967). *Tikal: A Handbook of the Ancient Maya Ruins*, University Museum, University of Pennsylvania, Philadelphia.
- Connor, S. W. (1982). Archaeology of the Crow Indian vision quest. *Archaeology in Montana* **23**(3): 85–127.
- Cordell, L. S., and Yannie, V. J. (1991). Ethnicity, ethnogenesis, and the individual: A processual approach toward dialogue. In Preucel, R. W. (ed.), *Processual and Postprocessual Archaeologies: Multiple Ways of Knowing the Past*, Occasional Paper, No. 10, Center for Archaeological Investigations, Southern Illinois University, Carbondale, pp. 96–107.
- Cosgrove, D. E. (1984). *Social Formation and Symbolic Landscape*, Croom Helm, London.
- Cosgrove, D. E. (1985). Prospect, perspective and the evolution of the landscape idea. *Transactions of the Institute of British Geographers* **10**: 45–62.
- Cosgrove, D. E. (1994). Cultural landscape. In Johnston, R. J., Gregory, D., and Smith, D. M. (eds.), *The Dictionary of Human Geography*, 3rd edn., Blackwell, Oxford, pp. 114–115.
- Cosgrove, D. E., and Daniels, S. (1988). *The Iconography of Landscape: Essays on the Symbolic Representation, Design and Use of Past Environments*, Cambridge University Press, Cambridge.
- Cowgill, G. L. (1993). Distinguished lecture in archeology: Beyond criticizing New Archeology. *American Anthropologist* **95**: 551–573.
- Cowley, J. (1991). Canyon de Chelley—an ethnographic landscape. *Cultural Resource Management* **14**(6): 10–11.
- Cowley, J. (1994). The O'Keefe landscape: Setting the stage for interpretation. *Cultural Resource Management* **17**(7): 28–31.
- Crawford, O. G. S. (1912). The distribution of early Bronze Age settlements in Britain. *Geographical Journal* **40**: 184–203.
- Crawford, O. G. S. (1922). Prehistoric geography. *Geographical Review* **12**: 257–263.
- Crumley, C. L. (1994). Historical ecology: A multidimensional ecological orientation. In Crumley, C. L. (ed.), *Historical Ecology: Cultural Knowledge and Changing Landscapes*, School of American Research Press, Santa Fe, pp. 1–16.
- Crumley, C. L., and Marquardt, W. H. (1987). *Regional Dynamics: Burgundian Landscapes in Historical Perspective*, Academic Press, San Diego.
- Crumley, C. L., and Marquardt, W. H. (1990). Landscape: A unifying concept in regional analysis. In Allen K. M. S., Green, S. W., and Zubrow, E. B. W. (eds.), *Interpreting Space: GIS and Archaeology*, Taylor and Francis, London, pp. 73–79.
- Cushman, D. W. (1993). When worlds collide: Indians, archaeologists, and the preservation of traditional cultural properties. *Cultural Resource Management* **16** (Special issue: Traditional cultural properties): 49–54.
- Daniel, G. E. (1964). *The Idea of Prehistory*, 2nd edn., Penguin, Harmondsworth, England.
- Daniels, S. (1989). Marxism, culture and the duplicity of landscape. In Peet, R., and Thrift, N. (eds.), *New Models in Geography: The Political-Economy Perspective*, Unwin-Hyman, London, pp. 196–220.

- Darvill, T. (1997). Ever increasing circles: Sacred geographies of Stonehenge and its landscape. *Proceedings of the British Academy* **92**: 167–202.
- Deetz, J. (1990). Landscapes as cultural statements. In Kelso, W. M., and Most, R. (eds.), *Earth Patterns: Essays in Landscape Archaeology*, University Press of Virginia, Charlottesville and London, pp. 2–4.
- Deleuze, G., and Guattari, F. (1986). *Nomadology* (Massumi, B., trans.), Semiotexte, New York.
- Dewar, R. E. (1992). Incorporating variation in occupation span in settlement-pattern analysis. *American Antiquity*, **56**: 604–620.
- Domosh, M. (1995). The symbolism of the skyscraper: Case studies of New York's first tall buildings. In Foote, K. E., Huggill, P. J., Mathewson, K., and Smith, J. M. (eds.), *Re-Reading Cultural Geography*, University of Texas Press, Austin, pp. 48–63.
- Duke, P. (1995). Working through theoretical tensions in contemporary archaeology: A practical attempt from southwestern Colorado. *Journal of Archaeological Research* **2**: 201–229.
- Duncan, J. (1994). Landscape. In Johnston, R. J., Gregory, D., and Smith, D. M. (eds.), *The Dictionary of Human Geography*, 3rd edn., Blackwell, Oxford, pp. 316, 317.
- Dunnell, R. C. (1992). The notion site. In Rossignol, J., and Wandsnider, L. (eds.), *Space, Time, and Archaeological Landscapes*, Plenum Press, New York, pp. 21–41.
- Dunnell, R. C., and Dancy, W. S. (1983). The siteless survey: A regional scale data collection strategy. In Schiffer, M. B. (ed.), *Advances in Archaeological Method and Theory*, Vol. 6, Academic Press, New York, pp. 267–287.
- Dunning, N., Scarborough, V., Valdez, F., Jr., Luzzadder-Beach, S., Beach, T., and Jones, J. G. (1999). Temple mountains, scared lakes, and fertile fields: Ancient Maya landscapes in northwestern Belize. *Antiquity* **73**: 650–660.
- Earle, T. K., and Preucel, R. W. (1987). Processual archaeology and the radical critique. *Current Anthropology* **28**: 501–538.
- Ebert, J. I. (1992). *Distributional Archaeology*, University of New Mexico Press, Albuquerque.
- Echo-Hawk, R. C. (1997). Forging a new ancient history for Native America. In Swidler, N., Dongoske, K. E., Anyon, R., and Downer, A. S. (eds.), *Native Americans and Archaeologists: Stepping Stones to Common Ground*, Altamira Press, Walnut Creek, CA, pp. 88–102.
- Echo-Hawk, R. C. (2000). Ancient history in the New World: Integrating oral traditions and the archaeological record. *American Antiquity* **65**: 267–290.
- Eddy, J. A. (1974). Astronomical alignment of the Big Horn Medicine Wheel. *Science* **184**: 1035–1043.
- Eddy, J. A. (1977). Medicine wheels and Plains Indian astronomy. In Aveni, A. F. (ed.), *Native American Astronomy*, University of Texas Press, Austin, pp. 147–169.
- Emberling, G. (1997). Ethnicity in complex societies: Archaeological perspectives. *Journal of Archaeological Research* **5**: 295–344.
- Entrikin, J. N. (1976). Contemporary humanism in geography. *Annals of the Association of American Geographers* **66**: 615–632.
- Entrikin, J. N. (1991). *The Betweenness of Place: Towards a Geography of Modernity*, John Hopkins University Press, Baltimore.
- Erickson, C. L. (1999). Neo-environmental determinism and agrarian “collapse” in Andean prehistory. *Antiquity* **73**: 634–672.
- Feinman, G. M. (1994). Social boundaries and political change: A comparative view from ancient Mesoamerica. In Stein, G. J., and M. S. Rothman (eds.), *Chiefdoms and Early States in the Near East: The Organizational Dynamics of Complexity*, Prehistory Press, Madison, WI, pp. 225–236.
- Feinman, G. M. (1999). Defining a contemporary landscape approach: Concluding thoughts. *Antiquity* **73**: 684–685.
- Feinman, G. M., and Nicholas, L. M. (1990). At the margins of the Monte Albán state: Settlement patterns in the Ejutla Valley, Oaxaca, Mexico. *Latin American Antiquity* **1**: 216–246.
- Feld, S., and Basso, K. H. (eds.) (1996a). *Senses of Place*, School of American Research Press, Santa Fe.
- Feld, S., and Basso, K. H. (1996b). Introduction. In Feld, S., and Basso, K. H. (eds.), *Senses of Place*, School of American Research Press, Santa Fe, pp. 3–11.
- Ferguson, T. J., Dongoske, K., Jenkins, L., Yeatts, M., and Polingyouma, E. (1993). Working together: The roles of archeology and ethnohistory in Hopi cultural preservation. *Cultural Resource Management* **16** (Special issue: Traditional cultural properties): 27–37.

