

Complex Hunter–Gatherers in Evolution and History: A North American Perspective

Kenneth E. Sassaman¹

A review of recent research on complex hunter–gatherers in North America suggests that age-old tensions between evolutionary and historical epistemologies continue to cultivate progress in anthropological understanding of sociocultural variation. Coupled with criticism of the evolutionary status of ethnographic foragers, archaeological documentation of variation among hunter–gatherer societies of the ancient past makes it difficult to generalize about causal relationships among environment, subsistence economy, and sociopolitical organization. Explanations for emergent complexity on the Pacific Coast that privilege environmental triggers for economic change have been challenged by new paleoenvironmental findings, while hypotheses suggesting that economic changes were preceded by, indeed caused by, transformations of existing structures of social inequality have gained empirical support. In its emergent data on mound construction apart from significant subsistence change, the southeastern United States gives pause to materialist explanations for complexity, turning the focus on symbolic and structural dimensions of practice that cannot be understood apart from particular histories of group interaction and tradition. Taken together, recent research on complex hunter–gatherers in North America has not only expanded the empirical record of sociocultural formations once deemed anomalous and/or derivative of European contact but also has contributed to the ongoing process of clarifying concepts of cultural complexity and how this process ultimately restructures anthropological theory.

KEY WORDS: hunter–gatherers; complexity; hierarchy; monumentality.

¹Department of Anthropology, 1112 Turlington Hall, University of Florida, Gainesville, Florida 32611; e-mail: sassaman@anthro.ufl.edu.

INTRODUCTION

Among the more significant advances in anthropological research in the last 30 years has been the recognition that institutions of social inequality existed commonly among populations whose subsistence economies did not include the exploitation of domesticated plants or animals (Arnold, 1996a; Price, 1995, p. 140; Chapman, 2003, pp. 84–87; Rowley-Conwy, 2001; Shnirelman, 1992). Through the 1970s, unusually populous, stationary, and stratified hunter–gatherer societies, such as those of the Northwest Coast of North America, were regarded as ethnographic anomalies, a radical departure from the typically mobile, small-scale, and egalitarian formations canonized in ethnographic tropes such as the forager mode of production (Leacock and Lee, 1982), primitive communists (Lee, 1988), and the “original affluent society” (Sahlins, 1968). In the cultural ecological paradigms of three decades ago, simple societies were products of unpredictable, immature, or impoverished environments, those that encouraged mobility, put a check on accumulation, and diffused tendencies toward inequality. In cultural evolutionary terms, simple societies preceded agriculture because it was food production that made environments rich, secure, and expandable, and, consequently, brought the hunter–gatherer lifestyle and its presumed egalitarian ethos to an end. Only in places where agriculture could not expand, the argument went, do we find egalitarian hunter–gatherers existing after food production became a global phenomenon.

This remarkably resilient and dominant theme in anthropological discourse has now been thoroughly erased by evidence to the contrary. Two parallel developments eroded orthodoxy. Foremost is the work of archaeologists, who have documented cases of so-called “complex” hunter–gatherers that far exceed the geographic and temporal range of such formations in the ethnographic and ethnohistoric present (Chapman, 2003, pp. 84–87; Price and Brown, 1985). Many such advances have been made among archaeologists searching for the roots of inequality among populations of the Pacific Coast of North America, those existing at a chiefdom level of sociopolitical organization at the time of European contact (e.g., Ames and Maschner, 1999; Arnold, 2001; Gamble *et al.*, 2001; Lightfoot, 1993; Matson and Coupland, 1995). Others have provided new data on societies whose historical trajectories toward increasingly complex organization were truncated long before contact with the West. These include groups of the Interior Northwest Plateau (Hayden, 1997; Prentiss and Kujit, in press), the Canadian Arctic (Whitridge, 1999), Japan (Habu, 2001, 2004), parts of Australia (Lourandos, 1997), northern Eurasia (O’Shea and Zvelebil, 1984), the Middle East (Schwartz and Akkermans, 2003), South America (Gaspar, 1998; Moseley, 1975), the Caribbean (Curet, 2003), and the American Southeast (Gibson and Carr, in press), among others. Naturally, scholars disagree on definitions of *complexity*, with some reluctant to include any society lacking clear evidence for hereditary inequality; others allow for a much broader range of variation. The lively debate

such ambiguity engenders has fueled a voluminous literature over the past few years, situating archaeologists at the forefront of anthropological theorizing about intermediate societies (Arnold, 1996c; Chapman, 2003; Price and Feinman, 1995).

The second major development has been the historicization of “primitive” society. As part of the larger shift in anthropological focus from evolutionary to historical explanations for sociocultural variation (e.g., Roseberry, 1989; Sahlins, 1985; Wolf, 1982), studies of ethnohistoric and ethnographic hunter–gatherers have become increasingly trained on the structural features (e.g., egalitarianism) arising from and reproducing intergroup interactions (Grinker, 1994; Kent, 2002; Rival, 2002). It is no longer reasonable to conceptually isolate a hunter–gatherer population for study under the premise that it genuinely represents humanity in a primitive state, as architects of the 1960s’ Kalahari Project professed (Lee, 1976, p. 10). The results of this project and others of like it left a lasting impression on archaeologists seeking analogical insight into prehistoric foragers worldwide. Ethnographic foragers like those of the Kalahari were widely appropriated as a model for populations whose mobility, reciprocal sharing, and egalitarian ethos were considered inherent to life before food production. Ironically, the ethnographic material used to construct knowledge of social conditions before the “emergence” of complexity was derived from societies whose internal dynamics, serving to mitigate tendencies for the accumulation of power, are historical consequences of powerful, institutionalized forces. In other words, “primitive” societies of the ethnographic present are best understood as components, not antecedents, of complex societies.

These dual developments have contributed to yet another incarnation of an age-old philosophical tension in social sciences, the tension between historical and evolutionary perspectives on cultural variation and change. This latest iteration is akin to, albeit somewhat different than rhetoric of the Boasian critique of nineteenth-century evolutionism, as well as the neoevolutionist critique of culture history. Indeed, ontological premises about history and evolution have grown more nuanced and polysemic in recent years. In drawing intellectual lines in the sand, it is hardly enough to juxtapose history and evolution as polar opposites. Rather, we have to consider premises about effective scale, causation, and the relationship between material and ideational realms of human experience, to name but a few of the constitutive themes. The intellectual permutations are as diverse as the subject matter itself. Still, the conceptual divide between history and evolution is arguably the crucible for progress in this endeavor. Several recent texts in fact offer up this sort of tension as a catalyst for intellectual progress (Ames and Maschner, 1999; Dietler and Hayden, 2001).

This conceptual chasm between historical and evolutionary perspectives on complex hunter–gatherers is an organizing theme of the review that follows. It takes as its starting point the mid-1990s, when, over a period of 2 years, an important body of literature on complex hunter–gatherers was published, including two major volumes on emergent complexity (Arnold, 1996c; Price and Feinman,

1995) and a synthesis on the archaeology of complex hunter-gatherers (Arnold, 1996a). Also issued at this time was Kelly's (1995) influential cross-cultural analysis of forager variation from a behavioral ecological perspective. A constant stream of papers, book chapters, monographs, and dissertations ensued from long-term projects worldwide.

My review is decidedly biased toward literature on North American hunter-gatherer societies. The emphasis on North American case material is arguably justified because only on this continent do we find unequivocally complex hunter-gatherers in the modern era, those of the Northwest Coast, California, and southwest Florida. Of course, the boundaries one wishes to draw around this subject matter determines what is and is not included. If we are to draw the boundaries tightly, asserting as defining criteria hereditary inequality and an economy based strictly on wild food resources, then select areas of North America indeed provide the best examples of complex hunter-gatherers. The geographical purview of this subject widens as we allow for more generalized definitions of complexity.

I cannot claim to provide here a comprehensive review of the literature on complex hunter-gatherers since the mid-1990s, although every effort was made to locate and include all major English works on the subject. The literature highlighted herein was chosen because it both showcases the substantive contributions archaeologists have made in the growing recognition of complex hunter-gatherers worldwide (but also exposes the conceptual tensions between historical and evolutionary approaches to the subject) and lays bare the shortcomings of approaches to complexity based on only one or a few defining traits. In delimiting the relevant literature for this review, the concept of hunter-gatherer itself posed problems. A vast literature now supports the notion that a subsistence economy based on wild food resources is not structurally linked to any particular form of social organization, technology, labor arrangement, intergroup relations, or ideology. In fact, the term "hunter-gatherer" implies nothing but that—a mode of subsistence—with permutations asserted to account for emphases on plant foods (gatherer-hunter) or fish (fisher-gatherer-hunter) instead of game. We can likewise cite many cases in which husbanding wild resources is tantamount to food production, or suggest that the abundance of high-yield wild foods is the equivalent to agricultural produce in its economic elasticity. Clearly, the term *hunter-gatherer* does not carry the unified conceptual weight it once did, and we have to ask ourselves why and how the concept of complex hunter-gatherers truly differs from pastoral tribes or agricultural chiefdoms. Through some theoretical lenses, the differences blur indeed.

Until recently, complexity among hunter-gatherers was a subject shaped more by the contours of theory than by its empirical record. Although it is always true that theory shades perception and interpretation, contradictions between the empirical record and orthodoxy have brought the contours of theory into sharper relief. The archaeological record of the American Southeast is a case in point.

New evidence for monument construction dating to at least the sixth millennium before present is at odds with data that otherwise point to a landscape inhabited by small-scale, mobile foragers. Like the Poverty Point culture of 2000 years hence, these Middle Archaic mound builders simply “do not fit” the overall picture of southeastern prehistory (Ford and Webb, 1956; Gibson, 1996) when viewed from the shopworn perspective of cultural evolutionism (Russo, 1994). Brought into focus by this contradiction are the persuasions of those willing to upgrade the level of sociopolitical complexity among these precocious populations, and, on the other side of the divide, those willing to downgrade the significance of monumentality. Ongoing debate over emergent complexity in California and the Interior Plateau of the Northwest provide additional material for exploring the tensions between theory and data. All such cases show that archaeology has a vitally important role in not only amassing the empirical record of sociocultural variation but in contributing to the ongoing process of clarifying what we mean by cultural complexity and how this process ultimately restructures anthropological theory.

COMPLEXITY DEFINED

Definitions of *complexity* vary widely but generally assume one of three forms: (1) theoretical constructs that enable comparative analyses; (2) lists of organizational or formal traits derived from empirical, cross-cultural observations; and (3) abstractions of specific historical conditions. How one chooses to define complexity determines, usually implicitly, scales of observation, relevance of data, and related epistemological matters. The concept is a focal point of an ongoing dialogue about central issues of anthropological inquiry—history, evolution, culture, society—and thus is something of a metanarrative in the field. Archaeologists have been among the leaders in regarding the emergence of cultural complexity as something worthy of study in its own right and not simply an epiphenomenon of food production or other requisite material conditions (Feinman, 1995, pp. 256–257).

Definitions of *complexity* begin with a connotation that is as applicable to mechanical or biological systems as it is to societies: complexity is a relative measure of the number of parts in a system and number of interrelationships among those parts. This is a useful heuristic device for describing the overall sweep of cultural evolution or for making broad cross-cultural comparisons. However, it is difficult to operationalize at finer scales of observation. An implicit assumption of this generic definition is that societies or cultures are essential and discrete units of analysis. Complexity so conceived varies with scale (Crumley, 1987; Marquardt, 1985). At the scale of the modern world system, for example, all constituent societies are complex insofar as their respective histories are inextricably linked. The revisionist debate in hunter–gatherer ethnography underscored the folly of reducing historically connected societies into unit societies of varying complexity for purposes

of evolutionary modeling (see below). The same pitfalls await archaeologists who treat prehistoric societies as discrete units.

Other definitions of *complexity* turn on variations in organizational structure. McGuire (1983), for instance, divides complexity into two dimensions, heterogeneity and inequality, and argues that the two often vary independently. Price (1995, pp. 140–141) likens this distinction to the generic definition above inasmuch as heterogeneity means more parts, and inequality refers to relationships among the parts. Following Johnson (1982), Price (1995, p. 143) emphasizes the need to distinguish between vertical and horizontal dimensions of differentiation. He makes the point that throughout prehistory, hunter–gatherer societies elaborated existing structures through the acquisition or creation of more “parts” (e.g., technological innovations such as storage, or new forms of artistic expression), a process Price refers to as “horizontal intensification.” But much of this elapsed, he argues, without significant change in the “internal” configuration of constituent societies. Hierarchical structures (vertical intensification) eventually arose to integrate the increasing number of parts and differentiate among them to alleviate scalar stress. From his perspective in northern Europe, Price (1995) argues that this structural transformation, involving the institutionalization of inequality, was associated with the origins and spread of agriculture.

Price’s formulation parallels Johnson (1982) earlier distinction between simultaneous and sequential hierarchies. The latter involve horizontal social divisions between lineages, coresident groups, or other collectives whereby decision making is sequential and consensus based and is not centralized or institutionalized. Differences (inequality) among the constituent units are thus impermanent and situational. An elaboration of this concept can be found in Crumley’s (1979, 1995) notion of heterarchy. As an alternative to hierarchy, heterarchy refers to the structural “relation of elements to one another when they are unranked or when they possess the potential to be ranked in a number of different ways” (Crumley, 1995, p. 3). Importantly, heterarchy is not conceived as something less complex than hierarchy; in point of fact, heterarchy subsumes hierarchical structures or can be seen as dialectically constituted through the long-term, multiscale interplay between vertical and horizontal differentiation. Heterarchy is thus a useful concept for investigating the actual historical trajectories of social change, as it does not assume that societies evolve from simple to complex. It has been helpful in understanding cases of cultural “collapse,” wherein hierarchical structures erode in the context of increasing regional (intergroup) complexity (e.g., Zagarell, 1995). Unfortunately, the concept has not been widely embraced by archaeologists grappling with complexity among hunter–gatherer societies. As Crumley (1995, p. 3) suggests, the “conflation of hierarchy with order makes it difficult to imagine, much less recognize and study, patterns of relations that are complex but not hierarchical.”

Another recent contribution to our understanding of complexity is the dual processual model of Blanton *et al.* (1996). The model distinguishes between two

political–economic strategies of control, network, and corporate. This dichotomy loosely parallels Johnson’s (1982) notions of sequential and simultaneous hierarchies, but like Crumley’s concept of heterarchy, the dual processual model considers network and corporate strategies to coexist in somewhat dialectical fashion, and it rejects the unilineal notion that societies necessarily evolve from sequential (network) to simultaneous (corporate) strategies (Feinman, 1995, p. 266). Because the dual processual model was designed to crosscut societal variation, it promises to find more use in studies of complex hunter–gatherers in years to come (Rosenwig, 2000).

Despite recent theoretical developments in the study of cultural complexity, most archaeologists confronted with variation in hunter–gatherer organization still focus on the recognition of certain features or attributes of complexity derived primarily from ethnographic contexts. Among these features are high population and population density, sedentism, storage, territoriality, elaborate technology, intensive subsistence, delayed-return economy, and long-distance exchange (Keeley, 1988; Koyama and Thomas, 1981; Price and Brown, 1985; Testart, 1982; Woodburn, 1982). The conceptual pitfalls of this trait-list approach are obvious (Arnold, 1996a), for many ethnographic hunter–gatherer societies had one or more of these traits but clearly asserted egalitarian relations among themselves (but see *Whither Simplicity?* below). Taken to its logical conclusion, this approach would classify all of Binford’s (1980) “collectors” as complex and all of his “foragers” as simple, or, more incredibly, classify seasonally variable organization as complex half the year and simple the rest.

In his review of nonegalitarian foragers, Kelly (1995, p. 294) rejects the term “complex” and its counterpart “simple” because it deflects attention away from processes encouraging and reproducing social inequality and toward aspects of organizational components and functions, or, more broadly, that the term “complex” connotes that societies described as such have “more going on” than so-called simple societies. Bender (1985a, p. 21) made this same point in her distinction between “hot” and “cold” societies, those with history and the internal capacity for change and those without. Kelly suggests that we instead refer to complex hunter–gatherers as nonegalitarian.

Kelly (1995, pp. 302–303) derives his list of features of nonegalitarian hunter–gatherers from ethnographic examples as follows:

high population densities, sedentism or substantially restricted residential mobility, occupational specialization, perimeter defense and resource ownership, focal exploitation of a particular resource (commonly fish), large resident group size, inherited status, ritual feasting complexes, standardized valuables, prestige goods or currencies, and food storage. (Keeley, 1988; Testart, 1982; Watanabe, 1983)

Kelly (1995, p. 303) also includes high rates of violence and the propensity to condone violence as legitimate. It is noteworthy that monument construction is not included in this list of features, for virtually none of the ethnographic cultures from which this list was derived engaged in such activity, a point to which I return later.

Emphasis on aquatic resources is a recurrent theme in studies of emergent complexity (Brown and Vierra, 1983; Palsson, 1988; Price and Brown, 1985). Intensive use of coastal resources figures prominently in many regions (e.g., Erlandson, 2001; Moseley, 1975; Rick *et al.*, 2001; Russo, 1996a), forming the economic base for permanent settlement and, in some cases, high population densities. Archaeological research on coastal and riverine adaptations has been instrumental in decoupling emergent complexity from food production. Predicated on abundant resources invulnerable to overexploitation (Hayden, 1994, 1996), economies with intensive aquatic economies apparently were as expandable as agricultural economies.

Along with the decoupling of complexity from food production has been a further dismantling of virtually every conceivable structural linkage between economy, politics, society, and ideology (see Lesure and Blake, 2002), including a complete overhaul of the notion of egalitarianism (Flanagan, 1989). This has clearly been the greatest challenge to archaeologists because so many of the extant theories of cultural variation, and the essentialist ontologies that underwrite them, presuppose covariation among such attributes (e.g., sedentism with storage; cf. DeBoer, 1988) and are thus ill-equipped to deal with such diversity. Those jumping on the complexity bandwagon for recognition of a trait or two are occasionally chided for seeing complex societies where none existed (Arnold, 1996a).

The alternative has been to circumscribe the definition of *complexity* around a few essential features. According to Arnold (1996a, p. 78), complexity is found only among societies with certain *organizational* qualities, namely (1) institutionalized labor relations whereby some people must perform work for others under the direction of nonkin, and (2) inherited privileged status. Arnold is emphatic in this definition, noting that other features of complexity are epiphenomena or “historical particulars,” including forms of symbols and art, kinds of residence, population numbers, technology, settlement system, and ritual practices, among other unspecified features. In essence, Arnold is describing the Chumash of southern California, who, at the time of European contact, were organized at a chiefdom level. In fact, this is the same definition Arnold (1996b) gives for chiefdom in another publication, underscoring the insignificance of hunting and gathering to this organizational form. By design, this definition of *complexity* serves well the Chumash case, allowing researchers to work back from the ethnographic present to locate the events and processes leading to institutionalized labor relations and hereditary inequality. It does not, however, serve the needs of researchers seeking conceptual guidance on the emergence of complexity outside of California and perhaps the Northwest Coast. As Price (1995, p. 141) notes, there is arguably no evidence for hereditary inequality among prehistoric hunter-gatherers outside the Pacific Coast of North America, although we can certainly add to this list the Calusa of southwest Florida (Marquardt, 1988).

Others agree that *institutionalized* inequality must be the defining attribute of complex society (Price and Feinman, 1995), but many are willing to entertain

forms of institutional power beyond those of inheritance and labor relations. For instance, Curet (2003, p. 6) includes societies where power is concentrated at a group level (e.g., descent group), as well as those under the authority of individuals or smaller groups. He also includes both ascribed and achieved status, the latter accommodated by institutions other than descent. His goal in this effort is to explore variation among so-called middle-range societies of the Caribbean. Curet (2003, p. 18) notes that those commenting on Caribbean sociopolitical organization until recently considered only two types: egalitarian tribes and chiefdoms, the latter informed by ethnohistoric accounts of *cacicazgos* (chiefdoms). The sole reliance on ethnohistoric accounts—what Curet (2003, p. 21), following Keegan (1991), calls the “tyranny of ethnohistory”—has blinded researchers to the full range of sociopolitical variation that existed. The same might be said for some work in southern California and the Northwest Coast.

Finally, a definition of *complexity* emphasizing relational properties is found in recent works by Fitzhugh (2003a,b). Taking an explicitly comparative approach informed by evolutionary ecology, Fitzhugh defines *complexity* as a *relative* measure of structural differentiation. Thus hunter-gatherer society is complex if its organization is more differentiated (vertically and/or horizontally) than some other society. Fitzhugh also suggests that the concept of complexity is analytically vague but can be rendered operational as a relative measure of inequality. He thus defines *complex hunter-gatherers* as “social groups primarily engaged in a forager mode of production with institutionalized inequality (rank or stratification) and an organizational structure integrating multiple family units into larger political formations” (Fitzhugh, 2003b, p. 3). Although Fitzhugh strives to avoid a typological approach to complexity, the terminological relativity of his definition is somewhat diminished as it is operationalized by the notion of inequality. Arguably, this cannot be avoided, as terms must be customized to serve particular comparative analyses, in Fitzhugh’s case the emergence of institutionalized inequality among residents of Kodiak Island. As with Arnold and the Chumash, Fitzhugh (2003b) is able to draw from ethnohistoric accounts of the Kodiak Alutiiq to model the relative level of complexity of societies whose evolution he seeks to explain.

Continued debate over definitions of *complexity* would benefit from deeper consideration of the interdependence of simple and complex societies and the multidimensional perspective that concepts like heterarchy entail. If we classify, for instance, the Efe and Lese of the Congo as unit societies, the former would be among the simplest ever known, the latter a bit more complex. But if we consider the interdependence of these distinct ethnic groups, enmeshed in political and economic relations with the outside world and sharing in a history of slaving and genocide going back centuries (Grinker, 1994), they arguably fit Arnold’s criteria for complexity: (1) the Efe work for nonkin (Lese partners) and (2) are subject to inherited privileged status (sons inherit Lese partnerships from fathers). Is this simply a consequence of Western colonialism? Perhaps, but given that long-distance exchanges and other evidence of interactions among populations of

varying sociopolitical organization characterize archaeological records worldwide (e.g., Junker, 2000), it seems perfectly reasonable, indeed necessary, to open up the purview of investigation of “complexity,” however it is defined to include all manner of organizational variation. Nothing is simple.

Whither Simplicity?

One can argue credibly, as Winterhalder (2001) has done, that generalized, mobile foraging can be understood as a mode of production whose properties arise from the ecological setting of forager subsistence. The extrapolation of this statement to prehistoric contexts is not so readily defended when the relations of production of ethnographic foragers (egalitarianism) have been so strongly molded by encapsulation, marginalization, and asserted autonomy under threat of domination. The relevance of this point is that we cannot assume that the antecedents of complexity in the ancient past resemble ethnographic foragers (Rowley-Conwy, 2001). Conceptions of antecedent or primitive society entail more than simply the absence of attributes of complexity. Rather, they involve ontological premises about societal evolution derived from unwarranted assumptions about human nature stripped of institutions (i.e., humans without society; Ingold, 1999), which, in turn, is traceable to uncritical uses of ethnographic cultures as analogs for primitiveness. Arguably, the Kalahari Project of the 1960–1970s was the chief source of such analogical insight.

A primary goal of the Kalahari Project was to collect data on a living hunter-gatherer group to shed light on the evolution of human behavior (Lee, 1976, p. 10). Despite acknowledged incursions of modern nation-states in the Kalahari, Lee (1979, p. xvii) argued that the effects of outside contact could be “filtered” out if the research took an explicitly ecological orientation, emphasizing human adaptation to environmental properties that were potentially generalizable to a wide range of analogous circumstances, as in Winterhalder’s rationale cited above (see also Kelly, 1995, pp. 339–344; Yellen, 1989).

In a volume illustrating the range of political and historical circumstances affecting hunter-gatherers worldwide, Lee and his colleague, Eleanor Leacock, took an explicitly structural-marxist orientation (Bender and Morris, 1988) to define a mode of production original to hunter-gatherers. Although Leacock and Lee stopped short of erecting the “forager mode” as an evolutionary paradigm, it is clear from Leacock’s substantial ethnohistoric research on the Montagnais that this was the very mode transformed by contact with Jesuits and French fur traders (Leacock, 1954, 1980, 1982); hence it was regarded as antecedent to “complexity.” Lee (1988, 1990) later codified the forager mode of production as an evolutionary model in his elaboration of Morgan’s (1965 [1881]) and Engels’ (1972 [1884]) arguments about the evolutionary status of primitive communism. For Morgan (1965 [1881], p. 63), “communism in living” was inherent to “the necessities of the family, which,

prior to the later period of barbarism, was too weak in organization to face alone the struggle of life." This was the age when the Law of Hospitality ruled—a sense of sociality somewhat akin to relations based on trust that Ingold (1988) contrasts with relations of domination. Behavioral ecologists offered mathematical proof for the adaptive advantage of communal relations, hospitality, and trust, showing that net energy returns for foragers in unpredictable environments are greatest when they cooperate with other foragers (Dyson-Hudson and Smith, 1978; Kelly, 1995, pp. 168–201; Winterhalder, 1986, 2001). Although behavioral ecology cannot be equated with cultural evolutionism, in its unabashedly reductionist and ahistorical bent behavioral ecology provides the rationale for the primitiveness of primitive communism insofar as environmental conditions before the advent of food production are assumed to have been relatively unpredictable.

As skepticism grew over the evolutionary status of Kalahari foragers (Denbow, 1984; Gordon, 1984; Schrire, 1980, 1984; Wilmsen, 1983, 1989), Lee reiterated the notion that primitive communism was an internally self-reproducing mode of production (Lee, 1988, 1990). Its so-called "leveling mechanisms" (e.g., mobility, generalized reciprocity, enforced humility) were effective barriers to the accumulation of power or wealth, keeping would-be big men in check even under circumstances of especially abundant resources (cf. Hayden, 1994). However, this logic poses the conundrum of explaining how societies so well equipped to avoid directional change could ever have experienced structural transformations in ancient times (see Lee, 1990, for his thoughts on this problem). The answer, it would seem, is that the "internal" dynamic of primitive communism is not self-reproducing apart from relations from without. Wiessner's (1982) work on hxaro exchange, one of the key leveling mechanism of Lee's primitive communism, showed that exchanges between people intensified when threatened by encroachments of market economies. Solway and Lee (1990, p. 122) acknowledged that certain Kalahari groups were able to use mobility and foraging to avoid the impingements on autonomy by herders, traders, and slavers of the recent past—that foragers had in fact "resisted the temptation (or threat) to become like us." And, in places throughout his writing, Lee (1992, p. 43) agrees with his critics that the egalitarian relations of his forager mode are asserted, not inevitable or natural to a people under a given set of environmental circumstances. The presumed evolutionary nature of primitive communism, be it an extension of Morgan's Law of Hospitality or the de facto state of a people without power or politics (Mann, 1986), is not evolutionary at all, but historical, the outcome of deliberate human action in a matrix of competing regional or global forces.

This is the conclusion reached by the so-called revisionists of Kalahari ethnography, and it emerges repeatedly in the larger program of historicizing "primitives" worldwide (Headland and Reid, 1989; Ingold *et al.*, 1988; Rival, 2002; Wolf, 1982). A political-economic perspective on modern foragers places them squarely in the nexus of global economies, the rural proletariat of a capitalist world system (Wilmsen, 1989). Other perspectives emphasize the self-determination of foragers

as resistant traditions (Asch, 1982; Rival, 2002; Sassaman, 2001, Schrire, 1984; Schweitzer *et al.*, 2000). Either way, archaeological data suggest that the genesis of many foragers can be traced to histories of interaction with farmers and herders centuries before capitalism (Denbow, 1984; Denbow and Wilmsen, 1983, 1986; cf. debate about evolutionary status of tropical foragers; Bailey *et al.*, 1989). In response, the defenders of an evolutionary perspective on primitive communism eschew the notion that ethnographic foragers can be reduced to “societal impoverishment resulting from exploitation by larger and more powerful societies” (Lee, 1992, p. 39). Proponents on either side of the debate have accused the other of robbing foragers of their histories; in point of fact, the revisionists have liberated foragers from their evolutionary past, a past that has not been empirically verified with archaeological data unaffected by what Trigger (1990, p. 135) calls the “ensured significance” of ethnographic data (see also Wobst, 1978).

There is sufficient empirical evidence to conclude that primitive communism is not necessarily primitive (i.e., antecedent) but rather, under specific circumstances, an outcome of power struggles within and between “complex” societies. This is not to say that primitive communism is merely a modern condition, and thus irrelevant to evolutionary modeling, only that it cannot be understood apart from the historical contexts of intergroup relations. It also follows that without “primitives,” so conceived, we lack a touchstone for recognizing the emergence of anything of relatively greater complexity. Are we justified in assuming that antecedent formations were somehow relatively less complex than what followed them? Given the unresolved debate over the evolutionary status of ethnographic foragers, this question begs fresh archaeological data.

EMERGENT COMPLEXITY ON THE PACIFIC COAST

Recent literature on complex hunter–gatherer societies of the North American Pacific Coast (Fig. 1) centers on the historical reconstruction of conditions and causes for the emergence of institutions of social inequality. Researchers generally agree that at the time of contact in both the Northwest Coast region and in southern California, resident populations included simple, if not complex, chiefdoms. Ethnohistoric and ethnographic accounts of these populations provide the rare opportunity for a direct historical approach to the genesis of such complex formations. Research on the Northwest Coast has been synthesized in two recent volumes that highlight points of disagreement over the prime mover of this change: economics or politics (Ames and Maschner, 1999; Matson and Coupland, 1995). An impressive body of research in southern California lately turns on debates about the timing and nature of the first stratified or ranked societies and the environmental circumstances attending their emergence. Research elsewhere along the Pacific rim provides alternative perspectives on emergent complexity

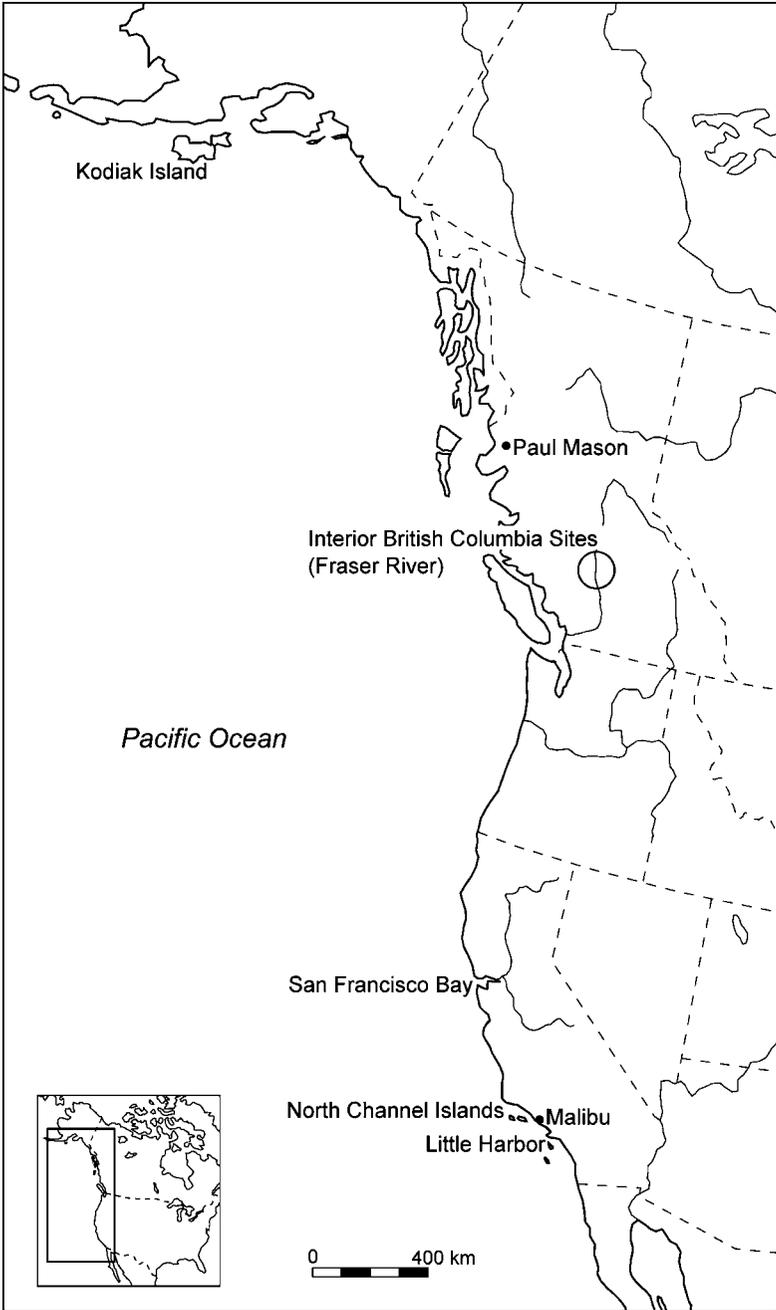


Fig. 1. Locations of sites and site clusters along the Pacific Coast mentioned in text.

with archaeological subjects lacking direct ethnohistoric referents (e.g., Lightfoot, 1993, 1997; Lightfoot and Luby, in press; Luby and Gruber, 1999).

Northwest Coast

The “Developed Northwest Coast Pattern,” as described by Matson and Coupland (1995, p. 6), is the amalgam of traits seen among ethnographic populations of the Northwest Coast that includes society stratified into the ascribed statuses of noble, commoner, and slave; ownership or control of important resources; multifamily households units in large, permanent (but not necessarily perennial) villages; and large-scale storage. Apparently, these traits did not appear simultaneously. Notably, unequivocal evidence for institutionalized social ranking does not appear until ca. 2500 BP, a full millennium after the first evidence for economic changes interpreted by Matson and Coupland (1995) as the intensification of salmon harvesting and storage (see also Schalk, 1977). Matson and Coupland argue that this economic change preceded any significant social change, reflecting the overall cultural ecological bent of their perspective (Matson and Coupland, 1995, p. 154). Control over resources was at first a corporate affair (Coupland, 1988a). Population growth encouraged by permanent settlement at locations of key resources led to internal ranking, with emergent elite controlling ritual to achieve supernatural justification for control of subsistence resources. Storage put constraints on fissioning and thus rendered households vulnerable to control by would-be elites (Coupland, 1988b).

The Locarno Beach phase (ca. 3500–2400 BP) includes the first archaeological cultures with “enough shared traits with the Northwest Coast ethnographic cultures to be considered a potential member of the Developed Northwest Coast Pattern” (Matson and Coupland, 1995, pp. 182–183). These traits include a stored-salmon economy, the full range of ethnographic technologies, and widespread use of labrets—a presumed status marker. Missing is definitive evidence for hereditary status and large multifamily villages, except perhaps for the north coast site of Paul Mason, where small, rectangular house depressions dating to ca. 3000 BP are arranged side by side in planned fashion (Coupland, 1985, 1988a). These are small structures, not the massive winter structures of the late prehistoric and ethnographic periods. The generally uniform size, configuration, and content of households in the Paul Mason village suggest an absence of institutionalized social inequality (Coupland, 1988a). Still, this is arguably the earliest indication of permanent village life anywhere on the Northwest Coast.

The full-blown Developed Northwest Coast Pattern does not appear until after 2500 BP (Matson and Coupland, 1995, pp. 241, 304), and even after this time evidence remains sketchy. “The large, multifamily household, with a highly centralized economy may well be more prevalent in the ethnographic accounts than

in any part of the archaeological record” (Matson and Coupland, 1995, p. 308). That this one attribute (large multifamily households) is not at all common in the archaeological record may signify that it is an extremely late phenomenon, or, alternatively, an “unstable emergent organization, repeatedly arising from a more stable system of smaller households” (Matson and Coupland, 1995, p. 308). The authors note that household size and rigidity of organization varies from south to north, with the latter area exhibiting more consistent evidence for the ethnographic pattern. They speculate that differences in ascribed status are directly related to household size and call for a more critical review of the ethnographic data in this regard, as well as more aggressive approaches to household archaeology.

The defining theme of Matson and Coupland’s synthesis is that economic change preceded social change. They take exception with the idea proffered by Ames (1981, 1985) that hierarchical organization had to first develop to make effective use of bulk salmon procurement and storage (see also Croes and Hackenberger, 1988). Equating hierarchical organization with multifamily houses, Matson and Coupland (1995, p. 244) suggest that evidence to support Ames’s model simply does not exist. To them, ranking and then stratification was a consequence of a coastal and salmon-harvesting economy that required control over the best resource patches. Matson (1983, 1985; Matson and Coupland, 1995, p. 152) has long argued that a *de facto* inequality emerged from the intensification of salmon harvests. Because the expandability for such localized resources varied across the region, the partitioning of land into circumscribed territories led inherently to inequality (Matson and Coupland, 1995, pp. 295–296). The idea that coastal and interior riverine populations likewise covary with resource abundance—with coastal groups enjoying higher yield resources and thus higher levels of population and social complexity—has been a theme of Northwest Coast prehistory since the early twentieth century (Kroeber, 1939; Matson, 1983). In short, complexity arose where the environment allowed it and the synergistic effects of storage, territoriality, and population growth demanded it.

Whereas the synthesis of Northwest Coast prehistory by Matson and Coupland is largely a cultural ecological perspective, the treatment by Ames and Maschner (1999) has an eclectic flare, influenced by both historical and evolutionary paradigms. In a book written for a wide audience, the authors take a topical approach to the diversity and history of Northwest Coast groups. Like others before them, Ames and Maschner (1999, pp. 25–27) list the features that distinguish complex hunter-gatherers from simple foragers: sedentary or semisedentary settlement, high-yield food procurement and storage, household-based economies, focus on relatively few but highly productive resources, manipulation of environments to increase productivity, complex technologies, large population and high population density, social hierarchies with inherited leadership, occupational specialization, and regional exchange. However, rather than seeing each of the traits as emergent properties of complex society, Ames and Maschner regard them as

structural transformations of existing cultural forms, each with deep historical roots.

Thus a major theme of the Ames and Maschner book, counterpoised with that of Matson and Coupland (1995), is that social differentiation dates back to the very beginnings of life on the Northwest Coast. They cite evidence from burials dating as early as the late Pleistocene and the elaborate Southwest Idaho burial complex (ca. 5200–4500 BP) as evidence for differential access to wealth or prestige among small-scale, mobile hunter–gatherers (Ames and Maschner, 1999, p. 186). They go on to assert that cemeteries appear on the coast as early as 6000 and by at least 4500 BP, signifying the existence of corporate groups and individuals of privilege. Wearers of labrets (about 10% of individuals, men and women alike) date back to at least 6000 BP. During the Locarno Beach phase (3500–2400 BP)—the onset of “complexity,” according to Matson and Coupland—labret wearing continued in modified form but elaborate graves were on the wane. By 2400 BP, markers of differential status at locations on the central coast shifted from labrets to cranial deformation and grave goods rose in frequency, now three times more likely to be associated with men than with women. Labret wearing among north coast groups was now restricted to men. Strong indications of ranking continue through the Middle Pacific period, but after 2400 BP, funerary programs changed rapidly as social ranking went through a number of transformations.