- Ferguson, T. J., and Hart, E. R. (1985). *A Zuni Atlas*, University of Oklahoma Press, Norman.
- Fish, S. K., and Kowalewski, S. A. (eds.) (1990). *The Archaeology of Regions: The Case for Full-Coverage Survey*, Smithsonian Institution Press, Washington, DC.
- Fisher, C. T., Pollard, H. P., and Frederick, C. (1999). Intensive agriculture and sociopolitical development in the Lake Pátzcuaro Basin, Michoacán, Mexico. *Antiquity* 73(281): 642–649.
- Fisher, C. T., and Thurston, T. L. (eds.) (1999a). Dynamic landscapes and sociopolitical process: The topography of anthropogenic environments in global perspective (special issue). *Antiquity* 73(281).
- Fisher, C. T., and Thurston, T. L. (1999b). Forward to Dynamic Landscapes and Sociopolitical Process: The Topography of Anthropogenic Environments in Global Perspective. *Antiquity* 73(281): 630–632.
- Flannery, K. V. (1972). The cultural evolution of civilizations. *Annual Review of Ecology and Systematics* 3: 399–426.
- Flannery, K. V. (1976). Evolution of complex settlement systems. In Flannery, K. V. (ed.), *The Early Mesoamerican Village*, Academic Press, New York, pp. 162–173.
- Fleure, H. J., and Whitehouse, W. E. (1916). The early distribution and valleyward movement of population in south Britain. *Archaeologia Cambrensis* 20: 101–140.
- Foley, R. (1981). Off-site archaeology: An alternative approach for the short-sited. In Hodder, I., Isaac, G., and Hammond, N., *Pattern of the Past: Studies in Honour of David Clarke*, Cambridge University Press, Cambridge, pp. 157–183.
- Foote, K. E. (1995). What the world means: Introduction. In Foote, K. E., Hugill, P. J., Mathewson, K., and Smith, J. M. (eds.), *Re-Reading Cultural Geography*, University of Texas Press, Austin, pp. 291–296.
- Ford, J. A. (1949). *Surface survey of the Virú Valley, Peru*. Anthropological Papers, No. 43(1), American Museum of Natural History, New York.
- Ford, R. I. (1977). Evolutionary ecology and the evolution of human ecosystems: A case study from the midwestern U.S.A. In Hill, J. N. (ed.), *Explanation of Prehistoric Change*, University of New Mexico Press, Albuquerque, pp. 153–184.
- Fowler, A. P., and Stein, J. R. (1992). The Anasazi great house in space, time and paradigm. In Doyle, D. E. (ed.), *Anasazi Regional Organization and the Chaco System*, Anthropological Papers, No. 5, Maxwell Museum of Anthropology, Albuquerque, pp. 101–122.
- Fox, C. (1923). *The Archaeology of the Cambridge Region*, Cambridge University Press, Cambridge.
- Fox, C. (1947). Reflections on the archaeology of the Cambridge region. *Cambridge Historical Journal* 9: 15–16.
- Fox, R. (1988). *Discerning History through Archaeology: The Custer Battle*, Ph.D. dissertation, Department of Archaeology, University of Calgary, Calgary.
- Freidel, D. A., Schele, L., and Parker, J. (1993). *Maya Cosmos*, William Morrow, New York.
- Friedman, R. (1994). For the curator of trees and teacups: The landscape as artifact. *Cultural Resource Management* 17(7): 5–6, 9.
- Fritz, J. M. (1987). Chaco Canyon and Vijayanagra: Proposing spatial meaning in two societies. In Ingersoll, D. W., and Bronitsky, G. (eds.), *Mirror and Metaphor: Material and Social Constructions of Reality*, University Press of America, Lanham, MD, pp. 313–348.
- Gartner, W. G. (1999). Late Woodland landscapes of Wisconsin: Ridged fields, effigy mounds and territoriality. *Antiquity* 73: 671–683.
- Geertz, C. (1973 [1957]). Ethos, world view and the analysis of sacred symbols. In Geertz, C. (ed.), *The Interpretation of Cultures*, Basic Books, New York, pp. 126–141.
- Gellner, E. (1982). What is structuralism? In Renfrew, C., Rowlands, M. J., and Segraves, B. A. (eds.), *Theory and Explanation in Archaeology: The Southampton Conference*, Academic Press, New York, pp. 97–123.
- Giddens, A. (1979). *Central Problems in Social Theory*, Macmillan, London.
- Giddens, A. (1984). *The Constitution of Society: An Outline of the Theory of Structuration*, University of California Press, Berkeley.
- Gillespie, S. D. (1991). Ballgames and boundaries. In Scarborough, V. L., and Wilcox, D. R. (eds.), *The Mesoamerican Ballgame*, University of Arizona Press, Tucson, pp. 317–345.
- Gosden, C., and Head, L. (1994). Landscape—A usefully ambiguous concept. *Archaeology in Oceania* 29: 113–116.

- Goudie, A. S. (1987). Geography and archaeology: The growth of a relationship. In Wagstaff, J. M. (ed.), *Landscape and Culture: Geographical and Archaeological Perspectives*, Basil Blackwell, New York, pp. 11–25.
- Green, S. W., and Perlman, S. M. (1985). Frontiers, boundaries, and open social systems. In Green, S. W., and Perlman, S. M. (eds.), *The Archaeology of Frontiers and Boundaries*, Academic Press, San Diego, pp. 3–13.
- Gregory, D. (1978). *Ideology, Science, and Human Geography*, Hutchinson, London.
- Gregory, D. (1981). Human agency and human geography. *Transactions of the Institute of British Geographers* (n.s.) 6: 1–18.
- Gregory, D. (1994a). Anthropogeography. In Johnston, R. J., Gregory, D., and Smith, D. M. (eds.), *The Dictionary of Human Geography*, 3rd edn., Blackwell, Oxford, p. 18.
- Gregory, D. (1994b). Region. In Johnston, R. J., Gregory, D., and Smith, D. M. (eds.), *The Dictionary of Human Geography*, 3rd edn., Blackwell, Oxford, pp. 507–509.
- Gregory, D. (1994c). Epistemology. In Johnston, R. J., Gregory, D., and Smith, D. M. (eds.), *The Dictionary of Human Geography*, 3rd edn., Blackwell, Oxford, pp. 168–169.
- Grey, D. (1963). Big Horn Medicine Wheel Site, 48BH302. *Plains Anthropologist* 8: 27–40.
- Grinnell, G. B. (1922). The Medicine Wheel. *American Anthropologist* 24: 299–310.
- Groth, P. (1997). Frameworks for cultural landscape study. In Groth, P., and Bressi, T. W. (eds.), *Understanding Ordinary Landscapes*, Yale University Press, New Haven, pp. 1–21.
- Groth, P., and Bressi, T. W. (eds.) (1997). *Understanding Ordinary Landscapes*, Yale University Press, New Haven.
- Gupta, A., and Ferguson, J. (1992). Beyond “culture”: Space, identity and the politics of difference. *Cultural Anthropology* 7(1): 6–23.
- Gupta, A., Ferguson, J., and Rouse, R. (eds.) (1992). *Culture, Power, Place: Explorations in Critical Anthropology*, Westview Press, Boulder, CO.
- Hägerstrand, T. (1976). Geography and the study of interaction between nature and society. *Geoform* 7: 329–334.
- Hägerstrand, T. (1988). Some unexplored problems in the modeling of culture change. In Hugill, P. J., and Dickson, D. B. (eds.), *The Transfer and Transformation of Ideas and Material Culture*, Texas A & M Press, College Station, pp. 217–232.
- Haggett, P. H. (1965). *Locational Analysis in Human Geography*, St. Martin’s, New York.
- Hall, E. T. (1959). *The Silent Language*, Doubleday, Garden City, NY.
- Hall, E. T. (1969). *The Hidden Dimension*, Doubleday, Garden City, NY.
- Hall, R. L. (1985). Medicine wheels, sun circles, and the magic of the world center shrines. *Plains Anthropologist* 30: 181–193.
- Hall, R. L. (1997). *An Archaeology of the Soul: North American Indian Belief and Ritual*, University of Illinois Press, Urbana.
- Hart, J. F. (1995). Reading the landscape. In Thompson, G. F. (ed.), *Landscape in America*, University of Texas Press, Austin, pp. 23–42.
- Harvey, D. (1969). *Explanation in Geography*, E. Arnold, London.
- Hawkes, C. F. (1954). Archaeological theory and method: Some suggestions from the Old World. *American Anthropologist* 56: 155–168.
- Hayden, D. (1981). *The Grand Domestic Revolution: A History of Feminist Designs for American Homes, Neighborhoods, and Cities*, MIT Press, Cambridge.
- Hayden, D. (1997). Urban landscape history: The sense of place and the politics of space. In Groth, P., and Bressi, T. W. (eds.), *Understanding Ordinary Landscapes*, Yale University Press, New Haven, pp. 111–133.
- Hena, L., and Anschuetz, K. F. (2000). Living on the edge: A coming together of traditional Pueblo knowledge, permaculture, and archeology. *Cultural Resource Management* 23(9): 37–41.
- Hendon, J. A. (1992). The interpretation of survey data: Two case studies from the Maya area. *Latin American Antiquity* 3: 22–42.
- Hiebert, D. (1994). Ethnicity. In Johnston, R. J., Gregory, D., and Smith, D. M. (eds.), *The Dictionary of Human Geography*, 3rd edn., Blackwell, Oxford, pp. 172–174.
- Hindess, B. (1977). *Philosophy and Methodology in the Social Sciences*, Harvester Press, Brighton.
- Hirsch, E. (1995). Landscape: Between place and space. In Hirsch, E., and O’Hanlon, M. (eds.), *The Archaeology of Landscape: Perspectives on Place and Space*, Clarendon Press, Oxford, pp. 1–30.