Ames and Maschner (1999, p. 189) are clear that supporting evidence for social ranking in architecture is wanting during the Middle Pacific period, but they point to possible evidence for warfare and slaving predating 3700 B.P. in addition to the mortuary evidence already mentioned. In the end, Ames and Maschner (1999, p. 254) conclude that “inequality on the coast is quite likely to have grown from earlier systems of social differentiation rather than developing from earlier, completely egalitarian societies.” Although the architectural data are weak on this count, they make a strong case that status differences, as well as aspects of the Northwest Coast art that symbolized it, predate the social and economic changes Matson and Coupland signal as emergent complexity. The late appearance of large households that enabled an economy of surplus production in salmon and coastal resources was predicated on a transformation of existing structures of social ranking.

The sorts of transformations (events) Ames and Maschner envision escape thorough treatment in their book, although it seems clear that they consider circumstances to be multivariate and complex. They point to requisite improvements in environment (sea-level stabilization, development of productive neritic and estuarine biomes, formation and spread of rainforest) to support large-coastal populations. They recognize that organized labor and property rights were required to take advantage of the bounty but are unwilling to say that these demands caused large households to form. Throughout their discussion of “causes,” the tension between evolutionary and historical perspectives is palpable. Considering that

these authors have separately published on Northwest Coast archaeology from Braudelian (Ames, 1991) and Darwinian (Maschner and Patton, 1996) perspectives, the crosscurrents of history and evolution are not unexpected. The juxtaposition of the two is surprisingly enlightening.

History and evolution also converge in Kelly's (1995, pp. 321–329) exposition of variation in social formations along the Northwest Coast. Consistent with the perspective proffered by Matson and Coupland (1995), Kelly relates differences in sociopolitical complexity to variation in resource structure from south to north, with greater spatial homogeneity in the south and greater heterogeneity on the north. True to behavioral ecology, Kelly considers how hierarchy and inequality arise from individual efforts to maximize fitness, but he is also keen about the enculturation process that shapes the way individuals regard their situation, suggesting that perceptions about one's own fitness vary with cultural contexts.

This last point is hardly insignificant and speaks to the danger of dismissing recent Northwest Coast culture history in the interest of generalizing about emergent complexity from an ecological or evolutionary perspective. It is not altogether clear whether central and northern coastal populations at the time of contact were descended from locally indigenous groups or derived from Athabaskan lineages whose descendents also occupied the northern and eastern interior peripheries of the region (Rubel and Rousman, 1983). Concluding that rigid rules of descent, hierarchies, and fixed claims to land were a consequence of northern coastal environments when in fact they were ancestral traits of populations originating elsewhere would be unfortunate indeed.

Southern California Coast

At the time of European contact, the Channel Island region of southern California supported populations of hunter–gatherers operating at a chiefdom level of sociopolitical organization. Polities of Hokan-speaking Chumash people, occupying both mainland and island territories, were ruled by hereditary chiefs who orchestrated regional exchanges with neighboring groups, served as war lords, hosted ceremonial gatherings, and controlled a political economy fueled by intensive exploitation of marine and terrestrial resources and a “monetary” system of shell beads produced by specialists. The eccentric anthropologist John Harrington (1942) recorded many details of Chumash life but, unfortunately, published little of his data. Missionary accounts and other Spanish records form a robust record of ethnohistoric description.

We know perhaps as much, if not more, about Chumash chiefdoms from recent archaeological work than from written accounts (e.g., Arnold, 1987, 1992, 1995, 2001; Glassow, 1996; King, 1990). The origins of simple chiefdoms among the Chumash has grown to be one of American archaeology's hottest topics in recent

years. Well over a dozen papers on the Chumash and related coastal California archaeology have appeared in the pages of *American Antiquity* since the mid-1990s, many of them featuring debates with Jeanne Arnold over the timing and circumstances surrounding the emergence of chiefdoms. Paralleling debates on archaeology of the Northwest Coast, this contentious literature turns, in part, on epistemological differences among practitioners, notably their varying willingness to avail knowledge about Chumash prehistory to the study of emergent complexity in general. These differences not only shade the interpretation of archaeological data but strongly predetermine the relevance of such data for comparative purposes. These varied points of view and the controversy they engendered have been extremely beneficial to archaeology at large.

A brief review of Arnold's (1992) seminal argument for the emergence of Chumash chiefdoms helps situate recent literature in appropriate context. Arnold views the emergence of simple chiefdoms as a rapid process that took place ca. A.D. 1200–1300 and was precipitated by a population–resource imbalance stimulated by warmer sea-surface temperatures ca. A.D. 1150–1250. The unusually lengthy period of higher-than-average water temperatures was disruptive to communities dependent on near-shore marine resources. Plankton populations and the species dependent on them dwindled, as did the rich kelp forests and the shellfish and fish species these supported. This resource stress, according to Arnold, created opportunities for entrepreneurial maneuvering; one of the consequences of innovative solutions, whether intentional or unforeseen, was a process of political intensification that resulted in the emergence of hereditary leaders (chiefs).

The innovations involved a combination of intensified regional exchange, new watercraft, and alienated labor. A variety of evidence shows that under resource stress, communities began to effectively spread the risk of failure through cross-channel exchanges of food. The shell bead production and exchange system that underwrote economic interdependencies among groups came under the control of elites during the Late period (post-A.D. 1300) (Arnold, 1987). Production, ownership, and use of plank canoes (*tomol*) likewise fell to elite control at this time (Arnold, 1995). Although this innovation in watercraft appeared several centuries earlier, its use after A.D. 1200 was increasingly tied to intergroup exchange and intensified use of pelagic (open-water) resources to offset loss of near-shore productivity. Because planks for making canoes were rare, individuals who could routinely gain access to driftwood and organize the labor (kin?) needed to build and launch these large vessels had the capacity to assert control over cross-channel transportation and deep-sea fishing.

In short, Arnold's model shows how chiefdoms arise under stressful environmental conditions, rather than periods of "abundance," and underscores the importance of elite intervention in the control of labor in spheres of production, transportation, and exchange. She clearly frames the research as a case study with generalizable qualities, closing the 1992 paper with a challenge to test the stress-inducement model in other cultural contexts.

Others working the greater southern California region quickly took up Arnold's challenge. Research at the Little Harbor site by Raab *et al.* (1995) provides an alternative perspective on the effects of elevated sea-surface temperatures on effective subsistence. This site is located on Santa Catalina Island, ancestral home to the Gabrielino, some 100 km down the coast from the channel islands occupied by the Chumash. Raab *et al.* (1995) argue that warmer sea-surface temperatures did not necessarily result in net resource loss. Their Little Harbor data show that species attracted by warming waters (e.g., tuna) provided substitute resources for sustaining island populations. They also point out that the data on which the Arnold (1992) model is based do not show any abrupt change in composition of subsistence assemblage, just frequency variation. They suggest there is no good evidence for disruption in the subsistence economy of the Channel Islands, irrespective of short-term sea-surface temperature trends.

In an update and elaboration of the 1992 stress-inducement model, Arnold *et al.* (1997) rebut that Raab *et al.* (1995) fail to contextualize their Little Harbor data in suggesting that it undermines any claim for paleotemperature influences on sociocultural change in the Northern Channel Island area. Arnold *et al.* (1997) correctly note that the effects of warmer temperatures would not be the same in the southern and northern island regions; that indeed the farther south, the less the impact. They acknowledge that warmer conditions could have led to increased use of otherwise marginal resources. But they also assert that Raab *et al.* (1995) do not demonstrate that the increased use of tuna and other warm-water species at Little Harbor is indicative of "productive" time. For this they recommend better information on settlement, labor organization, exchange, and biological health—the sorts of data Arnold herself provided in her earlier work. Arnold *et al.* (1997) were compelled to reiterate that the stress-inducement model was never intended to correlate environmental change with sociocultural change in order to assign causality to the environment.

The debate on environmental stresses in southern California also has involved considerations of drought. Drawing on a variety of paleoclimatic data, Raab and Larson (1997) assert that prolonged drought during the period A.D. 800–1400 better accounts for sociocultural change among Channel Islands populations than does warming sea temperatures. Depressed terrestrial resources (acorn, game), due to drought, are believed to have driven interior groups to the coast and an increased reliance on marine resources. In turn, Raab and Larson downplay any stress that may have arisen from episodic increases in sea-surface temperatures. By centering analysis on *long-term processes* of resource intensification and demographic change (and away from particular events), Raab and Larson hope to avail the California case material to broader cross-cultural understanding of emergent complexity. Arnold (1997) rebuts that a combination of factors, and no single one, best accounts for the development of complexity on the coast, noting in the process that Raab and Larson offer no new data that implicates drought as a prime forcing variable.

In a remarkable response to Arnold *et al.*'s (1997) critique of Raab *et al.*'s (1995) critique of Arnold (1992), Raab and Bradford (1997) turn the debate into a processual–postprocessual standoff by suggesting that Arnold undermines a uniformitarian principle of science in qualifying and contextualizing her work after making it appear as if it were generalizable. Certainly any argument about prime movers is facile. But so too is the epistemological dichotomy asserted by Raab and Bradford, as well as the mixed messages we get from Arnold about the generalizability of the Chumash case. Both are right: Arnold for suggesting that the problems are multivariate and complex and in need of deep context; Raab and Bradford for suggesting that if the model is to be generalizable, it must follow uniformitarian logic to be tested with independent data.

Fresh data from additional researchers always help. Kennett and Kennett (2000) recently published a high-resolution oxygen isotope marine climate record for the Channel Islands. Their data show that the interval of A.D. 1150–1300 was marked by generally cold sea-surface temperatures and high marine surface water productivity coupled with cool and dry terrestrial climate. They emphasize, however, the instability of climate at this time and conclude that cultural complexity arose at a time when marine resources were on the rise and terrestrial resources on the decline. The human response was a mix of cooperative and competitive strategies involving increased regional violence, greater levels of sedentism on the coast, intensive fishing, and intensified trade. The introduction of the bow and arrow at ca. A.D. 500–800 exacerbated intergroup violence. The emergence of full-blown chiefdoms at A.D. 1300, they argue, coincides with improved climatic stability and greater levels of regional cooperation.

In another paper, new findings on dolphin hunting in the late mid-Holocene (ca. 5000 BP) of the southern coast give pause to the argument that deep-sea species were taken in large numbers only after near-shore resources were depleted and large watercraft became available. Porcasi and Fujita (2000) synthesize data from several southern Channel Islands sites and one in the Cape region of Baja to show that some groups were more heavily reliant on pelagic dolphin than on near-shore pinnipeds. They argue that this was likely a cooperative venture, as has been demonstrated for the Jomon of Japan during the late mid-Holocene (Hiraguchi, 1992). Cooperative ventures to drive dolphins into nets or on shore with small watercraft are argued by Hiraguchi (1992) to have contributed to social ranking among the Jomon. Porcasi and Fujita (2000) are quick to point out that this early period of dolphin capture in southern California is unrelated to the Late period emergence of chiefdoms, for indeed the practice was apparently abandoned well before the thirteenth century A.D. (although it enjoyed a late resurgence in Baja). Still, documentation of a variant of intensified marine subsistence prior to the use of the *tomol* and the emergence of chiefs lessens the necessary quality of elite control over deep-water species in accounting for the particular case of the Chumash (i.e., it could very well have been done without chiefs). Documentation of swordfish

and tuna use some 1800–2000 years ago in the area (Davenport *et al.*, 1993) also supports the notion that open-water species figured in Channel Island diets well before the Late period.

Other recent papers have pushed back the origins of material and organizational features of Chumash culture and, in the process, attempted to push back the “origins” of sociopolitical complexity to the Middle period (ca. 2500–1500 BP). Gamble (2002) presents evidence that the *tomol* was in use in the Channel Island area by at least A.D. 625–700. Following Gamble’s (2002, p. 303) logic, if the plank canoe was indeed “significant in the development of social ranking as Arnold suggested, then hierarchical status may have emerged earlier than Arnold hypothesized.” Moreover, in their analysis of late Middle period burials from the Malibu cemetery, Gamble *et al.* (2001) find many parallels with historic Chumash mortuary practices, notably a differential distribution of shell beads and other grave goods that is consistent with ethnographic expressions of ascribed social hierarchy. These data are offered in support of King’s (1990) hypothesis that ranked society had developed before the end of the Middle period. Arnold and Green (2002) counter that the ambiguity of the Malibu data and effects of mission contact on the accounts Gamble *et al.* (2001) employ weaken their case. Arnold and Green suggest that the ranking evident in the Malibu case does not equate with the political evolution of chiefdoms documented at ca. A.D. 1200–1300 (i.e., does not involve control over labor and hereditary leadership) but instead signifies some lesser form of sociopolitical organization (e.g., big-man system). In the final word (to this point), Gamble *et al.* (2002) retort that the core of Arnold’s argument for the emergence of true chiefdoms rests on the assumption that intensification of craft specialization at A.D. 1150–1200 (which, ostensibly, no one disputes) could not possibly have occurred without the centralized control of chiefs. Gamble *et al.* (2002) think otherwise.

The flurry of research and publication in southern California and the Northwest Coast has laid bare weaknesses in any approach that attempts to generalize about the origins of complexity. Clearly, the emergence of chiefdoms in southern California cannot be considered a necessary consequence of any particular environmental circumstance or technological innovation. Arnold’s (1992) stress-inducement model was partly hypothetical and partly empirical. As details of the empirical record changed, the viability of the hypothetical model waned. This is hardly a criticism, for the model Arnold proposed and the ensuing research it stimulated embody the best qualities of scientific inquiry. Successes in southern California, as well as the Northwest Coast, have come from multiple researchers working different sites and collections, making observations through slightly different theoretical lenses, and ultimately arriving at alternative interpretations, sometimes with the very same data. Ironically, the long-term consequence of efforts to seek knowledge about emergent complexity in general have been richer, more detailed accounts of what actually happened in history.

Central California Coast

Recent archaeological research in the San Francisco Bay area is providing insight into a dimension of hunter–gatherer complexity unparalleled in research elsewhere along the Pacific Coast, namely, the practice of mound construction. Shell mounds of San Francisco Bay documented by Max Uhle and Nels Nelson were largely erased by the past century of urban development. Fortunately, a new generation of archaeologists is returning to the collections and records of these early pioneers to interpret the prehistory of San Francisco Bay from a variety of modern perspectives (Broughton, 1994, 1999; Lightfoot, 1993, 1997; Lightfoot and Luby, 2003; Luby and Gruber, 1999). Nelson (1909) recorded more than 400 shell mounds in the early 1990s, several as much as 10 m high and 200 m long. These large mounds were generally oval in shape and consistently contained human burials, thousands in some cases. Dating from at least 3000 BP, these mounds formed primarily over the Middle period; apparently all were unoccupied at the time of European contact. Lightfoot (1997) documents variation in the size and shapes of mounds and shows that they occurred in clusters of large and small mounds, with clusters several kilometers apart.

Following on the work of Nelson and Uhle, archaeologists have tended to regard the San Francisco Bay mounds as “kitchen middens”—the de facto result of intensive habitation and resource exploitation in a strip of marshland surrounding the bay. These mounds indeed contained abundant and diverse food remains. Judging from the work of Broughton (1994), foraging activity in the region intensified over the late Holocene, leading to resource depression among high-yield mammalian fauna and an expansion of the diet to include lower rank resources. Despite clear evidence for subsistence intensification at mounds, California researchers have few data on the size of coresident groups, the contemporaneity of mound clusters, and whether mounds were locations of perennial or seasonal habitation (Lightfoot, 1997). Definitive house floors and community plans at shell mounds are lacking.

Research has expanded recently to consider symbolic aspects of San Francisco Bay shell mounds. Luby and Gruber (1999) emphasize that despite ambiguity over their domestic function, many of the larger shell mounds were repositories for the dead. They provide a reasoned argument, inspired by structural analysis, of the cosmological integration of food and the deceased, primarily through the practices of mortuary feasting. Together, the deceased and their food “stretch across generations in their accumulation, signifying the successes of people’s ancestors in the amassing of food and other resources” (Luby and Gruber, 1999, p. 105). Intensification during the late Holocene may thus have been fueled by ritual activity at shell mounds, an outcome expected perhaps with economic stresses wrought by population growth, territoriality, and emergent institutions of inequality. Paradoxically, burials from the upper strata of shell mounds seem to evince

fewer signs of inequality compared to those from basal strata (Luby and Gruber, 1999, p. 101). Whereas this apparent change in mortuary practice may reflect the mediation through communal ritual of the contradictions of an increasingly differentiated society (Luby and Gruber, 1999, p. 102), equally plausible is a structural transformation in society that effectively redefined the meaning and function of shell mounds. It is noteworthy that many of the large shell mounds of San Francisco Bay have submound cemeteries overlain by mound layers with stratigraphic unconformities. Given these seemingly abrupt changes in site formation, it hardly seems reasonable to expect that the symbolic structures shaping day-to-day living and ritual activities were unchanged over several millennia.

Finally, uncanny similarities are evident between the shell mounds of San Francisco Bay and those of northeast Florida (see below). Many of the Florida mounds have submidden components and stratigraphic unconformities similar to those of California. Burial density in Florida mounds is far below some of the California examples, but most involve mortuary components, including basal cemeteries dating as far back as 5500 BP (Aten, 1999). Fruitful comparisons between the two areas await the results of ongoing research projects.

MULTIPLE PATHWAYS TO COMPLEXITY?

Informed by ethnohistoric and ethnographic materials, the southern California and Northwest Coast archaeological records encode data on the evolution of full-blown chiefdoms. Virtually all other cases of emergent complexity among prehistoric hunter–gatherers were either succeeded by the development of agricultural or pastoral economies and polities, or simply truncated by regional abandonment and/or structural transformation into “lesser” forms of sociopolitical complexity. This can be a liberating intellectual circumstance insofar as the lack of a direct historic touchstone precludes one from presupposing any particular antecedent forms. Nonetheless, virtually none of the practitioners dealing with these truncated records expect to find evidence for chiefdoms. Instead, a variety of terms and concepts—some old, some relatively new—are invoked to describe the societal forms that are somehow less complex than chiefdoms, but more complex than “primitives.” No one recently has been more prolific at classifying middle-range societies than Hayden (1995). His efforts in this regard have centered on the alternative strategies emergent leaders take to control surplus production, including especially their roles in competitive feasting and other ceremonial contexts for exercising power (Hayden, 2001). Hayden’s treatment is decidedly economic and evolutionary.

In a wide-ranging, lengthy treatise on emergent complexity, Hayden (1995) considers the “pathways to power” arising from an evolutionary foundation of equality. Hayden’s involvement with issues of hunter–gatherer complexity stems

most directly from excavations of a pithouse village in the interior of British Columbia (Hayden, 1997; Hayden *et al.*, 1985). Cultural developments in this area never attained the level of institutionalized inequality witnessed among coastal populations. Still, evidence exists to suggest this village community was semisedentary, had high population density, used status items, and expressed social differences in mortuary treatment. These populations existed at a state of organization and cultural elaboration somewhere between archetype egalitarian foragers and nonagricultural chiefdoms, if, following Hayden (1995), one were to regard these as end members of a continuum.

Hayden's exposition of variation along this continuum is shaped by the concept of transegalitarianism. Following Clark and Blake (1989), transegalitarian refers to societies that are neither egalitarian nor politically stratified. Hayden prefers this term to the usual monikers for middle-range societies, such as tribal or ranked. He acknowledges the trouble with typologies whose defining attributes vary continuously and somewhat independently across types, rather than cluster as "real nonrandom constellations of characteristics related to each other in a meaningful causal fashion" (Hayden, 1995, p. 17). Despite this trouble, Hayden offers a typology of transegalitarian societies with an explicitly evolutionary bent. Increasingly more complex stages of evolutionary development are represented by despots, reciprocators, and entrepreneurs. The generation and mobilization of economic surpluses increase through this sequence. From an egalitarian hunter-gatherer base, pathways to complexity diverge according to two distinct forms of community organization: independent household communities and corporate (resource-owning) organization centered on exploitation of nucleated and highly productive resources.

Hayden subscribes to the notion that egalitarian societies exist as a formation organized around the prevention of inherent tendencies toward inequality. Following Cashdan (1980), egalitarian formations arise under circumstances in which the risk of failing to succeed by competing or hoarding outweighs the costs of sharing openly with others, and thus egalitarianism can be expected to exist under environmental conditions that limit production. Hayden (1995, p. 22) is emphatic in the claim that "the only condition under which the majority of the people in the community will tolerate privileged access to resources (whether at the source or in processed form) is when the majority is assured of enough resources to survive in normal times." On this point Hayden has been abundantly clear and consistent: only in the context of high-yield resources invulnerable to overexploitation can we expect transegalitarian formations to arise. It follows that antecedent (egalitarian) formations lacked either high-yield resources invulnerable to overexploitation, forms of labor organization capable of taking advantage of such resources, or the appropriate technologies (including technical know-how). Egalitarian formations apparently also lack the ethos to generate surplus if by producing more one is expected to share more.

Driving the process of surplus production are the actions of aggrandizers. Hayden defines *aggrandizer* (following Clark and Blake, 1989) as any individual “who strives to become dominant in the community, especially by economic means” (Hayden, 1995, p. 18). This latent tendency to achieve is considered inherent to the human psyche and is either subdued by an asserted egalitarian ethos when the potential for surplus production is limited, or, in the case of transegalitarian formations, encouraged through competition when the potential for surplus production is high. His treatise is largely an exposition of the strategies aggrandizers take to control surplus production, including marriages, ritual, warfare, exchange alliances, and especially competitive feasts (see also Hayden, 2001). Importantly, Hayden provides archaeological implications for each of his transegalitarian types.

Hayden’s perspective on the evolution of complexity assumes a panhuman psychological foundation of “materialist practicality and self-interest.” These inherent qualities, “combined with basic resource constraints and characteristics, as well as genetically variable human predispositions such as aggressive dominance tendencies among some individuals, provide more insights into the development and variability of transegalitarian communities than do appeals to cultural norms, social logic, or cognition” (Hayden, 1995, p. 75). Having thus dismissed what are essentially all sociohistorical and ideological factors, Hayden privileges environmental potential and the human capacity to exploit it as determinant variables. To his way of thinking, tendencies for inequality and all the latent properties of inequality that exist in egalitarian formations (e.g., Flanagan, 1989) are inconsequential if they do not have *economic* consequences.

Existing sociohistorical structures (including cultural logic, ideology, and mythology, as well as social organization, ethnic boundaries, and the like) apparently are not so inconsequential, even to Hayden. In considering cases where inequality arises out of resource stress (e.g., Arnold, 1992), Hayden (1996) suggests that the emergence of inequality is predicated on the existing rationale for tolerating nonegalitarian behaviors. I take this to mean that cultural tradition (practice) carries forward and enables a transformation in structure (greater complexity) in spite of environmental conditions that Hayden argues are requisite to the rise of complexity. Following this logic, the pathways to complexity are irreversible: an egalitarian ethos is abandoned when environment allows, but a nonegalitarian ethos is not abandoned when the environment that enabled it goes bad.

The answer to this dilemma may be found in Hayden’s discussion of latent inequality in egalitarian societies. He suggests that competitive behavior among individuals in egalitarian social formations is channeled into other arenas besides surplus (economic) production, such as ritual and mate acquisition, because it would otherwise decrease chances for survival in times of stress. This is a kin to the “waste behavior” arguments of Dunnell (1989) and his adherents (e.g., Hamilton, 1999), who, for instance, regard the mound-building traditions of the southeastern U.S. Archaic and Woodland cultures as an adaptation to environmental instability.

Whereas these sorts of elaborate or wasteful behaviors may have indeed resulted in sustainable economies under stressful conditions, they were likewise the basis for significant economic change inasmuch as they involved real (material) costs (e.g., mound building) and provided the cultural logic for adopting innovations to overcome limits to growth.

But whereas high-yield resources invulnerable to overexploitation enable the emergence of transegalitarian societies, Hayden (1995, pp. 60–61) implies that hunter–gatherer economies have limits to growth irrespective of natural resource productivity. Only among agricultural economies, he argues, do societies have unlimited potential for surplus production. “It was among these more productive food-producing communities that further evolution of complexity took place. True chiefdoms must have been exceedingly rare among hunter–gatherers, and may not have existed at all prehistorically” (Hayden, 1995, p. 61). It is not altogether clear why Hayden asserts this qualification except as an empirical generalization of ethnographic cases, which suggest that the largest populations with the highest levels of sociocultural complexity have been exclusively food producing. Parenthetically, ongoing work in the Interior of British Columbia by Prentiss and Kujit (2004) suggests that social differentiation intensified during a period of reduced resource abundance, contrary to Hayden’s interpretation. As we saw in the case of southern California, generalizations stemming from particular empirical cases (as opposed to cross-cultural analyses) have short life spans.

Hayden is careful at the close of his paper to note that although there exist strong patterns among the types he proposes, there are also alternative developmental trajectories in terms of the specific strategies used at each level. He also warns of the problem of allowing specific historical and context-specific details to overshadow the broad similarities across contexts, or to allow culturally determined variability in the particulars of the strategies used (e.g., different types of serving vessels) to overshadow variation in strategies themselves (e.g., feasting). His goal is clearly to generalize about hunter–gatherer complexity, and although his treatise is ostensibly about *multiple* pathways to complexity, there is really only one pathway marked, namely, an economic one. The reductionist bent of this perspective is a bit off-putting.

An interesting juxtaposition of Hayden’s evolutionary perspective with historical views on the reproduction of social inequality is featured in a new volume on feasting edited by Dietler and Hayden (2001). The editors frame the dichotomy as culture ecology versus “culturalist” (Dietler and Hayden, 2001, p. 2) and explore how these divergent perspectives affect the methods and goals of research on feasts. Having long focused on feasts as economic activity, Hayden (2001) seeks archaeological correlates for variation in feasts based on the scale and nature of surplus production. Dietler, arguing that the culturally and historically constituted nature of feasting means that archaeological interpretation requires deep context, seeks more historically detailed cross-cultural perspectives for comparing “whole histories.” Most of the contributors to the volume fall on the “culturalist” side,

although, as the editors note, these divergent perspectives need not be contradictory, a point to which I return at the close of this paper.

Despite forays into historical, interpretivist, structuralist, or other such paradigms that privilege “culture” as an agent of change, the study of emergent complexity in North America has been dominated by materialist themes, particularly those trained on economic processes such as the surplus production of Hayden or the labor control of Arnold. These perspectives have risen to dominance not merely because they mirror broader trends in the field, but because the particular archaeological cases they seek to explain indeed embody histories of significant economic change (i.e., intensification of salmon harvest, expanded use of pelagic resources). As we have seen for the Northwest Coast and southern California, models claiming that economic changes were preceded by, indeed were caused by, transformations of existing structures of social inequality, have not been widely embraced. If the empirical reality of marked subsistence change in these case studies precludes practitioners from broader consideration of alternative explanations, then case material lacking such change may be liberating. In the balance of this paper, I summarize recent findings from the southeastern United States that suggest that significant sociocultural complexity arose, was reproduced, and was transformed repeatedly without apparent change in subsistence economies.

SOCIOHISTORICAL STRUCTURES OF COMPLEXITY IN THE AMERICAN SOUTHEAST

Aside from the Late period burial mounds of the southern Northwest Coast (Ames and Maschner, 1999, pp. 190–193) and shell mounds of San Francisco Bay (Luby and Gruber, 1999), none of the complex hunter-gatherers societies discussed to this point erected permanent monuments, and monumentality, in general, has not factored into discussions of emergent complexity among hunter-gatherers (but see Moseley, 1975, for the early recognition of monumental architecture in the maritime economies of ancient Peru). In contrast, the eastern United States is rife with earthen and shell mounds, many built long before the advent of food production (Fig. 2). The Poverty Point mounds of northeast Louisiana are the best known of these pre-farming, Archaic complexes. At over 3 km² in extent and boasting over 600,000 m³ of mounded earth, Poverty Point is an impressive mound complex by any standard (Gibson, 1996, 2000). When archaeologists began ruminating over its cultural affiliation in the mid-twentieth-century, thoughts naturally turned to extralocal influences from agricultural civilizations. Current dating places Poverty Point at 3400–2800 cal BP (Gibson, 2000), nearly two millennia before the onset of maize-based agricultural and the complex chiefdoms it supported.

In the past decade, several additional mound complexes in the Lower Mississippi River valley have been dated to as much as 7400 cal BP (Russo, 1996b). Many of these sites remain poorly documented, but three in northeast

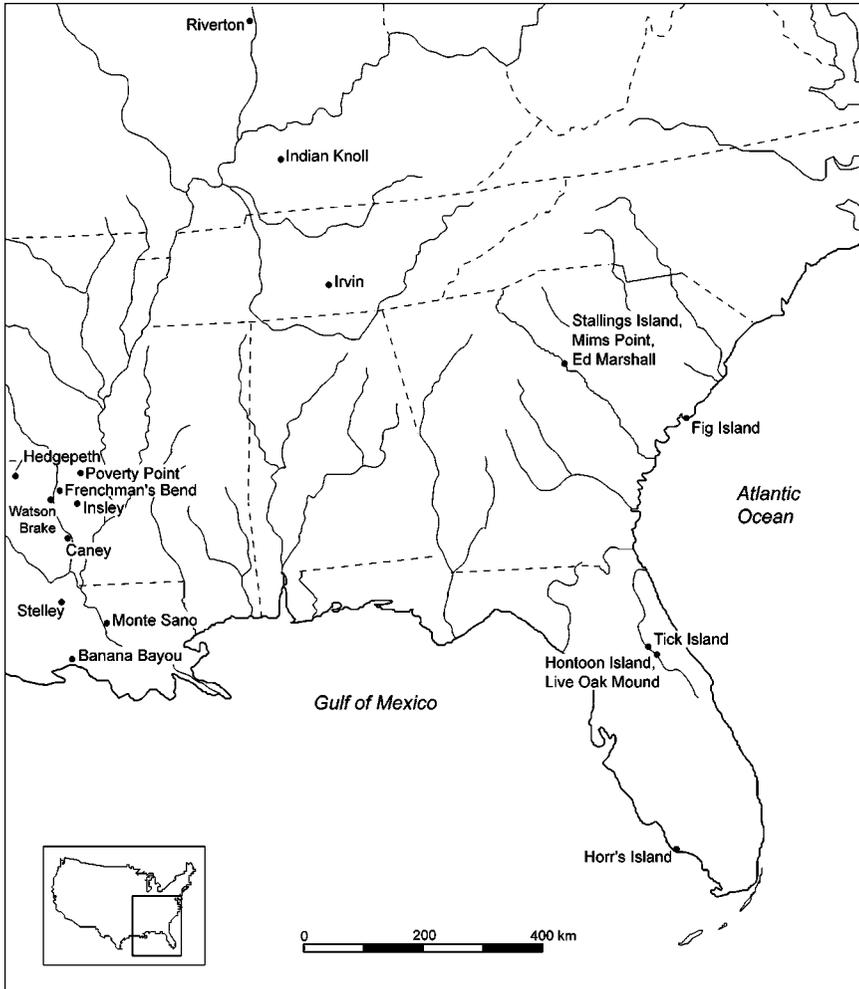


Fig. 2. Locations of sites in the southeastern United States mentioned in text.

Louisiana form a constellation of multimound complexes securely dated to 5600–5000 cal BP. The populations erecting these mounds were mobile, generalized foragers with no overt *economic* expressions of social differentiation or inequality. Coupled with the lingering biases of nineteenth-century evolutionism, the lack of supporting evidence for complexity contributed to a general reluctance on the part of local practitioners to accept an Archaic age for these monuments (see Russo, 1994).

Shell Mound Archaic

Only recently has the subject of monumentality figured into discussions of hunter-gatherer complexity in the American Southeast, for indeed, intentionally constructed mounds, as opposed to “midden-mounds,” are themselves recent discoveries. But before Archaic earthen mounds captured researchers’ attention, the Southeast was studied for expressions of incipient complexity dating to the mid-Holocene, when certain populations of the lower Midwest and Midsouth began to occupy riverine sites for extended periods of time and discarded the inedible remains of freshwater shellfish in middens that occasionally grew to be massive, moundlike deposits. In the landmark volume on hunter-gatherer complexity edited by Price and Brown (1985), Marquardt (1985) summarized evidence for complexity about the so-called Shell Mound Archaic.

The term *Shell Mound Archaic* encompasses tremendous variation in a variety of sociocultural dimensions but generally refers to cultures engaged in sufficiently redundant (or permanent) use of riverine locations so that the cumulative result of generations of shellfish gathering was large mounds and middens of shell and associated refuse. Given the disproportionately high ratio of inedible waste (shell) to food, even moderate levels of shellfish procurement in the same locations led to massive middens or midden mounds. Calcium carbonate from shell neutralized otherwise acidic conditions and helped preserve other organic remains, including human skeletons from graves than number in the hundreds at some locations (Haskins and Herrmann, 1996). Although the procurement of freshwater shellfish has great antiquity in the East, routine shellfishing and the formation of large middens/mounds along rivers of the Midsouth and lower Midwest began at about 7500 BP (Dye, 1996) and ceased at about 3000 BP. Over the years, researchers have included in the Shell Mound Archaic any of the populations of the Eastern Woodlands whose subsistence economies involved shellfish, such those of the South Atlantic Coast (e.g., Crusoe and DePratter, 1976). Modern researchers recognize that the culture-histories of coastal populations, as well as those of the St. Johns and Savannah River valleys of the South Atlantic Slope, are so fundamentally different as to be treated separately from the “core” populations of the Shell Mound Archaic (see below), essentially those of Green River of Kentucky and the Tennessee River of Tennessee and northern Alabama (Claassen, 1996a, p. 236). Even those working the core area lately disagree on the definition of the *Shell Mound Archaic*, noting, as Morse (1967) did long ago, that shell alone is a poor criterion (Crothers, 1999; Hensley, 1994). In truth, the chronology, cultural diversity, and settlement patterns of groups lumped in this category are not very well understood.

Research on the Shell Mound Archaic through the 1980s centered on three related topics: (1) explaining the economic change of a seemingly expanded diet and intensified land use; (2) reconstructing the patterns and mechanisms of long-distance exchange; and (3) detecting social differentiation in burial practices. This

first topic was part of a broader program in the 1980s of research on emergent sedentism and ensuing socioeconomic change (Bender, 1985b; Brown, 1985; Brown and Vierra, 1983). Attention centered on global climatic changes of the postglacial period, particularly the effects of the mid-Holocene warming trend known variously as the hysithermal, altithermal, or Climatic Optimum. Researchers generally agreed that warmer and drier climate in the lower Midwest encouraged more intensive use of riverine locales and the aquatic resources they provided (Dye, 1996). They disagreed, however, on whether populations were “pushed” into more fixed use of river locales by diminished capacities of upland biomes or “pulled” into greater use of bottomland locales because of the increased economic potential of aquatic resources in an aggrading hydrologic regime (see Brown, 1985; Brown and Vierra, 1983). Researchers on either side of the debate pointed to sedentism as a key trigger in ensuing economic change, although unequivocal evidence for perennial occupations has not been forthcoming.

Whereas increasingly redundant use of select riverine sites among Shell Mound Archaic populations is hard to deny, there is little to recommend that this trend was accompanied by dramatic change in subsistence or that it necessitated permanent habitation. The hypothesis that intensified riverine settlement coincided with emergent horticultural economies has not held up to empirical testing (Marquardt and Watson, 1983). The idea that intensive shellfishing took place at prime locations that came to be defended by corporate groups (Walthall, 1980) cannot be supported with data on the regional distribution of shellfish habitat (Claassen, 1996a,b). A variety of data point to the continuation of seasonal mobility between upland and riverine sites; in fact, spring floods would have prevented year-round occupation at many locations (Prentice, 1996; Smith, 1986). Few shell-bearing sites other than Riverton in southern Illinois (Winters, 1969) have provided good evidence for substantial domestic architecture (Sassaman and Ledbetter, 1996).

As attention turned away from the presumed subsistence changes of the Shell Mound Archaic, researchers began entertaining political–economic and ideological explanations. The inclusion of elaborate artifacts made from exotic materials in graves of the Shell Mound Archaic has long drawn interest (Goad, 1980; Winters, 1968). Once regarded as a simple down-the-line mechanism (Wright and Zeder, 1977), the importation of marine shell beads, the most common item in graves, resulted in a highly clustered distribution across sites and graves, with a vast gap between sources on the Gulf Coast and contexts of interment in the Midsouth. Marquardt (1985) hypothesized that shell beads and other items were acquired by diplomat traders whose privileged access to esoteric knowledge and materials may have formed the basis for politicoreligious authority. Bender (1985b) contributed to this line of reasoning by suggesting that a political economy of regional alliances led to intensified production and constraints on fissioning. Both contributions show how relative complexity varies with scale of observation. Viewed at the local scale, Shell Mound Archaic populations appear autonomous and egalitarian; situated in

the supraregional context of the Eastern Woodlands, these same populations appear as brokers in regional exchange networks spanning thousands of kilometers (see also Winter, 1968).

On the basis of solely mortuary data, one would find it difficult to argue that institutions of social ranking arose out of differential participation in regional exchange (Rothschild, 1979). Most burials lack grave goods altogether. Those containing grave goods reveal little nonrandom patterning in types and frequencies of items by age and sex. Subadults are more richly endowed than adults—most notably in the disproportionate number of shell beads with children (Claassen, 1996a)—but exotic goods are not otherwise distributed differentially. As Hofman (1986) cautions, however, factors other than age and sex conditioned Shell Mound Archaic burials. Quantifiable differences in grave goods emerged from his analysis of primary and secondary burials at Irvin on the Duck River, reflecting the difference between those interred immediately and those who died and were cremated elsewhere and then delivered to Irvin for interment. Such formational issues have not been routinely examined in analysis of grave goods, and, as Claassen (1996a, p. 252) notes, efforts to demonstrate ranking in the Shell Mound Archaic suffer from poor chronological control. Indeed, the 1200+ Archaic burials at the Indian Knoll (Webb, 1974), for instance, were interred over hundreds, even thousands of years.

Taking a completely different tack, Claassen (1991, 1992, 1996a,b) has championed the notion that the Shell Mound Archaic is primarily a mortuary tradition involving the use of shell as a medium for mound building. Her reasoning is multifaceted and includes aspects of the symbolism of shell as well as observations on paired (unopened) shells and shell transport. Burial mounds featuring ranked interments are a key feature of the Adena and Hopewell traditions of the Woodland period, and earthen Late Archaic mounds in the lower Midwest have been interpreted as markers of corporate territories (Charles and Buikstra, 1983). Nonetheless, Claassen's hypothesis has met with considerable resistance by those pointing out that most of the so-called "mounds" of the Shell Mound Archaic are merely midden deposits (Milner and Jefferies, 1998) and that so many shell-bearing sites lack human interments (Hensley, 1994). Claassen never argued that all shell-bearing sites in the greater Shell Mound Archaic were cemeteries or that the use of some sites for human interment precluded other functions. The debate has, at times, devolved into a polemic over what constitutes a cemetery, with critics of Claassen inexplicably characterizing nonrandom patterning in the interment of bodies as incidental behavior (Milner and Jefferies, 1998).