- Hirsch, E., and O'Hanlon, M. (eds.) (1995). *The Archaeology of Landscape: Perspectives on Place and Space*, Clarendon Press, Oxford.
- Hodder, I. (1982). *Symbols in Action*, Cambridge University Press, Cambridge.
- Hodder, I. (1984). Burials, houses, women and men in the European Neolithic. In Miller, D., and Tilley, C. (eds.), *Ideology, Power, and Prehistory*, Cambridge University Press, New York, pp. 51–68.
- Hodder, I. (1985). Boundaries as strategies: An ethnoarchaeological study. In Green, S. W., and Perlman, S. M. (eds.), *The Archaeology of Frontiers and Boundaries*, Academic Press, San Diego, pp. 141–159.
- Hodder, I. (1986). *Reading the Past: Current Approaches to Interpretation in Archaeology*, Cambridge University Press, Cambridge.
- Hodder, I. (1987). Converging traditions: The search for symbolic meanings in archaeology and geography. In Wagstaff, J. M. (ed.), *Landscape and Culture: Geographical and Archaeological Perspectives*, Basil Blackwell, New York, pp. 134–145.
- Hodder, I. (1991). Interpretive archaeology and its role. *American Antiquity* **56**: 7–18.
- Hodder, I., and Orton, C. (1976). *Spatial Analysis in Archaeology*, Cambridge University Press, Cambridge.
- Hodder, I., Shanks, M., Alexandri, A., Buchli, V., Carman, J., Last, J., and Lucas, G. (eds.) (1995). *Interpreting Archaeology: Finding Meaning in the Past*, Routledge, London.
- Hoskins, W. G. (1955). *The Making of the English Landscape*, Hodder and Stoughton, London.
- Hubert, J. (1994). Sacred beliefs and beliefs of sacredness. In Carmichael, D. L., Hubert, J., Reeves, B., and Schanche, A. (eds.), *One World Archaeology, Vol. 23: Sacred Sites, Sacred Places*, Routledge, London, pp. 9–19.
- Hugill, P. J., and Foote, K. E. (1995). Re-reading cultural geography. In Foote, K. E., Hugill, P. J., Mathewson, K., and Smith, J. M. (eds.), *Re-Reading Cultural Geography*, University of Texas Press, Austin, pp. 9–23.
- Hyslop, J. (1990). *Inka Settlement Planning*, University of Texas Press, Austin.
- Ingold, T. (1992). Culture and the perception of environment. In Croll, E., and Parkin, D. (eds.), *Bush Base: Forest Farm: Culture, Environment, and Development*, Routledge, London, pp. 39–56.
- Ingold, T. (1993). The temporality of landscape. *World Archaeology* **25**: 152–174.
- Jackson, J. B. (1980). *The Necessity for Ruins, and Other Topics*, The University of Massachusetts Press, Amherst.
- Jackson, J. B. (1984). *Discovering the Vernacular Landscape*, Yale University Press, New Haven.
- Jackson, J. B. (1994). *A Sense of Place, A Sense of Time*, Yale University Press, New Haven.
- Jackson, J. B. (1995). In search of the proto-landscape. In Thompson, G. F. (ed.), *Landscape in America*, University of Texas Press, Austin, pp. 43–50.
- Johnson, G. A. (1975). Locational analysis and the investigation of Uruk local exchange systems. In Sabloff, J. A., and Lamberg-Karlovsky, C. C. (eds.), *Ancient Civilization and Trade*, University of New Mexico Press, Albuquerque, pp. 285–339.
- Johnson, G. A. (1977). Aspects of regional analysis in archaeology. *Annual Review of Anthropology* **6**: 479–508.
- Johnston, R. J. (1994). Community. In Johnston, R. J., Gregory, D., and Smith, D. M. (eds.), *The Dictionary of Human Geography*, 3rd edn., Blackwell, Oxford, pp. 80–81.
- Jojola, T. S. (1990). Modernization and Pueblo lifeways: Isleta Pueblo. In Markovich, N. C., Preiser, W. F. E., and Sturm, F. G. (eds.), *Pueblo Style and Regional Architecture*, Van Nostrand Reinhold, New York, pp. 78–99.
- Jorgensen, J. G. (1972). *The Sun Dance Religion: Power for the Powerless*, University of Chicago Press, Chicago.
- Julien, D. G. (1993). Late pre-Inkaic ethnic groups in highland Peru: An archaeological-ethnohistorical model of the political geography of the Cajamarca region. *Latin American Antiquity* **43**: 246–273.
- Kapferer, B. (1988). *Legends of People, Myths of State*, Smithsonian Institution Press, Washington, DC.
- Kehoe, T., and Kehoe, A. (1977). Stones, solstices, and Sun Dance structures. *Plains Anthropologist* **76**: 85–95.
- Kelley, K. B., and Francis, H. (1994). *Navajo Sacred Places*, Indiana University Press, Bloomington.
- Kelso, W. M., and Most, R. (eds.) (1990). *Earth Patterns: Essays in Landscape Archaeology*, University Press of Virginia, Charlottesville and London.

- Kirch, P. V. (1980). The archaeological study of adaptation: Theoretical and methodological issues. In Schiffer, M. B. (ed.), *Advances in Archaeological Method and Theory*, Vol. 3, Academic Press, New York, pp. 101–156.
- Kirch, P. V. (1994). *The Wet and the Dry: Irrigation and Agricultural Intensification in Polynesia*, University of Chicago Press, Chicago.
- Kirch, P. V. (1997). Microcosmic histories: Island perspectives on “global” change. *American Anthropologist* **99**: 30–42.
- Kirch, P. V., and Hunt, T. L. (eds.) (1997). *Historical Ecology in the Pacific Islands: Prehistoric Environmental and Landscape Change*, Yale University Press, New Haven.
- Knapp, A. B. (1996). Archaeology without gravity: Postmodernism and the past. *Journal of Archaeological Method and Theory* **2**: 127–158.
- Knapp, A. B., and Ashmore, W. (1999). Archaeological landscapes: Constructed, conceptualized, ideational. In Ashmore, W., and Knapp, A. B. (eds.), *Archaeologies of Landscape: Contemporary Perspectives*, Blackwell Publishers, Malden, MA, pp. 1–30.
- Kolata, A. L. (ed.) (1996). *Tiwanaku and Its Hinterlands: Archaeology and Paleoeology of an Andean Civilization. Vol. 1: Agroecology*, Smithsonian Institution Press, Washington, DC.
- Kowalewski, S. A., Blanton, R. E., Feinman, G., and Finsten, L. (1983). Boundaries, scale, and internal organization. *Journal of Anthropological Archaeology* **2**: 32–56.
- Kowalewski, S. A., Feinman, G. M., Finsten, L., Blanton, R. E., and Nicholas, L. M. (1989). *Monte Albán's Hinterland. Part II: The Prehispanic Settlement Patterns in Tlacolula, Etla, and Ocotlán, the Valley of Oaxaca, Mexico*, Memoirs, No. 23, Museum of Anthropology, University of Michigan, Ann Arbor.
- Kroeber, A. (1923). *Anthropology*, Harcourt, Brace, New York.
- Kroeber, A. (1939). *Cultural and Natural Areas of Native North America*, Publications in American Archaeology and Ethnology, Vol. 38, University of California, Berkeley.
- Kroeber, A., and Kluckhohn, C. (1952). *Culture: A critical Review of Concepts and Definitions*, Papers of the Peabody Museum of American Archaeology and Ethnology, No. 47, Harvard University, Cambridge.
- Küchler, S. (1993). Landscape as memory: The mapping of process and its representation in a Melanesian society. In Bender, B. (ed.), *Landscape Politics and Perspectives*, Berg, Providence, pp. 85–106.
- Kuhn, T. S. (1970). *The Structure of Scientific Revolutions*, 2nd edn., University of Chicago Press, Chicago.
- Kvamme, K. L. (1999). Recent directions and developments in geographical information systems. *Journal of Archaeological Research* **7**: 153–201.
- Lakoff, G. (1987). *Women, Fire, and Dangerous Things: What Categories Reveal about the Mind*, University of Chicago Press, Chicago.
- Lakoff, G., and Johnson, M. (1980). *Metaphors We Live By*, University of Chicago Press, Chicago.
- Lekson, S. H. (1996). Landscape with ruins: Archaeological approaches to built and unbuilt environments. *Current Anthropology* **37**: 886–892.
- Lekson, S. H. (1999). *The Chaco Meridian: Centers of Political Power in the American Southwest*, Altamira Press, Walnut Creek, CA.
- Leonard, R. D., and Reed, H. E. (1993). Population aggregation in the prehistoric American Southwest: A selectionist model. *American Antiquity* **58**: 648–661.
- Leone, M. P. (1984). Interpreting ideology in historical archaeology: Using the rules of perspective in the William Paca Garden in Annapolis, Maryland. In Miller, D., and Tilley, (eds.), *Ideology, Power, and Prehistory*, Cambridge University Press, New York, pp. 25–35.
- Levine, F., and Merlan, T. W. (1993). Documenting traditional cultural properties in non-Indian communities. *Cultural Resource Management* **16** (Special issue: Traditional cultural properties): 55–59, 64.
- Ley, D., and Samuels, M. S. (eds.) (1978), *Humanistic Geography*, Maaroufa, Chicago.
- Lewis, P. B. (1979). Axioms for reading the landscape: Some guides to the American scene. In Meinig, D. W. (ed.), *The Interpretation of Ordinary Landscapes: Geographical Essays*, Oxford University Press, New York, pp. 11–32.
- Lightfoot, K. G., and Martinez, A. (1995). Frontiers and boundaries in archaeological perspective. *Annual Review of Anthropology* **24**: 471–492.