Shell mounds along the St. Johns River of northeast Florida have not factored significantly in the debate over Shell Mound Archaic cemeteries, but they provide unassailable proof that shell was mounded over human interments as early as 5500 BP. Before the damage wrought by shell-mining operations in the early to mid-twentieth century, northeast Florida boasted hundreds of shell mounds and ridges, some hundreds of meters long and over 20-m tall. Many of the mounds

observed by antiquarians and archaeologists contained pottery of late prehistoric age (i.e., post 1250 BP) and were thus widely assumed to be Late period constructions. However, a growing body of evidence suggests that many, perhaps most, of the mounds were initiated during the late Middle Archaic (6000–5000 BP) or preceramic Late Archaic (5000–4200 BP) periods (Aten, 1999; Russo, 1994; Sassaman, 2003). The best example thus far comes from Tick Island on the middle St. Johns River (Aten, 1999). Burials salvaged from a basal component of a shell-mound complex known as Harris Creek, dated to ca. 5500 BP, were clearly set in a stratum of white sand beneath shell midden and a second mortuary layer dating to ca. 5300–5000 BP. Successive layers of shell midden, clean shell, and earth spanning the ceramic Orange period (ca. 4200–3000 BP) cap the remnant of the mound. By all accounts, the overlying strata that were mined in the 1960s contained burials of St. Johns II age (post-1250 BP). This same pattern of successive mound episodes, interspersed with midden, over a period of at least 4000 years, was documented recently at the Hontoon Island and Live Oak Mounds to the south of Tick Island, although testing at these sites is thus far too limited to detect mortuary remains in basal components (Sassaman, 2003). Much more work on extant mounds and collections needs to be done before the significance of these findings are clear, but for now the evidence suggests the establishment of a mortuary mound tradition in the late mid-Holocene that persisted well into late prehistoric times, perhaps into the period when chiefdoms arose in northeast Florida just beyond the southeast frontier of agricultural Mississippian polities. Preliminary assessment of the mortuary treatment of mid-Holocene burials from Harris Creek suggests these early societies may have indeed been internally ranked (Aten, 1999). If this supposition holds up to further scrutiny, a strong case can be made that the hierarchical structures of Late period chiefdoms were predicated on social principles with roots dating back some four millennia. The San Francisco Bay shell mounds noted earlier are likely counterparts to the Floridian cases (Luby and Gruber, 1999).

In addition to the social information encoded in the treatment of the dead are clues about social order that can be gleaned from the configuration and placement of mortuary mounds on the landscape (e.g., Pardoe, 1988). The Florida data in this regard are tantalizing but hardly clear. There appears to be a grammar to the architecture of mounds that is inherently hierarchical, and this may have parallels at the intersite level. Two other venues of Archaic mound construction, each involving nonmortuary mound-plaza complexes, are beginning to provide solid evidence for hierarchical relationships at both local and regional scales.

Mound Complexes in the Lower Mississippi Valley

Eleven mound complexes in the Lower Mississippi Valley have been dated to the Middle Archaic period, and several others are likely that age or older (Russo, 1996b; Table 1). At possibly over 7000 cal BP, Monte Sano in southern

Louisiana is the oldest (R. Saunders, 1994). Three of the better documented complexes—Watson Brake (Saunders *et al.*, 1997), Caney (Saunders *et al.*, 2000), and Frenchman's Bend (Saunders *et al.*, 1994)—are securely dated to 5600–5000 cal BP. Four others apparently predate or are coeval with Watson Brake, Caney, and Frenchman's Bend, including the Lower Jackson mound near Poverty Point (Saunders *et al.*, 2001). The latest Middle Archaic mound complex is Hedgepeth, dating to ca. 5200–4500 cal BP. Subsequent mound construction in the region leading up to Poverty Point at ca. 3400–2800 cal BP is not well documented, although enough evidence exists to suggest that earth-moving traditions continued unabated through the Late Archaic period. In the words of one specialist, “the Mississippi Valley Archaic mound tradition, extending from the Middle Archaic to Poverty Point traditions, lasted longer than any later southeastern mound-building traditions dependent on horticulture or intensive agricultural production” (Russo, 1996b, p. 285).

Of the confirmed Middle Archaic mound complexes, two are single mounds, 4 are paired mounds, and one each has 3, 5, 6, and 11 mounds. All paired mounds include one in the range of 4–6 m in height, the other about 1.5 m. Distance between paired mounds varies from 50 to 200 m. The tallest mounds in complexes of 3 or more are also in the range of 4–6 m, with the exception of the 7.5-m-high Mound A at Watson Brake. All sites that have been adequately tested show evidence for staged construction in at least one mound. Finally, mounds excavated to date have included some sort of architectural components at their bases. Below mounds at Monte Sano and Banana Bayou were burned surfaces (pyres?), the former accompanying the remains of a rectangular structure (Russo, 1996b, p. 270; Saunders, 1994). Postholes and thermal features were uncovered at the base of Mound A at Frenchmen's Bend (Saunders *et al.*, 1994, p. 141), and a burned post marked the initiation of Mound C construction at Stelly (Russo, 1996b, p. 278). The significance of these finds lies in the fact that locations of mound erection were preceded by constructions that marked place. Each of the three well-documented complexes mentioned earlier (Watson Brake, Caney, Frenchman's Bend), and a fourth with possible Archaic origins (Insley), exhibits a series of spatial regularities that suggest they were constructed according to a common plan (Sassaman and Heckenberger, in press-a,b).

The most spectacular of the Archaic mound complexes is Watson Brake, an 11-mound elliptical complex some 370 m in length and 280 m wide, which has been well documented by Saunders *et al.* (1997). The largest mound (Mound A) is 7.5 m high. Opposite the largest mound, is a 4.5-m-high “backset” mound (Mound E). All the mounds, including nine subordinate mounds, are linked in a meter-high ridge defining an elliptical central plaza area. As is common to all of the complexes with a shared plan, Watson Brake is situated on the edge of an alluvial escarpment, in this case, a Pleistocene-age terrace overlooking the Ouachita River.

Caney Mounds is a six-mound complex in an arc nearly 400 m in maximum dimension. First recorded in 1933, Caney has been investigated intermittently

(Gibson, 1991), most recently by Saunders *et al.* (2000). Its plan duplicates the relative positions of the major mounds at Watson Brake. The third confirmed site, Frenchman's Bend (Saunders *et al.*, 1994), bears some geometric similarity to Watson Brake and Caney, albeit with fewer mounds. Insley Mounds, located just south of Poverty Point (Kidder, 1991), is an elliptical complex of 12 mounds with a plan highly reminiscent of Watson Brake. Although dating is uncertain and later Poverty Point and younger components are apparently present at the site, the overall similarity in plan between Watson Brake and the significantly larger Insley complex suggests initial mound construction at Insley dates to the Middle Archaic period.

A replicated plan of mound construction has been inferred from a series of proportional and geometric regularities at each site (Sassaman and Heckenberger, in press-a,b). In addition to these site-specific relationships, variations in the orientation of terrace lines and baselines with respect to cardinal directions suggest that individual complexes were part of a regional landscape of monument construction. In terms of scale, individual components were constructed on a ranked proportionality. Watson Brake and Frenchman's Bend are similar in size, but Caney is 20% larger and Insley twice the size of the first two. Clark (in press) has successfully inferred the units of measurement employed to sight mounds in each of the complexes, which, apparently, was also used to site complexes over the landscape. Given the apparent engineering behind all this, it stands to reason that mounds were arranged for astronomical or calendrical purposes. However, the varied orientation of mound complexes relative to cardinal directions precludes such a possibility. Instead, a more complex arrangement across sites is suggested by the regional pattern of cardinality. Georeferencing all sites to the respective largest mounds and orienting each to magnetic north, a pattern of geometric integration is revealed (Sassaman and Heckenberger, in press-b). This arrangement apparently is not fortuitous. Rather, the integration of all four sites into a regional pattern of alignment suggests that entire landscapes of monumental architecture, and not just individual sites, were planned constructions.

The relationship of Poverty Point to all of this is uncertain but provocative. As long suspected, some elements of the Poverty Point complex were apparently constructed during the late Middle Archaic period. Located 2.2 km south of Poverty Point, the 3-m-high conical Lower Jackson Mound has produced evidence for construction during the sixth millennium BP (Saunders *et al.*, 2001). Lower Jackson is aligned with Mounds A, B, and E (Ballcourt Mound) on a 352° azimuth, suggesting that basal components of one or more of these mounds may likewise date to the Middle Archaic period. The significance here is that elements of the Poverty Point complex were constructed in Middle Archaic times and the knowledge and surveying techniques for laying out mounds were carried forward some 1500 years to complete the complex (Clark, in press).

Geometric patterning among these Archaic mounds is an archaeological fact whose significance lies not so much in the labor needed to erect them but in the

ideas needed to conceive of them. Arguably similar in function to diagrammatic mound centers of Mississippian society (Knight, 1998), Archaic mound complexes may have served as sociograms, that is, such complexes likely were locations at which “public architecture (was) deliberately arranged in such a manner as to evoke and reinforce key social distinctions” (Knight, 1998, p. 60; see also DeBoer, 1997). The central spaces or plazas created by the circular or elliptical arrangement of mounds may have been especially significant in reproducing hierarchy, as they continue to do today among Xinguanos of central Brazil (Heckenberger, 2004; Heckenberger *et al.*, 1999, 2003). Shell rings on the Atlantic Coast may likewise embody these hierarchical relationships.

Shell Rings of the South Atlantic and Gulf Coasts

Shell rings, arcuate middens, and related shell-bearing features of the Atlantic and Gulf Coasts offer evidence for hierarchy that parallels that of the Lower Mississippi mounds. Scores of shell deposits on these coasts generally conforming to circular or semicircular shapes range from hundreds of meters in diameter to small 30-m-wide affairs (Russo and Heide, 2001). Although sites with arcuate middens date well into the Woodland period on the Gulf Coast, shell rings on the south Atlantic coast generally date from about 4500 to 3000, the Late Archaic period. Investigations through the 1980s led researchers to suggest that rings formed from the accumulation of refuse from communities arranged in a circle around an open public space (plaza). Trinkley’s (1985) work at two small shell rings north of Charlestown, South Carolina, was particularly influential in shaping opinion that shell rings were simply accumulations of domestic refuse. Trinkley (1985) also championed the idea that the circular plan of shell rings reflected a community plan whose symmetry reinforced egalitarian relations among coresidents.

Recent field work at shell rings by Michael Russo and Rebecca Saunders undermines any simplistic claims about ring function and a presumed egalitarian social order. Detailed mapping, soils analysis, and excavation at several sites across the region have revealed much greater complexity in shell ring form and function than ever imagined. There is now abundant evidence that shell was deposited rapidly in large quantities, often over prepared surfaces or low sand mounds (Cable, 1993; Russo, 1991; Russo and Heide, 2002; Saunders, 2002). Deposits grew disproportionately across areas receiving shell, resulting in asymmetries in height and width. Russo (2002) and Saunders (2002) agree that large deposits of shell resulted from feasting activities, presumably competitive feasting.

Russo (2002, in press) has focused on this complex geometry as a window into social ranking among shell-ring feasters. Few that have been mapped are actually circular in plan; instead, they often assume asymmetrical forms that more than likely mirrored and reproduced social differentiation. Accepting that

shell rings accumulated not haphazardly but rather systematically if not deliberately, Russo (in press) explores possible sociological implications of asymmetries in ring configuration. Often rings have one or more segments that are taller and broader at the base than other segments and are rarely perfectly circular in plan.

The Fig Island site on the south Atlantic Coast of South Carolina exemplifies the complexity of shell-ring formations (Saunders, 2002). The site consists of three "rings" over some 5 ha in an estuarine biome. Fig Island 2 is the closest to an actual ring, at some 77 m in diameter and about 2.5 m above the underlying marsh surface. Fig Island 3 is an arcuate midden about 50 m in maximum dimension that was connected to Fig Island 2 by a shell causeway. The largest feature, Fig Island 1, is a 157-m-long, 111-meter-wide deposit some 5.5-m tall consisting of one large, steep-sided half-circle enclosing a small plaza and at least two small "ringlets" attached to the arc and enclosing additional small plazas. The sheer complexity of Fig Island 1 leaves much to the imagination, but even the circular Fig Island 2 is rife with structural asymmetry. As Russo (2002) notes, the ring is actually hexagonal in plan, with an opening to the southwest at the midpoint of one of its six sides. Opposite the opening are the widest and tallest segments of the enclosure; behind them is the causeway linking it with Fig Island 3, whose highest and widest aspect lies at one end of the arc. Russo (2002) reviews ethnographic literature of community plans to argue that either of the vertically accentuated features likely supported individuals of privilege or authority.

Fig Island is indeed among the more complex shell rings known, but it, along with others from South Carolina and Georgia, pale in size compared to several of those from Florida. Rings and arcuate structures at least 150 and as much as 250 m in diameter have been documented at six sites in the state (Russo *et al.*, 2002; Russo and Heide, 2001). They typically have peaks at the top of the arcs, and those from south Florida (Horr's Island and Bonita Bay) have elongated U-shaped plans with associated sand/shell mounds. Those from northeast Florida are the oldest thus far, dating well into the fifth millennium BP.

Fig Island and those from Florida are hardly isolated examples of complex shell rings; they are simply among the best studied to date (see also Cable, 1997; Russo, 1991; Russo and Heide, 2001, 2002). Dozens of similar sites are extant; countless others have been destroyed or rendered unobservable by transgressions of sea level, development, and other destructive agents. The record of coastal shell rings across the Southeast is as diverse as it is vast (Russo and Heide, 2001). Debate will continue over whether rings were deliberate constructions (i.e., monuments) or the de facto result of a structured settlement plan, and whether the apparent ranking of social units utilizing rings extended into other realms of Late Archaic life. However, the inference that shell rings connote egalitarian relations is undermined by a complete lack of empirical evidence for the architectural symmetry, and hence social symmetry, implied by the term "ring."

Village Life

Missing from the growing record of Archaic complexity are details of daily domestic life, notably information on habitation structures and community arrangements. The circular or elliptical configurations of the Lower Mississippi Valley and Atlantic Coast complexes are generally assumed to be community plans. Unfortunately, direct evidence for structures and associated domestic features has not been forthcoming. Even Poverty Point, with its nested semicircular ridges, has not offered much direct evidence to suggest that a large population resided there year-round (Gibson, 2000). Arguably, all of the mound and ring complexes discussed thus far could have been “vacant” ceremonial centers, with midden assemblages forming primarily through feasting and related ceremonial activity. If such a hypothesis holds up to testing, then evidence for habitation must be sought elsewhere.

A small bit of evidence for Late Archaic communities in Georgia and Florida has been amassed in recent years. One body of evidence comes from sites of the Stallings culture of the middle Savannah River valley (Sassaman, 2000). A circular village roughly 30 m in diameter and consisting of no more than eight small structures has been uncovered at Mims Point (Sassaman, 1993a). Dating to ca. 3650 BP, the compound has a small central plaza devoid of cultural features and a few human interments of uncertain affiliation. A contemporaneous village of similar size and configuration has been inferred from the field records of a 1929 expedition to Stallings Island (Clafin, 1931), and a third possible compound is found at a nearby site known as Ed Marshall (Blessing and Sassaman, 2001). The Stallings Island compound differs from the others in its large assemblage of human interments in the central plaza and high incidence of large carinated bowls, a form most likely used for serving in public contexts (Sassaman, 1993b, in press).

Little about these small circular compounds would lead one to infer social ranking or hierarchy. Following Flannery (2002), just the opposite is expected, that these arrangements reflect egalitarian relations. However, there is one element of the Stallings households that may signify social difference. Each of the households in the Mims Point and Stallings Island compounds has one or more silos for subterranean storage. Following Wiessner (1982), Flannery (2002) makes a distinction between group- and family-oriented storage. Societies with the latter type of risk reduction assume a more closed plan, with either widely spaced houses or private eating and storage areas so as not to “display” surplus to one’s neighbors. Storage facilities predating the Stallings period and throughout the Archaic Southeast in general were communal and presumably associated with seasonally mobile populations (DeBoer, 1988). Formalized site plans have not been documented among any Archaic groups in the Southeast that used communal pit storage. The association between private storage and circular site plans may be significant, but it is hardly universal in the Southeast. In northeast Florida, where the first evidence

for an arcuate or circular village plan dating to ca. 3600 BP has just been detected (Sassaman, 2003), subterranean storage is altogether absent.

The archaeology of complex hunter-gatherers in the Southeast can benefit from more intensive efforts to locate and document community plans. Not only does variation between households provide insight into ranking and related dimensions of social differentiation (e.g., Coupland, 1985; Dawson, 2001; Lesure and Blake, 2002), but the structural configuration of villages speaks directly to social organization in a manner similar to the layout of ceremonial facilities. In fact, we ought to expect concordance between domestic and ritual structures as they are likely to be constructed according to the same spatial (social) metaphors and with the same calculus (Clark, in press).

CONCLUSION

My review of recent literature on complex hunter-gatherers glosses many issues that deserve fuller consideration. Important and innovative work in Japan (Habu, 2001, 2004), Alaska (Fitzhugh, 2003a,b), Interior British Columbia (Prentiss and Kujit, 2004), coastal Brazil (Gaspar, 1998), and California outside the Channel Island area (Conlee, 2000; Hildebrandt and McGuire, 2002; Jones, 1996; Lightfoot and Luby, 2003; Luby and Gruber, 1999; Rick *et al.*, 2001), among other venues, will define the research agenda in years to come. For now I simply note that these long-term engagements with particular archaeological records, like those reviewed herein, will above all else result in a greater sense of the breadth of the subject matter we deem appropriate to classify under the rubric “complex hunter-gatherers.”

The recent literature is shaped by two fundamentally different definitions of *complex hunter-gatherers*: the view that complex hunter-gatherers are basically nonagricultural chiefdoms (Arnold, 1996a) and the alternative that complex hunter-gatherers include any non-food-producing society that deviates from the ethnographic model of “primitive communism” and its behavioral-ecological counterpart, generalized foraging (Hayden, 1995; Price and Brown, 1985). The former definition is intended to circumscribe key organizational features and relate them to generalizable material conditions for purposes of cross-cultural comparisons on sociocultural evolution. In the case of southern California, where Arnold’s work has been defining in this regard, organizational properties (e.g., inherited control over labor) are empirical generalizations about ethnohistoric observations that stand up to archaeological testing. However, the evolutionary conditions and causes for the emergence of such organizational properties are deductive hypotheses that have not always withstood the scrutiny of researchers with alternative data sets and theoretical proclivities.

The more encompassing, nonspecific definition of *complex hunter-gatherers* poses a different sort of problem to those working under evolutionary paradigms.

The *emergence* of any manner of social differentiation or inequality presupposes the existence of sociocultural forms structured by principles of egalitarianism (but see Fitzhugh, 2003b, who suggests that any organization relatively less differentiated constitutes antecedent conditions). Archaeologists generally acknowledge that egalitarian structures are asserted, not determined by biology, but they still employ uncritically the conclusion drawn from ethnographic foragers that food sharing and other means of leveling inequalities are selected for under environmental conditions of scarcity or uncertainty. Whereas these sorts of behaviors may indeed be adaptive to a given set of environmental circumstances, the cultural ethos that naturalizes and legitimates egalitarian behaviors—indeed structures human willingness to assert equality through sharing—is derived historically from power struggles with “complex” societies. The dual implications for archaeological research are that (1) the nature of antecedent societies should never be assumed, but if documented empirically to be structured by egalitarian principles, archaeologists should expand the spatial and temporal scales of observations to explore histories of intergroup interaction; and (2) as Woodburn (1982) predicted long ago, the archaeological record will be rife with examples of nonegalitarian hunter–gatherers, potentially including organizational forms with no known ethnographic parallel. This last point should encourage archaeologists to seek more and better data on hunter–gatherer organizational variation and not presuppose its outcome by being overly typological.

How we choose to conceptualize and investigate these problems will determine whether we achieve some greater understanding of sociocultural variation or simply recapitulate existing knowledge. Despite the litany of criticism leveled by anthropologists of historical and interpretivist persuasions, behavioral ecology remains a prominent approach to investigating hunter–gatherer diversity (e.g., Hawkes *et al.*, 2001a,b; Kelley, 1995; Sugiyama, 2001; Winterhalder, 2001). Little of the literature reviewed for this paper employed an explicitly behavioral or evolutionary ecological perspective; Kelly’s (1995) discussion of the Kwakwiltl and Fitzhugh’s (2003b) wide-ranging treatise on emergent complexity on Kodiak Island come closest to this mark, although both allude to the imposition of sociohistorical structures in determining values and criteria for decision making that are otherwise relegated to the biological imperative of maximizing one’s reproductive fitness. The Achilles’ heel of recent literature has been the overdetermination of environmental properties or prime-mover technologies. Hayden’s (1995, 1996) argument that complexity arises only under conditions of abundance circumvents this pitfall by invoking sociocultural structures for tolerance of wealth accumulation to explain deviations from the model. The recent literature on southern California shows how tenuous arguments can be that overspecify the environmental and technological determinants of complexity.

It would be disingenuous to suggest that generalizing (evolutionary) approaches to sociocultural variation ought to be abandoned, but I follow others before me to argue that they need to be retooled to more seriously incorporate

history and culture as forces of change (Pauketat, 2001; Politis, 1996; Torrence, 2001; van der Leeuw and Redman, 2002). Evolution, as conceived by Darwin, is historical process and is thus explicated best through historical narrative (Vayda, 1995a,b). I agree with Vayda that neo-Darwinianists have not paid enough attention to sociohistorical “structure,” although a variety of hybrid paradigms dealing with structure have arisen in the so-called “new ecologies” (Biersak, 1999; Scoones, 1999), including especially landscape approaches (symbolic ecology) and historical ecology. Much of this is genuinely novel, some simply cultural ecology with new vocabulary. For instance, those invoking “agency” as a novel concept are invoking methodological individualism if they assume that the structuring principle of human agency is a universal drive to maximize fitness. History in these cases is merely the existence of antecedent conditions; it is not processual. When historical analyses are genuinely informed by practice and agency theories, then *historical process* can be defined as the process of cultural construction through practice (Pauketat, 2001), and this process varies with context. If generalizable knowledge about sociocultural evolution is to be gained from comparative study of “whole histories,” archaeologists have much work ahead of them in constructing methods for making such comparisons. Evolutionary ecology remains vital today partly because it is methodologically elegant.

Archaeological permutations of agency and practice theory have yet to infiltrate the discourse of complex hunter-gatherers in any significant fashion, but I believe they are poised to make a difference. My optimism in this respect stems largely from the fact that historical approaches are consonant with the actual practice of complex hunter-gatherer archaeology today. If there is one thing that stands out in the recent literature, it is that archaeologists are coming close to knowing what actually *happened* in the past, thanks to long-term engagements with particular archaeological records. The ongoing work in southern California, the Northwest Coast, the Interior of British Columbia, and elsewhere is truly impressive; irrespective of theoretical proclivities, we are achieving ethnographic empathy with the past. The southeastern United States is the latest hotbed of activity and will prove insightful to those willing to suspend belief long enough about the necessary materialist determination of complexity to consider more seriously the power of ideas in shaping the direction and pace of culture change.

ACKNOWLEDGMENTS

In revising an earlier version of this paper, I benefited from the constructive comments of Ben Fitzhugh, Kent Lightfoot, Gary Feinman, and three anonymous reviewers. I am especially indebted to Ben Fitzhugh for providing offprints of several of his papers and advance copy of his book on Kodiak Island, and for his thoughtful criticism of my fuzzy thinking. Bibliographic assistance was provided

by Todd Braje. The editorial guidance of Linda Nicholas is also gratefully acknowledged.

REFERENCES CITED

- Ames, K. M. (1981). The evolution of social ranking on the Northwest Coast of North America. *American Antiquity* **46**: 789–805.
- Ames, K. M. (1985). Hierarchies, stress, and logistical strategies among hunter-gatherers in Northwest North America. In Price T. D., and Brown, J. A. (eds.), *Prehistoric Hunter–Gatherers: The Emergence of Cultural Complexity*, Academic Press, New York, pp. 155–180.
- Ames, K. M. (1991). The archaeology of the longue durée: Temporal and spatial scale in the evolution of social complexity on the southern Northwest Coast. *Antiquity* **65**: 935–945.
- Ames, K. M., and Maschner, H. D. G. (1999). *Peoples of the Northwest Coast: Their Archaeology and Prehistory*, Thames and Hudson, London.
- Arnold, J. E. (1987). *Craft Specialization in the Prehistoric Channel Islands, California*, University of California Press, Berkeley.
- Arnold, J. E. (1992). Complex hunter-gatherer-fishers of prehistoric California: Chiefs, specialists, and maritime adaptations of the Channel Islands. *American Antiquity* **57**: 60–84.
- Arnold, J. E. (1995). Transportation innovation and social complexity among maritime hunter-gatherer societies. *American Anthropologist* **97**: 733–747.
- Arnold, J. E. (1996a). The archaeology of complex hunter-gatherers. *Journal of Archaeological Method and Theory* **3**: 77–126.
- Arnold, J. E. (1996b). Understanding the evolution of intermediate societies. In Arnold, J. E. (ed.), *Emergent Complexity: The Evolution of Intermediate Societies*, International Monographs in Prehistory, Ann Arbor, MI, pp. 1–12.
- Arnold, J. E. (ed.) (1996c). *Emergent Complexity: The Evolution of Intermediate Societies*, International Monographs in Prehistory, Ann Arbor, MI.
- Arnold, J. E. (1997). Bigger boats, crowded creekbanks: Environmental stresses in perspective. *American Antiquity* **62**: 337–339.
- Arnold, J. E. (2001). *The Origins of the Pacific Coast Chiefdom: The Chumash of the Channel Islands*, University of Utah Press, Salt Lake City.
- Arnold, J. E., Colten, R. H., and Pletka, S. (1997). Contexts of cultural change in insular California. *American Antiquity* **62**: 300–318.
- Arnold, J. E., and Green, T. M. (2002). Mortuary ambiguity: The Ventureño Chumash case. *American Antiquity* **67**: 760–771.
- Asch, M. I. (1982). Dene self-determination and the study of hunter-gatherers in the modern world. In Leacock, E., and Lee, R. (eds.), *Politics and History in Band Societies*, Cambridge University Press, Cambridge, pp. 347–372.
- Aten, L. (1999). Middle Archaic ceremonialism at Tick Island, Florida: Ripley P. Bullen's 1961 excavation at the Harris Creek site. *The Florida Anthropologist* **52**: 131–200.
- Bailey, R. C., Head, G., Jenike, M., Owen, B., Rechtman, R., and Zechenter, E. (1989). Hunting and gathering in tropical rain forest: Is it possible? *American Anthropologist* **91**: 59–82.
- Bender, B. (1985a). Prehistoric developments in the American Midcontinent and in Brittany, northwest France. In Price, T. D., and Brown, J. A. (eds.), *Prehistoric Hunter–Gatherers: The Emergence of Cultural Complexity*, Academic Press, New York, pp. 21–57.
- Bender, B. (1985b). Emergent tribal formations in the American Midcontinent. *American Antiquity* **50**: 52–62.
- Bender, B., and Morris, B. (1988). Twenty years of history, evolution and social change in gatherer-hunter studies. In Ingold, T., Riches, D., and Woodburn, J. (eds.), *Hunters and Gatherers, Vol. 1: History, Evolution and Social Change*, Berg, London, pp. 4–14.
- Biersak, A. (1999). Introduction: From the “new ecology” to the new ecologies. *American Anthropologist* **101**: 5–18.
- Binford, L. R. (1980). Willow smoke and dogs' tails: Hunter-gatherer settlement systems and archaeological site formation. *American Antiquity* **45**: 4–20.

- Blanton, R. E., Feinman, G. M., Kowalewski, S. A., and Peregrine, P. N. (1996). A dual-processual theory for the evolution of Mesoamerican civilization. *Current Anthropology* 37: 1–14.
- Blessing, M. E., and Sassaman, K. E. (2001). New perspectives on spatial patterning of Stallings communities. Paper presented at the 58th Annual Meeting of the Southeastern Archaeological Conference, Chattanooga, TN.
- Broughton, J. M. (1994). Declines in mammalian foraging efficiency during the late Holocene, San Francisco Bay, California. *Journal of Anthropological Archaeology* 13: 371–401.
- Broughton, J. M. (1999). *Resource Depression and Intensification During the Late Holocene, San Francisco Bay: Evidence From the Emeryville Shellmound Vertebrate Fauna*, Anthropological Records, Vol. 32. University of California Press, Berkeley.
- Brown, J. A. (1985). Long-term trends to sedentism and the emergence of complexity in the American Midwest. In Price, T. D., and Brown, J. A. (eds.), *Prehistoric Hunter–Gatherers: The Emergence of Cultural Complexity*, Academic Press, New York, pp. 201–231.
- Brown, J. A., and Vierra, R. (1983). What happened in the Middle Archaic? Introduction to an ecological approach to Koster site archaeology. In Phillips, J. L., and Brown, J. A. (eds.), *Archaic Hunter–Gatherers in the American Midwest*, Academic Press, New York, pp. 165–195.
- Cable, J. R. (1993). Prehistoric chronology and settlement patterns of Edisto Beach State Park. In *Cultural Resources Survey and Archaeological Site Evaluation of the Edisto Beach State Park, Colleton County, South Carolina*, Report on file with South Carolina Department of Parks, Recreation, and Tourism, Columbia, SC, pp. 158–205.
- Cable, J. R. (1997). The ceremonial mound theory: New evidence for the possible ceremonial function of shell rings. From South Carolina Archaeology Week poster, *Shell Rings of the Late Archaic*, South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.
- Cashdan, E. (1980). Egalitarianism among hunters and gatherers. *American Anthropologist* 82: 116–120.
- Chapman, R. (2003). *Archaeologies of Complexity*, Routledge, London.
- Charles, D., and Buikstra, J. (1983). Archaic mortuary sites in the central Mississippi drainage: Distribution, structure, and behavioral implications. In Phillips, J. L., and Brown, J. A. (eds.), *Archaic Hunter–Gatherers in the American Midwest*, Academic Press, New York, pp. 117–145.
- Claassen, C. (1991). New hypotheses for the demise of the shell mound Archaic. In McNutt, C. (ed.), *The Archaic Period in the Mid-South*, Archaeological Report 24, Mississippi Department of Archives and History, Jackson, pp. 66–72.
- Claassen, C. (1992). Shell mounds as burial mounds: A revision of the Shell Mound Archaic. In Pollack, D., and Henderson, A. G. (eds.), *Current Archaeological Research in Kentucky*, Vol. 2, Kentucky Heritage Council, Frankfort, pp. 1–12.
- Claassen, C. (1996a). A consideration of the social organization of the Shell Mound Archaic. In Sassaman, K. E., and Anderson, D. G. (eds.), *Archaeology of the Mid-Holocene Southeast*, University Press of Florida, Gainesville, pp. 235–258.
- Claassen, C. (1996b). Research problems with shells from Green River shell matrix sites. In Carstens, K. C., and Watson, P. J. (eds.), *Of Caves and Shell Mounds*, University of Alabama Press, Tuscaloosa, pp. 132–139.
- Clafin, W. H. (1931). *The Stalling's Island Mound, Columbia County, Georgia*, Peabody Museum of American Archaeology and Ethnology Papers 14(1), Cambridge.
- Clark, J. (in press). Surrounding the sacred. In Gibson, J., and Carr, P. (eds.), *Signs of Power*, University of Alabama Press, Tuscaloosa.
- Clark, J., and Blake, M. (1989). The emergence of rank societies on the Pacific Coast of Chiapas, Mexico. Paper presented at the *Circum-Pacific Prehistory Conference*, Seattle, WA.
- Conlee, C. A. (2000). Intensified Middle period ground stone production on San Miguel Island. *Journal of California and Great Basin Anthropology* 22: 374–391.
- Coupland, G. (1985). Household variability and status differentiation at Kitselas Canyon. *Canadian Journal of Archaeology* 9: 39–56.
- Coupland, G. (1988a). *Prehistoric Cultural Change at Kitselas Canyon*, Mercury Series, Archaeological Survey of Canada Paper 138, Canadian Museum of Civilization, Ottawa.
- Coupland, G. (1988b). Prehistoric economic and social change in the Tsimshian area. In Isaac, B. (ed.), *Research in Economic Anthropology, Supplement 3: Prehistoric Economies of the Pacific Northwest Coast*, JAI Press, Greenwich, CT, pp. 231–243.

- Croes, D. R., and Hackenberger, S. (1988). Hoko River archaeological complex: Modeling prehistoric Northwest Coast economic evolution. In Isaac, B. (ed.), *Research in Economic Anthropology, Supplement 3: Prehistoric Economies of the Pacific Northwest Coast*, JAI Press, Greenwich, CT, pp. 19–85.
- Crothers, G. M. (1999). *Prehistoric Hunters and Gatherers, and the Archaic Period Green River Shell Middens of Western Kentucky*, PhD Dissertation, Department of Anthropology, Washington University, St. Louis.
- Crumley, C. (1979). Three locational models: An epistemological assessment of anthropology and archaeology. In Schiffer, M. B. (ed.), *Advances in Archaeological Method and Theory, Vol. 2*, Academic Press, New York, pp. 141–173.
- Crumley, C. (1987). A dialectical critique of hierarchy. In Patterson, T. C., and Gailey, C. W. (eds.), *Power Relations and State Formation*, American Anthropological Association, Washington, DC, pp. 155–159.
- Crumley, C. (1995). Heterarchy and the analysis of complex societies. In Ehrenreich, R. M., Crumley, C. L., and Levy, J. E. (eds.), *Heterarchy and the Analysis of Complex Societies*, Archeological Papers No. 6, American Anthropological Association, Washington, DC, pp. 1–6
- Crusoe, D., and DePratter, C. B. (1976) A new look at the Georgia coastal Shellmound Archaic. *The Florida Anthropologist* 29(1): 1–23.
- Curet, L. A. (2003). Issues on the diversity and emergence of middle-range societies of the ancient Caribbean: A critique. *Journal of Archaeological Research* 11: 1–42.
- Davenport, D., Johnson, J. R., and Timbrook, J. (1993). The Chumash and the swordfish. *Antiquity* 67: 257–272.
- Dawson, P. (2001). Interpreting variability in Thule Inuit architecture: A case study from the Canadian High Arctic. *American Antiquity* 66: 453–470.
- DeBoer, W. (1988). Subterranean storage and the organization of surplus: The view from eastern North America. *Southeastern Archaeology* 7: 1–20.
- DeBoer, W. (1997). Ceremonial centers from the Cayapas (Esmeraldas, Ecuador) to Cillicothe (Ohio, USA). *Cambridge Archaeological Journal* 7: 1–15.
- Denbow, J. R. (1984). Prehistoric herders and foragers of the Kalahari: The evidence for 1500 years of interaction. In Schrire, C. (ed.), *Past and Present in Hunter-Gatherer Studies*, Academic Press, Orlando, pp. 175–193.
- Denbow, J. R., and Wilmsen, E. (1983). Iron Age pastoralist settlements in Botswana. *South African Journal of Science* 79: 405–407.
- Denbow, J. R., and Wilmsen, E. (1986). Advent and course of pastoralism in the Kalahari. *Science* 234: 1509–1515.
- Dietler, M., and Hayden, B. (eds.) (2001). *Feasts: Archaeological and Ethnographic Perspectives on Food, Politics, and Power*, Smithsonian Institution Press, Washington, DC.
- Dunnell, R. C. (1989). Aspects of the application of evolutionary theory in archaeology. In Lamberg-Karlovsky, C. C. (ed.), *Archaeological Thought in America*, Cambridge University Press, Cambridge, pp. 35–49.
- Dye, D. H. (1996). Riverine adaptation in the midsouth. In Carstens, K. C., and Watson, P. J. (eds.), *Of Caves and Shell Mounds*, University of Alabama Press, Tuscaloosa, pp. 140–158.
- Dyson-Hudson, R., and Smith, E. A. (1978). Human territoriality: An ecological reassessment. *American Anthropologist* 80: 21–41.
- Engels, F. (1972 [1884]). *The Origin of the Family, Private Property, and the State*, International Publishing, New York.
- Erlandson, J. M. (2001). The archaeology of aquatic adaptations: Paradigms for a new millennium. *Journal of Archaeological Research* 9: 287–350.
- Feinman, G. M. (1995). The emergence of inequality: A focus on strategies and processes. In Price, T. D., and Feinman, G. M. (eds.), *Foundations of Social Inequality*, Plenum Press, New York, pp. 255–279.
- Fitzhugh, B. (2003a). The evolution of complex hunter-gatherers on the Kodiak Archipelago. In Habu, J., Savelle, J. M., Koyama, S., and Hongo, H. (eds.), *Hunter-Gatherers of the North Pacific Rim*, Senri Ethnological Studies No. 63, National Museum of Ethnology, Osaka, pp. 13–48.
- Fitzhugh, B. (2003b). *The Evolution of Complex Hunter-Gatherers: Archaeological Evidence From the North Pacific*, Plenum, New York.