- Linares, O. F. (1977). *Studies in Pre-Columbian Art and Archaeology, Vol. 17: Ecology and the Arts in Ancient Panama: On the Development of Social Rank and Symbolism in the Central Provinces*, Dumbarton Oaks, Washington, DC.
- Lipe, W. D., Varien, M. D., and Wilshusen, R. H. (eds.) (2000). *Colorado Prehistory: A Context for the Southern Colorado River Basin*, Colorado Council of Professional Archaeologists, Denver.
- Lipo, C. P., Madsen, M. E., Dunnell, R. C., and Hunt, T. (1997). Population, structure, cultural transmission, and frequency seriation. *Journal of Anthropological Archaeology* **16**: 301–333.
- Longacre, W. A. (ed.) (1991). *Ceramic Ethnoarchaeology*, University of Arizona Press, Tucson.
- Lowie, R. (1922). *The Religion of the Crow Indians*, Anthropological Papers No. 25(2), American Museum of Natural History, New York.
- Lycett, M. (1995). *Archaeological Implications of European Contact: Demography, Settlement, and Land Use in the Middle Rio Grande Valley, New Mexico*, Ph.D. dissertation, Department of Anthropology, University of New Mexico, University Microfilms, Ann Arbor.
- Marcus, J. (1992). Dynamic cycles of Mesoamerican states. *National Geographic Research and Exploration* **8**: 392–411.
- Marcus, J. (1998). The peaks and valleys of ancient states: An extension of the dynamic model. In Feinman, G. M., and Marcus, J. (eds.), *Archaic States*, School of American Research Press, Santa Fe, pp. 59–94.
- Marcus, J., and Flannery, K. V. (1996). *Zapotec Civilization: How Urban Society Evolved in Mexico's Oaxaca Valley*, Thames and Hudson, London.
- Masterman, M. (1970). The nature of a paradigm. In Lakatos, I., and Musgrave, A. (eds.), *Criticism and the Growth of Knowledge*, Cambridge University Press, Cambridge, pp. 59–89.
- McMann, J. (1994). Forms of power: Dimensions of an Irish megalithic landscape. *Antiquity* **68**: 525–544.
- Meinig, D. W. (ed.) (1979a). *The Interpretation of Ordinary Landscapes: Geographical Essays*, Oxford University Press, New York.
- Meinig, D. W. (1979b). Reading the landscape: An appreciation of W. G. Hoskins and J. B. Jackson. In Meinig, D. W. (ed.), *The Interpretation of Ordinary Landscapes: Geographical Essays*, Oxford University Press, New York, pp. 195–244.
- Miller, N. F., and Gleason, K. L. (1994). *The Archaeology of Garden and Field*, University of Pennsylvania Press, Philadelphia.
- Mills, B. J., and Crown, P. L. (eds.) (1995). *Ceramic Production in the American Southwest*, University of Arizona Press, Tucson.
- Minnis, P. E. (1985). *Social Adaptation to Food Stress: A Prehistoric Southwestern Example*, University of Chicago Press, Chicago.
- Morrow, B. H. (1997). Notes on the landscape architecture of Anasazi communities. In Morrow, B. H., and Price, V. B. (eds.), *Anasazi Architecture and Design*, University of New Mexico Press, Albuquerque, pp. 159–167.
- Morphy, H. (1993). Colonialism, history, and the construction of place: The politics of landscape in northern Australia. In Bender, B. (ed.), *Landscape Politics and Perspectives*, Berg, Providence, pp. 205–243.
- Morphy, H. (1995). Landscape and the reproduction of the ancestral past. In Hirsch, E., and O'Hanlon, M. (eds.), *The Anthropology of Landscape: Perspectives on Place and Space*, Clarendon Press, Oxford, pp. 184–209.
- Murra, J. V. (1982). The *mit'a* obligations of ethnic groups to the Inka state. In Collier, G. A., Rosaldo, R. I., and Wirth, J. D. (eds.), *The Inca and Aztec States 1400–1800: Anthropology and History*, Academic Press, New York, pp. 237–262.
- Nazarea, V. D. (ed.) (1999a). *Ethnoecology: Situated Knowledge/Located Lives*, University of Arizona Press, Tucson.
- Nazarea, V. D. (1999b). Lenses and latitudes in landscapes and lifescapes. In Nazarea, V. D. (ed.), *Ethnoecology: Situated Knowledge/Located Lives*, University of Arizona Press, Tucson, pp. 91–106.
- Norton, W. (1989). *Explorations in the Understanding of Landscape: A Cultural Geography*, Contributions in Sociology, No. 77, Greenwood Press, New York.
- Olwig, K. (1996). Recovering the substantive meaning of landscape. *Annals of the Association of American Geographers* **86**: 630–653.

- Oosten, J. (1997). Landscape and cosmology. *Archaeological Dialogues* 4: 152–154.
- Ortiz, A. (1969). *The Tewa World: Space, Time, Being, and Becoming in a Pueblo Society*, University of Chicago Press, Chicago.
- Parcerro Oubiña, C., Criado Boado, G., and Santos Estévez, M. (1998). Rewriting landscape: Incorporating sacred landscapes into cultural traditions. *World Archaeology* 30: 159–178.
- Parker, P. L. (1993). Traditional cultural properties. *Cultural Resource Management* 16 (Special issue: Traditional cultural properties): 1–5.
- Parker, P. L., and King, T. F. (1990). *Guidelines for Evaluating and Documenting Traditional Cultural Properties*, National Register Bulletin 38, National Park Service.
- Parks, D. R., and Wedel, W. R. (1985). Pawnee geography: Historical and sacred. *Great Plains Quarterly* 5: 143–176.
- Parsons, J. R. (1971). *Prehispanic Settlement Patterns in the Texcoco Region, Mexico*, Memoirs, No. 3, Museum of Anthropology, University of Michigan, Ann Arbor.
- Paynter, R. (2000). Historical archaeology and the post-Columbian world of North America. *Journal of Archaeological Research* 8: 169–217.
- Peckham, S. (1990). *From this Earth: The Ancient Art of Pueblo Pottery*, Museum of New Mexico Press, Santa Fe.
- Penning-Rowsell, E. C., and Lowenthal, D. (eds.) (1986). *Landscape Meanings and Values*, Allen and Unwin, London.
- Plog, F. (1974). *The Study of Prehistoric Change*, Academic Press, New York.
- Pred, A. (1984). Place as historically contingent process: Structuration and the time-geography of becoming places. *Annals of the Association of American Geographers* 74: 279–297.
- Pred, A. (1990). *Making Histories and Constructing Human Geographies*, Westview Press, Boulder, CO.
- Preucel, R. W. (1990). *Seasonal Circulation and Dual Residence in the Pueblo Southwest: A Prehistoric Example from the Pajarito Plateau, New Mexico*, Garland Publishing, New York.
- Preucel, R. W. (ed.) (1991). *Processual and Postprocessual Archaeologies: Multiple Ways of Knowing the Past*, Occasional Paper, No. 10, Center for Archaeological Investigations, Southern Illinois University, Carbondale.
- Preucel, R. W. (1998). Cultural landscapes and southwestern archaeology: Theory and practice. Paper presented at the 63rd Annual Meeting of the Society for American Archaeology, Seattle.
- Price, V. B. (1997). Epilogue. In Morrow, B. H., and Price, V. B. (eds.), *Anasazi Architecture and Design*, University of New Mexico Press, Albuquerque, pp. 227–229.
- Rainey, R. M. (1997). Hallowed grounds and rituals of remembrance: Union regimental monuments at Gettysburg. In Groth, P., and Bressi, T. W. (eds.), *Understanding Ordinary Landscapes*, Yale University Press, New Haven, pp. 67–80.
- Rambo, A. T. (1991). The study of cultural evolution. In Rambo, A. T., and Gillogly, K. (eds.), *Profiles in Cultural Evolution: Papers from a Conference in Honor of Elman R. Service*, Anthropological Papers, No. 85, Museum of Anthropology, University of Michigan, Ann Arbor, pp. 23–109.
- Ramsden, P., Zvelebil, M., Macklin, M. G., and Passmore, D. G. (1995). Stone Age settlement in south-eastern Ireland. *Current Anthropology* 36: 330–332.
- Rapoport, A. (1990). *History and Precedent in American Design*, Plenum Press, New work.
- Rappaport, J. (1989). Geography and historical understanding in indigenous Colombia. In Layton, R. (ed.), *Who Needs the Past?* Routledge, London, pp. 84–94.
- Rappaport, R. A. (1968). *Pigs for the Ancestors: Ritual in the Ecology of a New Guinea People*, Yale University Press, New Haven.
- Rappaport, R. A. (1979). *Ecology, Meaning, and Religion*, North Atlantic Books, Richmond, CA.
- Rappaport, R. A. (1999). *Ritual and Religion in the Making of Humanity*, Cambridge University Press, Cambridge.
- Reeves-Smyth, T., and Hamond, F. (eds.) (1983). *Landscape Archaeology in Ireland*, BAR British Series, No. 116, British Archaeological Reports, Oxford.
- Reid, J. J. (1997). Return to migration, population movement, and ethnic identity in the American Southwest: A peer reviewer's thoughts on archaeological inference. In Whittlesey, S. M., Ciolek-Torrello, R., and Altschul, J. H. (eds.), *Vanishing River: Landscapes and Lives of the Lower Verde Valley. The Lower Verde Valley Archaeological Project: Overview, Synthesis, and Conclusions*, SRI Press, Tucson, pp. 629–638.

- Relph, E. (1976). *Place and Placelessness*, Pion, London.
- Relph, E. (1985). Geographical experience and being-in-the-world: The phenomenological origins of geography. In Seamon, D, and Mugerauer, R. (eds.), *Dwelling, Place and Environment: Towards a Phenomenology of Person and World*, Martinus Nihoff, Dordrecht, Netherlands.
- Renfrew, C. (1982). *Inaugural Lecture: Towards an Archaeology of Mind*, Cambridge University Press, Cambridge.
- Richards, C. (1990). Monuments as landscape: Creating the centre of the world in late Neolithic Orkney. *World Archaeology* **22**: 190–208.
- Richards, C. (1996). Henges and water: Toward an elemental understanding of monumentality and landscape in late Neolithic Europe. *Journal of Material Culture* **1**: 313–336.
- Robb, J. G. (1998). The ritual landscape concept in archaeology: A heritage construction. *Landscape Research* **23**: 159–175.
- Roberts, B. K. (1987). Landscape archaeology. In Wagstaff, J. M. (ed.), *Landscape and Culture: Geographical and Archaeological Perspectives*, Basil Blackwell, Oxford, pp. 77–95.
- Roberts, B. K. (1996). *Landscapes of Settlement: Prehistory to the Present*, Routledge, London.
- Rosaldo, R. (1988). Ideology, place, and people without culture. *Cultural Anthropology* **3** (1): 77–87.
- Rossignol, J., and Wandsnider, L. (eds.) (1992). *Space, Time, and Archaeological Landscapes*, Plenum Press, New York.
- Rouse, I. (1965). The place of “peoples” in prehistoric research. *Journal of the Royal Anthropological Institute* **95**: 1–15.
- Sabloff, J. A. (1983). Classic Maya settlement patterns studies: Past problems, future prospects. In Vogt, E. Z., and Leventhal, R. M. (eds.), *Prehistoric Settlement Patterns: Essays in Honor of Gordon R. Willey*, University of New Mexico Press, Albuquerque, and Peabody Museum of Archaeology and Ethnology, Harvard University, Cambridge, pp. 413–422.
- Sabloff, J. A. (1998). Distinguished lecture in archeology: Communication and the future of American archaeology. *American Anthropologist* **100**: 869–875.
- Sanders, W. T. (1965). The cultural ecology of the Teotihuacan Valley: A preliminary report of the results of the Teotihuacan Valley Project, Manuscript on file, Department of Anthropology, Pennsylvania State University, University Park.
- Sanders, W. T., Parsons, J. T., and Santley, R. S. (1979). *The Basin of Mexico: Ecological Process in the Evolution of a Civilization*, Academic Press, New York.
- Sauer, C. O. (1925). The morphology of landscape. *University of California Publications in Geography* **2**: 19–53.
- Scarborough, V. L., Becher, M. E., Baker, J. L., Harris, G., and Valdez, F. Jr. (1995). Water and land at the ancient Maya community of La Milpa. *Latin American Antiquity* **62**: 98–119.
- Schacht, R. M. (1984). The contemporaneity problem. *American Antiquity* **49**: 678–695.
- Scheick, C. L., Mack, S. R., and Dorshow, W. B. (2000). *A Final Data Treatment Plan for the Phase II Impact Area: Gachupin North*, Research Series 444b, Southwest Archaeological Consultants, Santa Fe.
- Schlanger, S. H. (1992). Recognizing persistent places in Anasazi settlement systems. In Rossignol, J., and Wandsnider, L. (eds.), *Space, Time, and Archaeological Landscapes*, Plenum Press, New York, pp. 91–112.
- Schortman, D. E., and Nakamura, S. (1991). A crisis of identity: Late Classic competition and interaction on the southeast Maya periphery. *Latin American Antiquity* **2**: 311–336.
- Schortman, D. E., and Urban, P. A. (eds.) (1992). *Resources, Power, and Interregional Interaction*, Plenum, New York.
- Schortman, D. E., and Urban, P. A. (1994). Living on the edge: Core/periphery relations in ancient southeastern Mesoamerica. *Current Anthropology* **35**: 401–430.
- Shore, B. (1996). *Culture in Mind: Cognition, Culture, and the Problem of Meaning*, Oxford University Press, Oxford.
- Skibo, J. M., Walker, W. H., and Nielsen, A. E. (eds.) (1995). *Expanding Archaeology*, University of Utah Press, Salt Lake City.
- Snead, J. E. (1995). *Beyond Pueblo Walls: Community and Competition in the Northern Rio Grande, A.D. 1300–1400*, Ph.D. dissertation, Department of Anthropology, University of California, Los Angeles, University Microfilms, Ann Arbor.

- Soja, E. (1989). *Postmodern Geographies: The Reassertion of Space in Critical Theory*, Verso, London.
- Spencer, C. S., and Redmond, E. M. (1997). *Archaeology of the Cañada de Cuicatlán, Oaxaca*, Anthropology Papers, No. 80, American Museum of Natural History, New York.
- Spores, R. (1969). Settlement, farming technology, and environment in the Nochixtlan Valley. *Science* **166**: 557–569.
- Stark, B. L., and Arnold, P. J., III (eds.) (1997). *Olmec to Aztec: Settlement Patterns in the Ancient Gulf Lowlands*, University of Arizona Press, Tucson.
- Stark, M. T., Clark, J. L., and Elson, M. D. (1995). Social boundaries and cultural identity in the Tonto Basin. In Elson, M. D., Stark, M. T., and Gregory, D. A. (eds.), *The Roosevelt Community Development Study: New Perspectives on Tonto Basin Prehistory*, Anthropological Papers, No. 15, Center for Desert Archaeology, Tucson, pp. 343–368.
- Stein, J. R., and Lekson, S. H. (1992). Anasazi ritual landscapes. In Doyle, D. E. (ed.), *Anasazi Regional Organization and the Chaco System*, Anthropological Papers, No. 5, Maxwell Museum of Anthropology, Albuquerque, pp. 87–100.
- Stilgoe, J. R. (1982). *Common Landscape of America, 1580–1845*, Yale University Press, New Haven.
- Stilgoe, J. R. (1998). *Outside Lies Magic: Regaining History and Awareness in Everyday Places*, Walker and Company, New York.
- Stoddard, S., and Zubrow, E. (1999). Changing Places. *Antiquity* **73**: 686–688.
- Stone, G. D. (1993). Agricultural abandonment: A comparative study in historical ecology. In Cameron, C. M., and Tomka, S. A. (eds.), *Abandonment of Settlements and Regions: Ethnoarchaeological and Archaeological Approaches*, Cambridge University Press, Cambridge, pp. 74–81.
- Stone, G. D. (1996). *Settlement Ecology: The Social and Spatial Organization of Kofyar Agriculture*, University of Arizona Press, Tucson.
- Stone, G. D., and Downum, C. E. (2000). Non-Boserupian ecology and agricultural risk: Ethnic politics and land control in the arid Southwest. *American Anthropologist* **101**: 113–128.
- Steward, J. H. (1937). Ecological aspects of southwestern society. *Anthropos* **32**: 87–104.
- Steward, J. H. (1955). *Theory of Culture Change*, University of Illinois Press, Urbana.
- Struever, S. (1968). Woodland subsistence-settlement systems in the lower Illinois Valley. In Binford, L. R., and Binford, S. R. (eds.), *New Perspectives in Archeology*, Aldine, Chicago, pp. 285–312.
- Struever, S. (1971). Comments on archaeological data requirements and research strategy. *American Antiquity* **36**: 9–19.
- Swentzell, R. (1990a). Conflicting landscape values: The Santa Clara Pueblo and Day School. In Groth, P., and Bressi, T. W. (eds.), *Understanding Ordinary Landscapes*, Yale University Press, New Haven, pp. 56–66.
- Swentzell, R. (1990b). Pueblo space, form, and mythology. In Markovich, N. C., Preiser, W. F. E., and Sturm, F. G. (eds.), *Pueblo Style and Regional Architecture*, Van Nostrand Reinhold, New York, pp. 23–30.
- Swidler, N., Dongoske, K. E., Anyon, R., and Downer, A. S. (eds.) (1997). *Native Americans and Archaeologists: Stepping Stones to Common Ground*, Altamira Press, Walnut Creek, CA.
- Taçon, P. S. C. (1994). Socializing landscapes: The long-term implications of signs, symbols, and marks on the land. *Archaeology in Oceania* **27**: 117–129.
- Taçon, P. S. C. (1999). Identifying ancient sacred landscapes in Australia: From physical to social. In Ashmore, W., and Knapp, A. B. (eds.), *Archaeologies of Landscape: Contemporary Perspectives*, Blackwell Publishers, Malden, MA, pp. 33–57.
- Tallbull, W. V., and Deaver, S. (1997). Living human values. In Swidler, N., Dongoske, K. E., Anyon, R., and Downer, A. S. (eds.), *Native Americans and Archaeologists: Stepping Stones to Common Ground*, Altamira Press, Walnut Creek, CA, pp. 9–10.
- Teague, L. S. (1993). Prehistory and the traditions of the O'Odham and Hopi. *The Kiva* **58**: 435–454.
- Tedlock, D. (1979). Zuni religion and world view. In Ortiz, A. (ed.), *Handbook of North American Indians. Vol. 9: Southwest*, Smithsonian Institution Press Washington, DC, pp. 499–508.
- Thomas, J. (1990). Some, other, analogue: Writing the past. In Baker, F., and Thomas, J. (eds.), *Writing the Past in the Present*, Department of Archaeology, St. David's University College, Lampeter, pp. 18–23.
- Thomas, J. (1993). The politics of vision and the archaeologies of landscape. In Bender, B. (ed.), *Landscape: Politics and Perspectives*, Berg, Oxford, pp. 19–48.
- Thomas, J. (1996). *Time, Culture, and Identity*, Routledge, London.