- Flanagan, J. G. (1989). Hierarchy in simple “egalitarian” societies. *Annual Review of Anthropology* 18: 245–266.
- Flannery, K. V. (2002). The origins of the village reconsidered: From nuclear to extended households. *American Antiquity* 67: 417–433.
- Ford, J. A., and Webb, C. H. (1956). *Poverty Point, a Late Archaic Site in Louisiana*, Anthropological Papers, Vol. 46, Pt. 1, American Museum of Natural History, New York.
- Gamble, L. H. (2002). Archaeological evidence for the origin of the plank canoe in North America. *American Antiquity* 67: 301–315.
- Gamble, L. H., Walker, P. L., and Russell, G. S. (2001). An integrative approach to mortuary analysis: Social and symbolic dimensions of Chumash burial practices. *American Antiquity* 66: 185–212.
- Gamble, L. H., Walker, P. L., and Russell, G. S. (2002). Further considerations on the emergence of Chumash chiefdoms. *American Antiquity* 67: 772–777.
- Gaspar, M. D. (1998). Consideration of the sambaquis of the Brazilian coast. *Antiquity* 72: 592–615.
- Gibson, J. L. (1991). Catahoula—An amphibious Poverty Point manifestation in eastern Louisiana. In Byrd, K. M. (ed.), *The Poverty Point Culture: Local Manifestations, Subsistence Practices, and Trade Networks, Geoscience and Man*, Vol. 29, Louisiana State University, Baton Rouge, pp. 61–87.
- Gibson, J. L. (1996). Poverty Point and greater southeastern prehistory: The culture that did not fit. In Sassaman, K. E., and Anderson, D. G. (eds.), *Archaeology of the Mid-Holocene Southeast*, University Press of Florida, Gainesville, pp. 288–305.
- Gibson, J. L. (2000). *The Ancient Mounds of Poverty Point: Place of the Rings*, University Press of Florida, Gainesville.
- Gibson, J. L., and Carr, P. (eds.) (in press). *Signs of Power*, University of Alabama Press, Tuscaloosa.
- Glassow, M. A. (1996). *Purisimeño Chumash Prehistory: Maritime Adaptations Along the Southern California Coast*, Harcourt Brace, Orlando.
- Goad, S. (1980). Patterns of Late Archaic exchange. *Tennessee Anthropologist* 5: 1–16.
- Gordon, R. J. (1984). The !Kung in the Kalahari exchange: An ethnohistorical perspective. In Schrire, C. (ed.), *Past and Present in Hunter-Gatherer Studies*, Academic Press, Orlando, FL, pp. 195–224.
- Grinker, R. R. (1994). *Houses in the Rainforest: Ethnicity and Inequality Among the Farmers and Foragers in Central Africa*, University of California Press, Berkeley.
- Habu, J. (2001). *Subsistence-Settlement Systems and Intersite Variability in the Moroiso Phase of the Early Jomon Period of Japan*, Archaeological Series 14, International Monographs in Prehistory, Ann Arbor, MI.
- Habu, J. (2004). *Ancient Jomon of Japan*, Cambridge University Press, Cambridge, UK.
- Hamilton, F. E. (1999). Southeastern Archaic mounds: Examples of elaboration in a temporally fluctuating environment? *Journal of Anthropological Archaeology* 18: 344–355.
- Harrington, J. (1942). Culture element distributions XIX: Central California coast. *University of California Anthropological Records* 7: 1–146.
- Haskins, V. A., and Herrmann, N. P. (1996). Shell mound bioarchaeology. In Carstens, K. C., and Watson, P. J. (eds.), *Of Caves and Shell Mounds*, University of Alabama Press, Tuscaloosa, pp. 107–118.
- Hawkes, K., O’Connell, J. F., and Blurton Jones, N. G. (2001a). Hadza meat sharing. *Evolution and Human Behavior* 22: 113–142.
- Hawkes, K., O’Connell, J. F., and Blurton Jones, N. G. (2001b). Hunting and nuclear families: Some lessons from the Hadza about men’s work. *Current Anthropology* 42: 681–709.
- Hayden, B. (1994). Competition, labor, and complex hunter-gatherers. In Burch, E. S., Jr., and Ellana, L. J. (eds.), *Key Issues in Hunter-Gatherer Research*, Berg, Oxford, pp. 223–239.
- Hayden, B. (1995). Pathways to power: Principles for creating socioeconomic inequalities. In Price, T. D., and Feinman, G. M. (eds.), *Foundations of Social Inequality*, Plenum Press, New York, pp. 15–86.
- Hayden, B. (1996). Thresholds to power in emergent complex societies. In Arnold, J. E. (ed.), *Emergent Complexity: The Evolution of Intermediate Societies*, International Monographs in Prehistory, Ann Arbor, MI, pp. 50–58.
- Hayden, B. (1997). *The Pithouses of Keatley Creek*, Harcourt Brace College Publishers, Forth Worth, TX.

- Hayden, B. (2001). Fabulous feasts: A prolegomenon to the importance of feasting. In Dietler, M., and Hayden, B. (eds.), *Feasts: Archaeological and Ethnographic Perspectives on Food, Politics, and Power*, Smithsonian Institution Press, Washington, DC, pp. 23–64.
- Hayden, B., Eldridge, M., Eldridge, A., and Cannon, A. (1985). Complex hunter-gatherers in interior British Columbia. In Price, T. D., and Brown, J. A. (eds.), *Prehistoric Hunter–Gatherers: The Emergence of Cultural Complexity*, sAcademic Press, New York, pp. 181–199.
- Headland, T., and Reid, L. (1989). Hunter–gatherers and their neighbors from prehistory to the present. *Current Anthropology* 30: 43–66.
- Heckenberger, M. J. (2004). *The Ecology of Power: Culture, Place, and Personhood in the Southern Amazon, A.D. 1000–2000*, Routledge, New York.
- Heckenberger, M. J., Kuikuro, A., Kuikuro, U. T., Russell, J. C., Schmidt, M. J., Fausto, C., and Franchetto, B. (2003). Amazonia 1492: Pristine forest or cultural parkland? *Science* 301: 1710–1714.
- Heckenberger, M. J., Peterson, J. B., and Neves, E. G. (1999). Village size and permanence in Amazonia: Two archaeological examples from Brazil. *Latin American Antiquity* 10: 353–376.
- Hensley, C. (1994). *The Archaic Settlement System of the Middle Green River Valley*, PhD Dissertation, Department of Anthropology, Washington University, St. Louis.
- Hildebrandt, W. R., and McGuire, K. R. (2002). The ascendance of hunting during the California Middle Archaic: An evolutionary perspective. *American Antiquity* 67: 231–256.
- Hiraguchi, T. (1992). Catching dolphins at the Mawaki site, central Japan, and its contribution to Jomon society. In Aikens, C. M., and Rhee, S. R. (eds.), *Pacific Northeast Asia in Prehistory: Hunter-Fisher-Gatherers, Farmers, and Sociopolitical Elites*, Washington State University Press, Pullman, pp. 35–45.
- Hofman, J. L. (1986). *Hunter-Gatherer Mortuary Variability: Toward an Explanatory Model*, PhD Dissertation, Department of Anthropology, University of Tennessee, Knoxville.
- Ingold, T. (1988). Notes on the foraging mode of production. In Ingold, T., Riches, D., and Woodburn, J. (eds.), *Hunters and Gatherers, Vol. 1: History, Evolution and Social Change*, Berg, London, pp. 269–285.
- Ingold, T. (1999). On the social relations of the hunter-gatherer band. In Lee, R. B., and Daly, R. (eds.), *The Cambridge Encyclopedia of Hunters and Gatherers*, Cambridge University Press, Cambridge, UK, pp. 399–410.
- Ingold, T., Riches, D., and Woodburn, J. (eds.) (1988). *Hunters and Gatherers, Vol. 1: History, Evolution and Social Change*, Berg, London.
- Johnson, G. (1982). Organizational structure and scalar stress. In Renfrew, C., Rowlands, M. J., and Segraves, B. (eds.), *Theory and Explanation in Archaeology*, Academic Press, New York, pp. 389–342.
- Jones, T. (1996). Mortars, pestles, and division of labor in prehistoric California: A view from Big Sur. *American Antiquity* 61: 243–264.
- Junker, L. L. (2000). *Raiding, Trading, and Feasting: The Political Economy of Philippine Chiefdoms*, Ateneo de Manila University Press, Manila.
- Keegan, W. (1991). An anthropological explanation of Taino kinship. In Ayubi, E. N., and Havisser, J. B. (eds.), *Proceedings of the XIII International Conference for Caribbean Archaeology*, Reports of the Archaeological–Anthropological Institute of the Netherlands Antilles, Curacao, pp. 437–445.
- Keeley, L. H. (1988). Hunter–gatherer economic complexity and “population pressure”: A cross-cultural analysis. *Journal of Anthropological Archaeology* 7: 373–411.
- Kelly, R. L. (1995). *The Foraging Spectrum: Diversity in Hunter-Gatherer Lifeways*, Smithsonian Institution Press, Washington, DC.
- Kennett, D. J., and Kennett, J. P. (2000). Competitive and cooperative responses to climatic instability in coastal southern California. *American Antiquity* 65: 379–395.
- Kent, S. (ed.) (2002). *Ethnicity, Hunter–Gatherers, and the “Other”: Association or Assimilation in Africa*, Smithsonian Institution Press, Washington, DC.
- Kidder, T. R. (1991). New directions in Poverty Point settlement archaeology: An example from northeast Louisiana. In Byrd, K. M. (ed.), *The Poverty Point Culture: Local Manifestations, Subsistence Practices, and Trade Networks*, *Geoscience and Man*, Vol. 29, Louisiana State University, Baton Rouge, pp. 27–53.

- King, C. (1990). *Evolution of Chumash Society: A Comparative Study of Artifacts Used for Social System Maintenance in the Santa Barbara Channel Region Before A.D. 1804*, Garland, New York.
- Knight, V. J., Jr. (1998). Moundville as a diagrammatic ceremonial center. In Knight, V. J., Jr., and Steponaitis, V. P. (eds.), *Archaeology of the Moundville Chiefdom*, Smithsonian Institution Press, Washington, DC, pp. 44–62.
- Koyama, S., and Thomas, D. H. (eds.) (1981). *Affluent Foragers*, Senri Ethnological Studies No. 9, National Museum of Ethnology, Osaka.
- Kroeber, A. L. (1939). *Cultural and Natural Areas of Native North America*, University of California Publications in American Archaeology and Ethnology, Vol. 32, Berkeley.
- Leacock, E. (1954). *The Montagnais "Hunting Territory" and the Fur Trade*, *American Anthropologist*, Memoir 78, Washington, DC.
- Leacock, E. (1980). Montagnais women and the Jesuit program for colonization. In Etienne, M., and Leacock, E. (eds.), *Women and Colonization: Anthropological Perspectives*, Praeger, New York, pp. 25–42.
- Leacock, E. (1982). Relations of production in band societies. In Leacock, E., and Lee, R. (eds.), *Politics and History in Band Societies*, Cambridge University Press, Cambridge, pp. 159–170.
- Leacock, E., and Lee, R. (1982). Introduction. In Leacock, E., and Lee, R. (eds.), *Politics and History in Band Societies*, Cambridge University Press, Cambridge, UK, pp. 1–20.
- Lee, R. B. (1976). Introduction. In Lee, R. B., and DeVore, I. (eds.), *Kalahari Hunter–Gatherers: Studies of the !Kung San and Their Neighbors*, Harvard University Press, Cambridge, pp. 3–24.
- Lee, R. B. (1979). *The !Kung San: Men, Women, and Work in a Foraging Society*, Cambridge University Press, Cambridge.
- Lee, R. B. (1988). Reflections on primitive communism. In Ingold, T., Riches, D., and Woodburn, J. (eds.), *Hunters and Gatherers, Vol. 1: History, Evolution and Social Change*, Berg, London, pp. 252–268.
- Lee, R. B. (1990). Primitive communism and the origin of social inequality. In Upham, S. (ed.), *The Evolution of Political Systems: Sociopolitics in Small-Scale Sedentary Societies*, Cambridge University Press, Cambridge, UK, pp. 225–246.
- Lee, R. B. (1992). Art, science, or politics? The crisis in hunter-gatherer studies. *American Anthropologist* **94**: 31–54.
- Lesure, R. G., and Blake, M. (2002). Interpretive challenges in the study of early complexity: Economy, ritual, and architecture at Paso de la Amada, Mexico. *Journal of Anthropological Archaeology* **21**: 1–24.
- Lightfoot, K. G. (1993). Long-term developments in complex hunter-gatherer societies: Recent perspectives from the Pacific Coast of North America. *Journal of Archaeological Research* **1**: 167–201.
- Lightfoot, K. G. (1997). Cultural construction of coastal landscapes: A middle Holocene perspective from San Francisco Bay. In Erlandson, J., and Glassow, M. (eds.), *Archaeology of the California Coast During the Middle Holocene*, UCLA Institute of Archaeology, University of California, Los Angeles, pp. 129–141.
- Lightfoot, K. G., and Luby, E. M. (2003). The late Holocene in the greater San Francisco Bay area: Temporal trends in the use and abandonment of shell mounds in the East Bay. In Erlandson, J., and Jones, T. (eds.), *Catalysts to Complexity: The Holocene on the California Coast*, Cotsen Institute of Archaeology, University of California, Los Angeles.
- Lourandos, H. (1997). *Continent of Hunter–Gatherers: New Perspectives in Australian Prehistory*, Cambridge University Press, Cambridge, UK.
- Luby, E. M., and Gruber, M. F. (1999). The dead must be fed: Symbolic meanings of the San Francisco Bay area. *Cambridge Archaeological Journal* **9**: 95–108.
- Mann, M. (1986). *The Sources of Social Power: A History of Power From the Beginning to A.D. 1760*, Cambridge University Press, Cambridge, UK.
- Marquardt, W. H. (1985). Complexity and scale in the study of fisher-gatherer-hunters: An example from the eastern United States. In Price, T. D., and Brown, J. A. (eds.), *Prehistoric Hunter–Gatherers: The Emergence of Cultural Complexity*, Academic Press, New York, pp. 59–97.
- Marquardt, W. H. (1988). Politics and production among the Calusa of south Florida. In Ingold, T., Riches, D., and Woodburn, J. (eds.), *Hunters and Gatherers, Vol. 1: History, Evolution and Social Change*, Berg, London, pp. 161–188.

- Marquardt, W. H., and Watson, P. J. (1983). The Shell Mound Archaic in western Kentucky. In Phillips, J. L., and Brown, J. A. (eds.), *Archaic Hunter–Gatherers in the American Midwest*, Academic Press, New York, pp. 323–339.
- Maschner, H. D. G., and Patton, J. Q. (1996). Kin selection and the origins of hereditary social inequality: A case study from the northern Northwest Coast. In Maschner, H. D. G. (ed.), *Darwinian Archaeologies*, Plenum Press, New York, pp. 89–107.
- Matson, R. G. (1983). Intensification and the development of cultural complexity: The northwest versus the northeast coast. In Nash, R. (ed.), *The Evolution of Maritime Cultures of the Northeast and Northwest Coasts of America*, Department of Anthropology, Publication No. 11, Simon Fraser University, Burnaby, pp. 125–148.
- Matson, R. G. (1985). The relationship between sedentism and status inequalities among hunter-gatherers. In Thompson, M., Garcia, M. T., and Kense, F. J. (eds.), *Status, Structure, and Stratification: Current Archaeological Reconstructions*, Archaeological Association of the University of Calgary, Calgary, pp. 245–252.
- Matson, R. G., and Coupland, G. (1995). *The Prehistory of the Northwest Coast*, Academic Press, New York.
- McGuire, R. (1983). Breaking down cultural complexity: Inequality and heterogeneity. In Schiffer, M. B. (ed.), *Advances in Archaeological Method and Theory*, Vol. 6, Academic Press, New York, pp. 91–142.
- Milner, G. R., and Jefferies, R. W. (1998). The Read Archaic shell midden in Kentucky. *Southeastern Archaeology* 17: 119–132.
- Morgan, L. H. (1965 [1881]). *Houses and House-Life of the American Aborigines*, University of Chicago Press, Chicago.
- Morse, D. F. (1967). *The Robinson Site and Shell Mound Archaic Culture in the Middle South*, PhD Dissertation, Department of Anthropology, University of Michigan, Ann Arbor.
- Moseley, M. (1975). *The Maritime Foundations of Andean Civilization*, Cummings, Menlo Park, CA.
- Nelson, N. (1909). Shellmounds of the San Francisco Bay region. *University of California Publications in American Archaeology and Ethnology* 7(4): 310–356.
- O’Shea, J. M., and Zvelebil, M. (1984). Olenostrovski Mogilnik: Reconstructing the social and economic organization of prehistoric foragers in northern Russia. *Journal of Anthropological Archaeology* 3: 1–40.
- Palsson, G. (1988). Hunters and gatherers of the sea. In Ingold, T., Riches, D., and Woodburn, J. (eds.), *Hunters and Gatherers, Vol. 1: History, Evolution and Social Change*, Berg, London, pp. 189–204.
- Pardoe, C. (1988). The cemetery as symbol: The distribution of prehistoric aboriginal burial grounds in southeastern Australia. *Archaeology in Oceania* 23: 1–16.
- Pauketat, T. R. (2001). Practice and history in archaeology: An emerging paradigm. *Anthropological Theory* 1: 73–98.
- Politis, G. G. (1996). Moving to produce: Nukak mobility and settlement patterns in Amazonia. *World Archaeology* 27: 492–511.
- Porcasi, J. F., and Fujita, H. (2000). The dolphin hunters: A specialized prehistoric maritime adaptation in the southern California Channel Islands and Baja California. *American Antiquity* 65: 543–566.
- Prentice, G. (1996). Site distribution modeling for Mammoth Cave National Park. In Carstens, K. C., and Watson, P. J. (eds.), *Of Caves and Shell Mounds*, University of Alabama Press, Tuscaloosa, pp. 12–32.
- Prentiss, W., and Kujit, I. (in press). *Complex Hunter–Gatherers: Evolution and Organization of Prehistoric Communities on the Plateau of Northwestern North America*, University of Utah Press, Salt Lake City.
- Price, T. D. (1995). Social inequality at the origins of agriculture. In Price, T. D., and Feinman, G. M. (eds.), *Foundations of Social Inequality*, Plenum Press, New York, pp. 129–154.
- Price, T. D., and Brown, J. A. (eds.) (1985). *Prehistoric Hunter–Gatherers: The Emergence of Cultural Complexity*, Academic Press, New York.
- Price, T. D., and Feinman, G. M. (eds.) (1995). *Foundations of Social Inequality*, Plenum, New York.
- Raab, L. M., and Bradford, K. (1997). Making nature answer to interpretivism: Response to J. E. Arnold, R. H. Colten, and S. Pletka. *American Antiquity* 62: 340–341.

- Raab, L. M., Bradford, K., Porcasi, J. F., and Howard, W. J. (1995). Return to Little Harbor, Santa Catalina Island, California: A critique of the marine paleotemperature model. *American Antiquity* **60**: 287–308.
- Rick, T. C., Erlandson, J. M., and Vellanoweth, R. L. (2001). Paleocoastal marine fishing on the Pacific coast of the Americas: Perspectives from Daisy Cove, California. *American Antiquity* **66**: 595–613.
- Raab, L. M., and Larson, D. (1997). Medieval climatic anomaly and punctuated cultural evolution in coastal southern California. *American Antiquity* **62**: 319–336.
- Rival, L. M. (2002). *Trekking Through History: The Huaoroni of Amazonian Ecuador*, Columbia University Press, New York.
- Roseberry, W. (1989). *Anthologies and Histories: Essays in Culture, History, and Political Economy*, Rutgers University Press, New Brunswick, NJ.
- Rosenswig, R. M. (2000). Some political processes of ranked societies. *Journal of Anthropological Archaeology* **19**: 413–460.
- Rothschild, N. (1979). Mortuary behavior and social organization at Indian Knoll and Dickson Mounds. *American Antiquity* **44**: 658–675.
- Rowley-Conwy, P. (2001). Time, change and the archaeology of hunter-gatherers: How original is the “original affluent society”? In Panter-Brick, C., Lawton, R. H., and Rowley-Conwy, P. (eds.), *Hunter-Gatherers: An Interdisciplinary Perspective*, Cambridge University Press, Cambridge, UK, pp. 39–72.
- Rubel, P., and Rousman, A. (1983). The evolution of exchange systems and ranking: Some Northwest Coast and Athapaskan examples. *Journal of Anthropological Research* **39**: 1–25.
- Russo, M. (1991). *Archaic Sedentism on the Florida Coast: A Case Study From Horr’s Island*, PhD Dissertation, Department of Anthropology, University of Florida, Gainesville.
- Russo, M. (1994). Why we don’t believe in Archaic ceremonial mounds and why we should: The case from Florida. *Southeastern Archaeology* **13**: 93–108.
- Russo, M. (1996a). Southeastern mid-Holocene coastal settlements. In Sassaman, K. E., and Anderson, D. G. (eds.), *Archaeology of the Mid-Holocene Southeast*, University Press of Florida, Gainesville, pp. 177–199.
- Russo, M. (1996b). Southeastern Archaic mounds. In Sassaman, K. E., and Anderson, D. G. (eds.), *Archaeology of the Mid-Holocene Southeast*, University Press of Florida, Gainesville, pp. 259–287.
- Russo, M. (2002). Architectural features at Fig Island. In Saunders, R. (ed.), *The Fig Island Ring Complex (38CH42): Coastal Adaptation and the Question of Ring Function in the Late Archaic*, report submitted to South Carolina Department of Archives and History under Grant No. 45-01-16441, Columbia, pp. 85–97.
- Russo, M. (in press). Non-symmetrical traits in shell rings: Towards an understanding of circular community dynamics. In Gibson, J., and Carr, P. (eds.), *Signs of Power*, University of Alabama Press, Tuscaloosa.
- Russo, M., and Heide, G. (2001). Shell rings of the Southeast US. *Antiquity* **75**(289): 491–492.
- Russo, M., and Heide, G. (2002). The Joseph Reed Shell Ring. *The Florida Anthropologist* **55**(2): 67–88.
- Russo, M., Heide, G., and Rolland, V. (2002). *The Guana Shell Ring*, Report submitted to The Florida Department of State Division of Historical Resources, Historic Preservation Grant No. F0126, Tallahassee.
- Sahlins, M. (1968). Notes on the original affluent society. In Lee, R., and DeVore, I. (eds.), *Man the Hunter*, Aldine, Chicago, pp. 85–88.
- Sahlins, M. (1985). *Islands of History*, University of Chicago Press, Chicago.
- Sassaman, K. E. (1993a). *Mims Point 1992: Archaeological Investigations at a Prehistoric Habitation Site in the Sumter National Forest, South Carolina*, Savannah River Archaeological Research Papers 4, Occasional Papers of the Savannah River Archaeological Research Program, South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.
- Sassaman, K. E. (1993b). *Early Pottery in the Southeast: Tradition and Innovation in Cooking Technology*, University of Alabama Press, Tuscaloosa.
- Sassaman, K. E. (2000). Agents of change in hunter-gatherer technology. In Dobres, M. A., and Robb, J. (eds.), *Agency in Archaeology*, Routledge, London, pp. 148–168.