- Thompson, G. F. (ed.) (1995a). *Landscape in America*, University of Texas Press, Austin.
- Thompson, G. F. (1995b). A message to the reader. In Thompson, G. F. (ed.), *Landscape in America*, University of Texas Press, Austin, pp. xi–xiv.
- Thurston, T. L. (1999). The knowable, the doable and the undiscussed: Tradition, submission, and the “becoming” of rural landscapes in Denmark’s Iron Age. *Antiquity* **73**: 661–671.
- Tilley, C. (1994). *A Phenomenology of Landscape: Places, Paths, and Monuments*, Berg, Oxford.
- Tilley, C. (1996). The power of rocks: Topography and monument construction on the Bodmin Moor. *World Archaeology* **28**: 161–176.
- Townsend, J. (1992). Evaluating and documenting traditional cultural properties. *Cultural Resource Management* **15**(3): 19, 23.
- Trigger, B. G. (1978). *Time and Traditions: Essays in Archaeological Interpretation*, Edinburgh University Press, Edinburgh.
- Trigger, B. G. (1986). Prehistoric archaeology and American society. In Meltzer, D. J., Fowler, D. D., and Sabloff, J. A. (eds.), *American Archaeology: Past and Future*, Smithsonian Institution Press, Washington, DC, pp. 187–215.
- Trigger, B. G. (1989). *A History of Archaeological Thought*, Cambridge University Press, Cambridge.
- Trigger, B. G. (1991). Distinguished lecture in archeology: Constraint and freedom—a new synthesis for archeological explanation. *American Anthropologist* **93**: 551–569.
- Tringham, R. E. (1991). Households with faces: The challenge of gender in prehistoric architectural remains. In Gero, J., and Conkey, M. (eds.), *Engendering Archaeology: Women and Prehistory*, Basil Blackwell, Oxford, pp. 93–131.
- Tuan, Y. F. (1974). *Topophilia: A Study of Environmental Perception, Attitudes, and Values*, Prentice-Hall, Englewood Cliffs, NJ.
- Tuan, Y. F. (1977). *Space and Place: The Perspective of Experience*, University of Minnesota Press, Minneapolis.
- Tylor, E. B. (1871). *Primitive Culture: Researches into the Development of Mythology, Philosophy, Religion, Language, Art and Custom*, John Murray, London.
- Ucko, P. J., and Layton, R. (eds.) (1999). *The Archaeology and Anthropology of Landscape: Shaping Your Landscape*, Routledge, London.
- Vayda, A. P., and McCay, B. J. (1975). New directions in ecology and ecological anthropology. *Annual Review of Anthropology* **4**: 293–306.
- Wagstaff, J. M. (ed.) (1987). *Landscape and Culture: Geographical and Archaeological Perspectives*, Basil Blackwell, New York.
- Wagner, P. L. (1995). Foreward—culture and geography: Thirty years of advance. In Foote, K. E., Hugill, P. J., Mathewson, K., and Smith, J. M. (eds.), *Re-Reading Cultural Geography*, University of Texas Press, Austin, pp. 3–8.
- Wandsnider, L. (1998). Regional scale processes and archaeological landscape units. In Ramenofsky, A. F., and Steffen, A. (eds.), *Unit Issues in Archaeology: Measuring Time, Space, and Material*, University of Utah Press, Salt Lake City, pp. 87–102.
- Watson, P. J. (1995). Archaeology, anthropology, and the culture concept. *American Anthropologist* **97**: 683–694.
- Watts, M. (1994). Cultural ecology. In Johnston, R. J., Gregory, D., and Smith, D. M. (eds.), *The Dictionary of Human Geography*, 3rd edn., Blackwell, Oxford, pp. 110–111.
- Wauchope, R. (1956). *Seminars in Archaeology: 1955*, Memoir, No. 11, Society for American Archaeology, Salt Lake City.
- Wells, P. S. (1994). Changing models of settlement, economy, and ritual activity: Recent research in late prehistoric central Europe. *Journal of Archaeological Research* **2**: 135–163.
- White, L. A. (1949). *The Science of Culture*, Grove Press, New York.
- White, L. A. (1959). The concept of culture. *American Anthropologist* **61**: 227–251.
- Whitley, D. S. (1992). Prehistory and post-positivist science: A prolegomenon to cognitive archaeology. In Schiffer, M. B. (ed.), *Archaeological Method and Theory*, Vol. 4, University of Arizona Press, Tucson, pp. 57–100.
- Whittlesey, S. M. (1997). Archaeological landscapes: A methodological and theoretical discussion. In Whittlesey, S. M., Ciolek-Torrello, R., and Altschul, J. H. (eds.), *Vanishing River: Landscapes and Lives of the Lower Verde Valley. The Lower Verde Valley Archaeological Project: Overview, Synthesis, and Conclusions*, SRI Press, Tucson, pp. 17–28.

- Whittlesey, S. M., Ciolek-Torrello, R., and Altschul, J. H. (eds.) (1997). *Vanishing River: Landscapes and Lives of the Lower Verde Valley. The Lower Verde Valley Archaeological Project: Overview, Synthesis, and Conclusions*, SRI Press, Tucson.
- Whorf, B. L. (1956). Science and linguistics. In Carroll, J. B. (ed.), *Language, Thought and Reality: Selected Writings of Benjamin Lee Whorf*, Massachusetts Institute of Technology Press, Cambridge, pp. 207–219.
- Wilkinson, C. F. (1992). *The Eagle Bird: Mapping a New West*, Pantheon Books, New York.
- Wilkinson, T. J. (1994). The structure and dynamics of dry-farming states in upper Mesopotamia. *Current Anthropology* **35**: 483–520.
- Willey, G. R. (1953). *Prehistoric Settlement Patterns in the Virú Valley, Peru*, Bulletin, No. 155, Bureau of American Ethnology, Washington, DC.
- Willey, G. R. (1956). *Prehistoric Settlement Patterns in the New World*, Viking Fund Publications in Anthropology, No. 23, New York.
- Willey, G. R. (1973). Man, settlement and urbanism. *Antiquity* **47**: 269–279.
- Willey, G. R. (1974). The Virú Valley settlement pattern study. In Willey, G. R. (ed.), *Archaeological Researches in Retrospect*, Winthrop, Cambridge, pp. 147–176.
- Willey, G. R. (1983). Settlement patterns and archaeology: Some comments. In Vogt, E. Z., and Leventhal, R. M. (eds.), *Prehistoric Settlement Patterns: Essays in Honor of Gordon R. Willey*, University of New Mexico Press, Albuquerque, and Peabody Museum of Archaeology and Ethnology, Harvard University, Cambridge, pp. 445–462.
- Willey, G. R., and Phillips, P. (1958). *Method and Theory in American Archaeology*, University of Chicago Press, Chicago.
- Wilshusen, R. H., and S. G. Ortman (1999). Rethinking the Pueblo I period in the northern Southwest: Aggregation, migration, and cultural diversity. *The Kiva* **64**: 369–399.
- Wilshusen, R. H., and Wilson, C. D. (1995). Reformatting the social landscape in the late Pueblo I–early Pueblo II period: The Cedar Hill data in regional context. In Wilshusen, R. H. (comp.), *The Cedar Hill Special Treatment Project: Late Pueblo I, Early Navajo, and Historic Occupations in Northwestern New Mexico*, Research Papers, No. 1, La Plata Archaeological Consultants, Dolores, CO, pp. 43–80.
- Wilson, D. J. (1988). *Prehispanic Settlement Patterns in the Lower Santa Valley, Peru: A Regional Perspective on the Origins and Development of Complex North Coast Society*, Smithsonian Institution Press, Washington, DC.
- Wolf, E. R. (1982). *Europe and the People without History*, University of California Press, Berkeley.
- Winterhalder, B. (1994). Concepts in historical ecology: The view from evolutionary theory. In Crumley, C. L. (ed.), *Historical Ecology: Cultural Knowledge and Changing Landscapes*, School of American Research Press, Santa Fe, pp. 17–41.
- Wylie, A. (1985). The reaction against analogy. In Schiffer, M. B. (ed.), *Advances in Archaeological Method and Theory*, Vol. 8, Academic Press, New York, 63–112.
- Wylie, A. (1993a). A proliferation of new archaeologies: “Beyond objectivism and relativism.” In Yoffee, N., and Sherratt, A. (eds.), *Archaeological Theory: Who Sets the Agenda?* Cambridge University Press, Cambridge, pp. 20–26.
- Wylie, A. (1993b). Invented lands, discovered pasts: The westward expansion of myth and history. *Historical Archaeology* **27**: 1–19.
- Yamin, R., and Metheny, K. B. (eds.) (1996). *Landscape Archaeology: Reading and Interpreting the American Historical Landscape*, University of Tennessee Press, Knoxville.
- Zedeño, M. N. (1997). Landscapes, land use, and the history of territory formation: An example from the puebloan Southwest. *Journal of Archaeological Method and Theory* **4**: 67–103.
- Zedeño, M. N., Austin, D., and Stoffle, R. (1997). *Landmark and Landscape: A Contextual Approach to the Management of American Indian Resources*, Bureau of Applied Research in Anthropology, University of Arizona, Tucson.
- Zelinsky, W. (1973). *The Cultural Geography of the United States*, Prentice-Hall, Englewood Cliffs, NJ.
- Zelinsky, W. (1975). The demigod’s dilemma. *Annals of the Association of American Geographers* **65**: 123–143.
- Zube, E. H. (1994). Values and planning in arid/semi-arid landscapes: Conflict and compromise. *Mass* **10**: 1–5.

## BIBLIOGRAPHY OF RECENT LITERATURE

- Adler, M. A. (1996). Land tenure, archaeology, and the ancestral Pueblo social landscape. *Journal of Anthropological Archaeology* 15: 337–371.
- Anschuetz, K. F., Doleman, W. H., and Chapman, R. C. (eds.) (1990). *Landscape Archeology in the Southern Tularosa Basin. Vol. 1: Small Site Distributions and Geomorphology*, Office of Contract Archaeology, University of New Mexico, Albuquerque.
- Aston, M. (1997). *Interpreting the Landscape: Landscape Archaeology and Local History*, Routledge, London.
- Aston, M., and Rowley, T. (1974). *Landscape Archaeology: An Introduction to Fieldwork Techniques on Post-Roman Landscapes*, David and Charles, Newton Abbot, England.
- Barker, G. (1995). *A Mediterranean Valley: Archaeology as Annales History in the Biferno Valley*, Leicester University Press, London.
- Beedle, P. L. (comp.), and Gyrisco, G. M. (ed.) (1996). *The Farm Landscape: A Bibliography of the Architecture and Archaeology of Farmsteads and Settlement in Wisconsin and in the Areas of Origin of Its Settlers in the United States and Europe*, Division of Historic Preservation, State Historical Society of Wisconsin, Madison.
- Binford, L. R. (1992). Seeing the present and interpreting the past—and keeping things straight. In Rossignol, J., and Wandsnider, L. (eds.), *Space, Time, and Archaeological Landscapes*, Plenum Press, New York, pp. 43–59.
- Birks, H. H., Birks, H. J. B., Kaland, P. E., and Moe, D. (1989). *The Cultural Landscape: Past, Present and Future*, Cambridge University Press, Cambridge.
- Bodenhorn, B. (1993). Gendered spaces, public spaces: Public and private revisited on the North Slope of Alaska. In Bender, B. (ed.), *Landscape: Politics and Perspectives*, Berg, Oxford, pp. 169–203.
- Bowden, M. (ed.) (1999). *Unravelling the Landscape: An Inquisitive Approach to Archaeology*, Tempus, Stroud, Gloucestershire, and Charleston, SC.
- Bradley, R. (1991). Rock art and the perception of landscape. *Cambridge Archaeological Journal* 1: 77–101.
- Brokensha, D., Warren, D. M., and Werner, O. (1980). *Indigenous Knowledge Systems and Development*, University Press of America, Lanham.
- Cantor, L. M. (ed.) (1982). *The English Medieval Landscape*, Croom Helm, London.
- Chapman, J., Shiel, R., Batovic, S., and Shields, R. (1996). *The Changing Face of Dalmatia: Archaeological and Ecological Studies in a Mediterranean Landscape*, Leicester, University Press, London.
- Chisholm, M. (1978). Theory construction in geography. *South African Geographer* 6: 113–122.
- Chorley, R. J. (1962). Geomorphology and general systems theory. U.S. Geological Survey Professional Paper 500-B.
- Chorley, R. J., and Haggett, P. H. (1965). Trend-surface mapping in geographical research. *Transactions of the Institute of British Geographers* 37: 47–67.
- Conklin, H. (1980). *Ethnographic Atlas of Ifugao*, Yale University Press, New Haven.
- Cordell, L. S. (1995). Tracing migration pathways from the receiving end. *Journal of Anthropological Archaeology* 14: 203–211.
- Crumley, C. L. (1979). Three locational models: An epistemological assessment for anthropology and archaeology. In Schiffer, M. B. (ed.), *Advances in Archaeological Method and Theory*, Vol. 2, Academic Press, New York, pp. 141–173.
- Dark, K. R., and Dark, P. (1997). *The Landscape of Roman Britain*, Sutton, Stroud, Gloucestershire.
- Dean, J. S. (1988). A model of Anasazi behavioral adaptation. In Gumerman, G. J. (ed.), *The Anasazi in a Changing Environment*, Cambridge University Press, Cambridge, pp. 25–44.
- Dean, J. S. (1996). Demography, environment, and subsistence stress. In Tainter, J., and Tainter, B. B. (eds.), *Evolving Complexity and Risk in the Prehistoric Southwest*, SFI Studies in the Sciences of Complexity, Proceedings Vol. 24, Addison-Wesley, Reading, MA, pp. 25–56.
- Doleman, W. H. (1995). *Human and Natural Landscapes: Archeological Distributions in the Southern Tularosa Basin*, Ph.D. dissertation, Department of Anthropology, University of New Mexico, University Microfilms, Ann Arbor.

- Doleman, W. H., Chapman, R. C., Schutt, J. A., Swift, M. K., and Morrison, K. D. (eds.) (1990). *Landscape Archeology in the Southern Tularosa Basin. Vol. 2: Testing, Excavation, and Analysis*, Office of Contract Archaeology, University of New Mexico, Albuquerque.
- Doleman, W. H., Chapman, R. C., Stauber, R. L., and Piper, J. (eds.) (1990). *Landscape Archeology in the Southern Tularosa Basin. Vol. 3: Archaeological Distributions and Prehistoric Human Ecology*, Office of Contract Archaeology, University of New Mexico, Albuquerque.
- Duff, A. I. (1998). The process of migration in the late prehistoric Southwest. In Spielmann, K. A. (ed.), *Migration and Reorganization: The Pueblo IV Period in the American Southwest*, Anthropological Research Papers, No. 51, Arizona State University, Tempe, pp. 31–52.
- Duff, A. I., and Wilshusen, R. H. (2000). Prehistoric population dynamics in the northern San Juan region, A.D. 900–1300. *Kiva* **66**: 167–190.
- Fish, S. K., Fish, P. R., and Madsen, J. H. (1992). *The Marana Community in the Hohokam World*, Anthropological Paper, No. 56, University of Arizona, Tucson.
- Ford, R. I., Schroeder, A. H., and Peckham, S. L. (1972). Three perspectives on puebloan prehistory. In Ortiz, A. (ed.), *New Perspectives on the Pueblos*, University of New Mexico Press, Albuquerque, pp. 19–39.
- Gerrard, S. (1997). *Book of Dartmoor: Landscapes through Time*, B. T. Batsford/English Heritage, London.
- Gottdiener, M. (1997). *The Theming of America: Dreams, Visions, and Commercial Spaces*, Westview Press, New York.
- Hieb, L. A. (1990). The metaphors of Hopi architectural experience in comparative perspective. In Markovich, N. C., Preiser, W. F. E., and Sturm, F. G. (eds.), *Pueblo Style and Regional Architecture*, Van Nostrand Reinhold, New York, pp. 122–132.
- Holliday, V. T. (1992). *Soils in Archaeology: Landscape Evolution and Human Occupation*, Smithsonian Institution Press, Washington, DC.
- Hoskins, W. G. (1985). *The Making of the English Landscape*, Penguin, London.
- Ingold, T. (1986). Territoriality and tenure: The appropriation of space in hunting and gathering societies. In Ingold, T. (ed.), *The Appropriation of Nature: Essays on Human Ecology and Social Relations*, Manchester University Press, Manchester, pp. 130–164.
- Jackson, S. (1995). Big wheels: How the government spent big bucks studying a supposed Indian medicine wheel. In *Westword*, Denver, Colorado, 27 September–3 October, pp. 9–10.
- Jett, S. C. (1998). Territory and hogan: Local homelands of the Navajo. In Duran, M. S., and Kirkpatrick, D. T. (eds.), *Diné Bíkəyah: Papers in Honor of David M. Brugge*, *Papers*, No. 24, Archaeological Society of New Mexico, Albuquerque, pp. 117–128.
- Jones, R. (1985). Ordering the landscape. In Donaldson, I., and Donaldson, T. (eds.), *Seeing the First Australians*, George Allen and Unwin, Sydney, pp. 181–209.
- Knapp, A. B. (1997). *The Archaeology of Late Bronze Age Cypriot Society: The Study of Settlement, Survey and Landscape*, Occasional Papers, No. 4, Department of Archaeology, University of Glasgow, Glasgow.
- Larsson, L., Callmer, J., and Stjernquist, B. (eds.) (1992). *The Archaeology of the Cultural Landscape: Field Work and Research in a South Swedish Rural Region*, Almqvist and Wiksell, Stockholm.
- Lekson, S. H., and Cameron, C. M. (1995). The abandonment of Chaco Canyon, the Mesa Verde migrations, and the reorganization of the Pueblo world. *Journal of Anthropological Archaeology* **14**: 184–202.
- Lichbach, M. I. (1996). *The Cooperator's Dilemma*, University of Michigan Press, Ann Arbor.
- Lipe, W. D. (1974). A conservation model for American archaeology. *The Kiva* **39**: 213–245.
- Mee, C., and Forbes, H. (eds.) (1997). *A Rough and Rocky Place: The Landscapes and Settlement History of the Methana Peninsula Greece: Results of the Methana Survey Project, Sponsored by the British School at Athens and the University of Liverpool*, Liverpool University Press, Liverpool.
- Mitchell, J. F. (1994). *At the Centre of the World: Polar Symbolism Discovered in Celtic, Norse and Other Ritualized Landscapes*, Thames and Hudson, London.
- Morphy, H. (1993). Colonialism, history and the construction of place: The politics of landscape in Northern Australia. In Bender, B. (ed.), *Landscape: Politics and Perspectives*, Berg, Oxford, pp. 205–243.
- Moseley, M. E., and Mackey, C. J. (1972). Peruvian settlement pattern studies and small site methodology. *American Antiquity* **37**: 67–81.

- Nash, G. (ed.) (1997). *Semiotics of Landscape: Archaeology of Mind*, Archaeopress, Oxford.
- Nelson, B., Kohler, T. A., and Kintigh, K. W. (1994). Demographic alternatives: Consequences for current models of southwestern prehistory. In Gumerman, G., and Gell-Mann, M. (eds.), *Understanding Complexity in the Prehistoric Southwest*, SFI Studies in the Sciences of Complexity, Proceedings, Vol. 16, Addison-Wesley, Reading, MA, pp. 113–146.
- Pattison, P., Field, D., and Ainsworth, S. (eds.) (1999). *Patterns of the Past: Essays in Landscape Archaeology for Christopher Taylor*, Oxbow Books, Oxford and Oakville, CT.
- Pawson, E. (1992). Two New Zealands: Maori and European. In Anderson, K., and Gale, F. (eds.), *Inventing Place: Studies in Cultural Geography*, Longman Cheshire, Melbourne, pp. 15–33.
- Plog, S., Plog, F., and Wait, W. (1978). Decision making in modern surveys. In Schiffer, M. B. (ed.), *Advances in Archaeological Method and Theory*, Vol. 1, Academic Press, New York, pp. 383–421.
- Preucel, R. W. (ed.) (1991). *Processual and Postprocessual Archaeologies: Multiple Ways of Knowing the Past*, Occasional Paper, No. 10, Center for Archaeological Investigations, Southern Illinois University, Carbondale.
- Ramenofsky, A. F., and Steffen, A. (eds.) (1998). *Unit Issues in Archaeology: Measuring Time, Space, and Material*, University of Utah Press, Salt Lake City.
- Rippon, S. (1997). *The Severn Estuary: Landscape Evolution and Wetland Reclamation*, Leicester, University Press, London.
- Ritchie, W. A., and Funk, R. E. (1973). *Aboriginal Settlement Systems in the Northeast*, Memoir No. 20, New York State Museum and Science Service, Albany.
- Rubenstein, J. M. (1992). *The Cultural Landscape: An Introduction to Human Geography*, 3rd edn., Macmillan, New York.
- Rust, W. F., and Sharer, R. J. (1988). Olmec settlement data from La venta, Tabasco, Mexico. *Science* **242**: 102–104.
- Schama, S. (1995). *Landscape and Memory*, Knopf, New York.
- Seaman, T. J., Doleman, W. H., and Chapman, R. C. (eds.) (1988). *The Border Star 85 Survey: Toward an Archeology of Landscapes*, Office of Contract Archaeology, University of New Mexico, Albuquerque.
- Sebastian, L. (1993). Protecting traditional cultural properties through the Section 106 process. *Cultural Resource Management* **16** (Special issue: Traditional cultural properties): 22–26.
- Sherratt, A. (1990). The genesis of megaliths: Monumentality, ethnicity and social complexity in Neolithic north-west Europe. *World Archaeology* **22**: 147–167.
- Smith, B. D. (ed.) (1978). *Mississippian Settlement Patterns*, Academic Press, New York.
- Smith, H. D. (1998). *The Rock Art of Abo Pueblo: Analyzing a Cultural Palimpsest*, Ph.D. dissertation, Department of Anthropology, University of New Mexico, University Microfilms, Ann Arbor.
- Snead, J. E., and Preucel, R. W. (1999). The ideology of settlement: Ancestral landscapes in the northern Rio Grande. In Ashmore, W., and Knapp, A. B. (eds.), *Archaeologies of Landscape: Contemporary Perspectives*, Blackwell Publishers, Malden, MA, pp. 169–197.
- Sorkin, M. (1992). *Variations on a Theme Park*, Hill and Wang, New York.
- Steward, J. H. (ed.) (1949). *Handbook of the South American Indians*, Vol. 5, Bureau of American Ethnology Bulletin, No. 143, Washington, DC.
- Stine, L. F., Zierden, M., and Drucker, L. M. (eds.). *Carolina's Historical Landscapes: Archaeological Perspectives*, University of Tennessee Press, Knoxville.
- Talibull, W. V., and Price, N. (1993). The battle of the Big Horn Medicine Wheel. In Reeves, B. O. K., and Kennedy, M. A. (eds.), *Kunaitupii: Coming Together on Native Sacred Sites, A Native and Non-Native Forum*, Archaeological Society of Alberta, Calgary, pp. 96–101.
- Thomas, J. (1993). The politics of vision and the archaeologies of landscape. In Bender, B. (ed.), *Landscape: Politics and Perspectives*, Berg, Oxford, pp. 19–48.
- Topping, P. (ed.) (1997). *Neolithic Landscapes*, Oxbow Books, Oxford.
- Trinkley, M., Adams, N., and Hacker, D. (1992). *Landscape and Garden Archaeology at Crowfield Plantation: A Preliminary Examination*, Chicora Foundation, Columbia, SC.
- Trope, J. F. (1996). Existing federal law and the protection of sacred sites. *Cultural Survival* **19**(4): 30–35.
- Trumbold, C. D. (ed.) (1991). *Ancient Road Networks and Settlement Hierarchies in the New World*, Cambridge University Press, Cambridge.
- Turner, V. (ed.) (1998). *The Shaping of Shetland*, Shetland Times, Lerwick.

- United States Department of Agriculture-Forest Service (USDA-FS) (1991). *Medicine Wheel National Historic Landmark-Draft Environmental Impact Statement*, Big Horn National Forest, Sheridan, WY.
- United States Department of Agriculture-Forest Service (USDA-FS) (1996). Medicine Wheel historic preservation plan. Manuscript on file, the Big Horn National Forest, Sheridan, WY.
- Van West, C. R. (1994). Modeling prehistoric agricultural productivity in southwestern Colorado: A GIS approach, Reports of Investigations 67, Department of Anthropology, Washington State University, Pullman, and Crow Canyon Archaeological Center, Cortez, Co.
- Varien, M. D. (1999). *Sedentism and Mobility in a Social Landscape*, University of Arizona Press, Tucson.
- Vyner, B. E. (1994). The territory of ritual, cross ridge boundaries, and the prehistoric landscape of the Cleveland Hills, northeast England, *Antiquity* 68: 27–38.
- Vita-Finzi, C. (1978). *Archaeological Sites in Their Setting*, Thames and Hudson, London.
- Wallis, S., and Waughman, M. (1998). *Archaeology and the Landscape in the Lower Blackwater Valley*, Archaeology Section, Essex County Council, Chelmsford.
- Wandsnider, L. (1992). Archaeological landscape studies. In Rossignol, J., and Wandsnider, L. (eds.), *Space, Time, and Archaeological Landscapes*, Plenum Press, New York, pp. 285–292.
- Warhus, M. (1997). *Another America: Native American Maps and the History of Our Land*, St. Martin's Press, New York.
- Wilkinson, T. J. (2000). Regional approaches to Mesopotamian archaeology: The contribution of archaeological surveys. *Journal of Archaeological Research* 8: 219–267.
- Young, A. L. (ed.) (2000). *Archaeology of Southern Urban Landscapes*, University of Alabama Press, Tuscaloosa.
- Young, E. (1992). Hunter-gatherer concepts of land and its ownership in remote Australia and North America. In Anderson, K., and Gale, F. (eds.), *Inventing Place: Studies in Cultural Geography*, Longman Cheshire, Melbourne, pp. 255–272.