- Sassaman, K. E. (2001). Hunter–gatherers and traditions of resistance. In Pauketat, T. (ed.), *The Archaeology of Tradition: Agency and History Before and After Columbus*, University Press of Florida, Gainesville, pp. 218–236.
- Sassaman, K. E. (2003). *St. Johns Archaeological Field School 2000–2001: Blue Spring and Hontoon Island State Parks*, Technical Report Number 4, Laboratory of Southeastern Archaeology, Department of Anthropology, University of Florida, Gainesville.
- Sassaman, K. E. (in press). Common origins and divergent histories in the early pottery traditions of the American Southeast. In Saunders, R., and Hays, C. (eds.), *Early Pottery: Technology, Style, and Interaction in the Lower Southeast*, University of Alabama Press, Tuscaloosa.
- Sassaman, K. E., and Heckenberger, M. J. (in press-a). Crossing the symbolic rubicon in the Southeast. In Gibson, J., and Carr, P. (eds.), *Signs of Power*, University of Alabama Press, Tuscaloosa, in press.
- Sassaman, K. E., and Heckenberger, M. J. (in press-b). Roots of the theocratic formative in the American Southeast. In Crothers, G. M. (ed.), *Hunter–Gatherers in Theory and Archaeology*, Center for Archaeological Investigations, Southern Illinois University, Carbondale.
- Sassaman, K. E., and Ledbetter, R. J. (1996). Middle and Late Archaic architecture. In Sassaman, K. E., and Anderson, D. G. (eds.), *Archaeology of the Mid-Holocene Southeast*, University Press of Florida, Gainesville, pp. 75–95.
- Saunders, J. W., Allen, T., Jones, R., and Swoveland, G. (2000). Caney Mounds (16CT5). *Louisiana Archaeological Society Newsletter* 27(3): 14–21.
- Saunders, J. W., Allen, T., LaBatt, D., Jones, D., and Griffing, D. (2001). An assessment of the antiquity of the Lower Jackson Mound. *Southeastern Archaeology* 20: 67–77.
- Saunders, J. W., Allen, T., and Saucier, R. T. (1994). Four Archaic? mound complexes in northeast Louisiana. *Southeastern Archaeology* 13: 134–153.
- Saunders, J. W., Mandel, R. D., Saucier, R. T., Allen, E. T., Hallmark, C. T., Johnson, J. K., Jackson, E. H., Allen, C. M., Stringer, G. L., Frink, D. S., Feathers, J. K., Williams, S., Gremillion, K. J., Vidrine, M. F., and Jones, R. (1997). A mound complex in Louisiana at 5400–5000 years before the present. *Science* 277: 1796–1799.
- Saunders, R. (1994). The case for Archaic mounds in southeastern Louisiana. *Southeastern Archaeology* 13: 118–134.
- Saunders, R. (2002). Summary and conclusions. In Saunders, R. (ed.), *The Fig Island Ring Complex (38CH42): Coastal Adaptation and the Question of Ring Function in the Late Archaic*, report submitted to South Carolina Department of Archives and History under Grant No. 45-01-16441, Columbia, pp. 154–159.
- Schalk, R. (1977). The structure of an anadromous fish resource. In Binford, L. R. (ed.), *For Theory Building in Archaeology*, Academic Press, New York, pp. 207–249.
- Schrire, C. (1980). An enquiry in the evolutionary status and apparent identity of San hunter-gatherers. *Human Ecology* 8: 9–32.
- Schrire, C. (1984). Wild surmises on savage thoughts. In Schrire, C. (ed.), *Past and Present in Hunter-Gatherer Studies*, Academic Press, Orlando, pp. 1–25.
- Schwartz, G. M., and Akkermans, P. M. M. G. (2003). *The Archaeology of Syria: From Complex Hunter–Gatherers to Early Urban Societies (c. 16,000 to 300 BC)*, Cambridge University Press, Cambridge, UK.
- Schweitzer, P. P., Biesele, M., and Hitchcock, R. K. (eds.) (2000). *Hunters and Gatherers in the Modern World: Conflict, Resistance, and Self-Determination*, Berghahn, Oxford.
- Scoones, I. (1999). New ecology and the social sciences: What prospects for a fruitful engagement? *Annual Review of Anthropology* 28: 479–507.
- Shnirelman, V. A. (1992). Complex hunter-gatherers: Exception or common phenomenon? *Dialectical Anthropology* 17: 183–196.
- Smith, B. D. (1986). The archaeology of the southeastern United States: From Dalton to De Soto, 10,500–500 B.P. *Advances in World Archaeology* 5: 1–92.
- Solway, J., and Lee, R. B. (1990). Foragers, genuine or spurious? Situating the Kalahari San in history. *Current Anthropology* 31: 109–146.
- Sugiyama, M. S. (2001). Food, foragers, and folklore: The role of narrative in human subsistence. *Evolution and Human Behavior* 22: 221–240.
- Testart, A. (1982). The significance of food storage among hunter-gatherers: Residence patterns, population densities, and social inequalities. *Current Anthropology* 23: 523–537.

- Torrence, R. (2001). Hunter-gatherer technology: Macro- and microscale approaches. In Panter-Brick, C., Lawton, R. H., and Rowley-Conwy, P. (eds.), *Hunter-Gatherers: An Interdisciplinary Perspective*, Cambridge University Press, Cambridge, UK, pp. 73–98.
- Trigger, B. (1990). Comment on foragers, genuine or spurious? Situating the Kalahari San in history. *Current Anthropology* **31**: 135.
- Trinkley, M. B. (1985). The form and function of South Carolina's Early Woodland shell rings. In Dickens, R. S. (ed.), *Structure and Process in Southeastern Archaeology*, University of Alabama Press, Tuscaloosa, pp. 102–118.
- van der Leeuw, S., and Redman, C. L. (2002). Placing archaeology at the center of socio-natural studies. *American Antiquity* **67**: 597–605.
- Vayda, A. P. (1995a). Failures of explanation in Darwinian ecological anthropology: Part I. *Philosophy of the Social Sciences* **25**: 219–249.
- Vayda, A. P. (1995b). Failures of explanation in Darwinian ecological anthropology: Part II. *Philosophy of the Social Sciences* **25**: 360–375.
- Walthall, J. (1980). *Prehistoric Indians of the Southeast*, University of Alabama Press, Tuscaloosa.
- Watanabe, H. (1983). Occupational differentiation and social stratification: The case of northern Pacific maritime food gatherers. *Current Anthropology* **24**: 217–219.
- Webb, W. S. (1974). *Indian Knoll*, University of Tennessee Press, Knoxville.
- Whitridge, P. (1999). *The Construction of Social Difference in a Prehistoric Inuit Whaling Community*, PhD Dissertation, Department of Anthropology, Arizona State University, Tempe.
- Wiessner, P. (1982). Risk, reciprocity and social influences on !Kung San economics. In Leacock, E., and Lee, R. (eds.), *Politics and History in Band Societies*, Cambridge University Press, Cambridge, UK, pp. 61–84.
- Wilmsen, E. (1983). The ecology of illusion: Anthropological foraging in the Kalahari. *Reviews in Anthropology* **10**: 9–20.
- Wilmsen, E. (1989). *Land Filled With Flies: A Political Economy of the Kalahari*, University of Chicago Press, Chicago.
- Winterhalder, B. (1986). Diet choice, risk, and food sharing in a stochastic environment. *Journal of Anthropological Archaeology* **5**: 369–392.
- Winterhalder, B. (2001). The behavioral ecology of hunter-gatherers. In Panter-Brick, C., Lawton, R. H., and Rowley-Conwy, P. (eds.), *Hunter-Gatherers: An Interdisciplinary Perspective*, Cambridge University Press, Cambridge, UK, pp. 12–38.
- Winters, H. D. (1968). Value systems and trade cycles of the Late Archaic in the Midwest. In Binford, S. R., and Binford, L. R. (eds.), *New Perspectives in Archaeology*, Aldine, Chicago, pp. 175–221.
- Winters, H. D. (1969). *The Riverton Culture*, Reports of Investigation No. 13, Illinois State Museum, Springfield.
- Wobst, H. M. (1978). The archaeo-ethnology of hunter-gatherers or the tyranny of the ethnographic record in archaeology. *American Antiquity* **43**: 303–309.
- Wolf, E. R. (1982). *Europe and the People Without History*, University of California Press, Berkeley.
- Woodburn, J. (1982). Egalitarian societies. *Man* **17**: 431–451.
- Wright, H., and Zeder, M. (1977). The simulation of a linear exchange system under equilibrium conditions. In Earle, T. K., and Ericson, J. E. (eds.), *Exchange Systems in Prehistory*, Academic Press, New York, pp. 233–254.
- Yellen, J. E. (1989). The present and future of hunter-gatherer studies. In Lamberg-Karlovsky, C. C. (ed.), *Archaeological Thought in America*, Cambridge University Press, Cambridge, UK, pp. 102–116.
- Zagarell, A. (1995). Hierarchy and heterarchy: The unity of opposites. In Ehrenreich, R. M., Crumley, C. L., and Levy, J. E. (eds.), *Heterarchy and the Analysis of Complex Societies*, Archaeological Papers No. 6, American Anthropological Association, Washington, DC, pp. 87–100.

BIBLIOGRAPHY OF RECENT LITERATURE (POST-1995)

- Akimichi, T. (ed.) (1996). *Coastal Foragers in Transition*, Senri Ethnological Studies No. 42, National Museum of Ethnology, Osaka, Japan.

- Ames, K. M. (1996). Archaeology, style, and the theory of coevolution. In Maschner, H. D. G. (ed.), *Darwinian Archaeologies*, Plenum, New York, pp. 109–131.
- Ames, K. M. (1998). Economic prehistory of the northern British Columbia coast. *Arctic Anthropology* **35**: 68–87.
- Arnold, J. E. (1996). Organizational transformations: Power and labor among complex hunter-gatherers and other intermediate societies. In Arnold, J. E. (ed.), *Emergent Complexity: The Evolution of Intermediate Societies*, International Monographs in Prehistory, Ann Arbor, MI, pp. 59–73.
- Arnold, J. E. (2000). Revisiting power, labor rights, and kinship: Archaeology and social theory. In Schiffer, M. B. (ed.), *Social Theory in Archaeology*, University of Utah Press, Salt Lake City, pp. 14–30.
- Arnold, J. E. (2000). The origins of hierarchy and the nature of hierarchical structures in prehistoric California. In Diehl, M. W. (ed.), *Hierarchies in Action: Cui Bono?* Occasional Paper No. 27, Center for Archaeological Investigations, Southern Illinois University Press, Carbondale, pp. 221–240.
- Bailey, G., and Milner, N. (2002). Coastal hunter-gatherers and social evolution: Marginal or central? *Before Farming: The Archaeology and Anthropology of Hunter-Gatherers* (<http://www.waspjournals.com/>) 2002/3–4(1).
- Bergsvik, K. A. (2001). Sedentary and mobile hunter-fishers in Stone Age western Norway. *Arctic Anthropology* **38**: 2–26.
- Binford, L. R. (2001). *Constructing Frames of Reference: An Analytical Method for Archaeological Theory Building Using Hunter-Gatherer and Environmental Data Sets*, University of California Press, Berkeley.
- Bird, R. B., Smith, E. A., and Bird, D. W. (2001). The hunting handicap: Costly signaling in human foraging strategies. *Behavioral Ecology and Sociobiology* **50**: 9–19.
- Blake, M. (ed.) (1999). *Pacific Latin America in Prehistory: The Evolution of Archaic and Formative Cultures*, Washington State University Press, Pullman.
- Boaz, J. (1998). *Hunter-Gatherer Site Variability: Changing Patterns of Site Utilization in the Interior of Eastern Norway between 8000 and 2500 B.P.*, Universitetes Oldsaksamling, Oslo.
- Boyd, M. (1998). Interdependence and power: Complexity in hunter-gatherer/farmer exchanges. *Plains Anthropologist* **43**: 311–319.
- Bower, J. R. F., and Kobusiewicz, M. (eds.) (2002). *A Comparative Study of Prehistoric Foragers in Europe and North America: Cultural Responses to the End of the Ice Age*, Mellon, Lewiston, NY.
- Broughton, J. M., and O’Connell, J. F. (1999). On evolutionary ecology, selectionist archaeology, and behavioral archaeology. *American Antiquity* **64**: 153–165.
- Carsten, K. C., and Watson, P. J. (eds.) (1996). *Of Caves and Shell Mounds*, University of Alabama Press, Tuscaloosa.
- Chattopadhyaya, U. C. (1996). Settlement pattern and the spatial organization of subsistence and mortuary practices in the Mesolithic Ganges Valley, north-central India. *World Archaeology* **27**: 461–476.
- Colten, R. H., and Arnold, J. E. (1998). Prehistoric marine mammal hunting on California’s northern Channel Islands. *American Antiquity* **63**: 679–701.
- Conlee, C. A. (2000). Intensified Middle Period ground stone production on San Miguel Island. *Journal of California and Great Basin Anthropology* **22**: 374–391.
- Copper, Z. (2002). The enigma of gender in the archaeological record of the Andaman Islanders. In Nelson, S. M., and Rosen-Ayalon, M. (eds.), *In Pursuit of Gender: Worldwide Archaeological Approaches*, AltaMira, Walnut Creek, CA, pp. 173–185.
- Cosgrove, R. (1999). Forty-two degrees south: The archaeology of late Pleistocene Tasmania. *Journal of World Prehistory* **13**: 357–402.
- Coupland, G. (1998). Maritime adaptation and evolution of the Developed Northwest Coast pattern on the central Northwest Coast. *Arctic Anthropology* **35**: 36–56.
- De Larnia, S. (2001). Dismantling dung: Delayed use of food resources among early holocene foragers of the Libyan Sahara. *Journal of Anthropological Archaeology* **20**: 408–441.
- Dorman, J. L. (2002). Agency and archaeology: Past, present, and future directions. *Journal of Archaeological Method and Theory* **9**: 303–329.
- Erlandson, J. M., Rick, R. C., Vellanoweth, R. L., and Kenneth, D. J. (1999). Maritime subsistence at a 9300-year-old shell midden on Santa Rosa Island, California. *Journal of Field Archaeology* **26**: 255–265.

- Fitzhugh, B., and Habu, J. (eds.) (2002). *Beyond Foraging and Collecting: Evolutionary Change in Hunter-Gatherer Settlement Systems*, Plenum Press, New York.
- Fitzhugh, B., Shubin, V. O., Tezuka, K., Ishizuka, Y., and Mandryk, C. A. S. (2002). Archaeology in the Kuril Islands: Advances in the study of human paleobiogeography and northwest Pacific prehistory. *Arctic Anthropology* **39**: 69–94.
- Forenbaher, S. (1999). The earliest islanders of the eastern Adriatic. *Collegium Anthropologicum* **23**: 521–530.
- Fortier, J. (2001). Sharing, hoarding, and theft: Exchange and resistance in forager–farmer relations. *Ethnology* **40**: 193–211.
- Gero, J. M., and Scattolin, M. C. (2002). Beyond complementarity and hierarchy: New definitions for archaeological gender relations. In Nelson, S. M., and M. Rosen-Ayalon (eds.), *In Pursuit of Gender: Worldwide Archaeological Approaches*, AltaMira, Walnut Creek, CA, pp. 155–171.
- Gibson, J. L. (1996). Religion of the rings: Poverty Point iconology and ceremonialism. In Mainfort, R. C., and Walling, R. (eds.), *Mounds, Embankments, and Ceremonialism in the Midsouth*, Research Series 46, Arkansas Archaeological Survey, Fayetteville, pp. 1–6.
- Gumerman, G., IV (1997). Food and complex societies. *Journal of Archaeological Method and Theory* **4**: 105–139.
- Habu, J. (1996). Jomon sedentism and intersite variability: Collectors of the early Jomon Moroiso phase in Japan. *Arctic Anthropology* **33**(2): 38–49.
- Habu, J., Savelle, J. M., Koyama, S., and Hongo, H. (eds.) (2003) *Hunter-Gatherers of the North Pacific Rim*, Senri Ethnological Studies No. 63, National Museum of Ethnology, Osaka.
- Hayden, B. (1997). Observations on the prehistoric social and economic structure of the North American Plateau. *World Archaeology* **29**: 242–261.
- Hayden, B. (2002). Hunting and feasting: Health and demographic consequences. *Before Farming: The Archaeology and Anthropology of Hunter-Gatherers* (<http://www.waspjournals.com/>) 2002/3–4(3).
- Hayden, B., Bakewell, E., and Gargett, R. (1996). The world's longest-lived corporate group: Lithic analysis reveals prehistoric social organization near Lillooet, British Columbia. *American Antiquity* **61**: 341–356.
- Hayden, B., and Shulting, R. (1997). The Plateau interaction sphere and late prehistoric cultural complexity. *American Antiquity* **62**: 51–85.
- Head, L. (1996). Rethinking the prehistory of hunter-gatherers, fire and vegetation change in northern Australia. *Holocene* **6**: 481–487.
- Head, L., and Fullagar, R. (1997). Hunter-gatherer archaeology and pastoral contact: Perspectives from the Northwest Territory, Australia. *World Archaeology* **28**: 418–428.
- Hildebrandt, W. R., and McGuire, K. R. (2002). The ascendance of hunting during the California Middle Archaic: An evolutionary perspective. *American Antiquity* **67**: 231–256.
- Ikawa-Smith, F. (2002). Gender in Japanese prehistory. In Nelson, S. M., and Rosen-Ayalon, M. (eds.), *In Pursuit of Gender: Worldwide Archaeological Approaches*, AltaMira, Walnut Creek, CA, pp. 323–354.
- Inoue, T. (2000). Hunting as a symbol of cultural tradition: The cultural meaning of subsistence in Gwich'in Athabaskan society of northern Alaska. In Keen, I., and Yamada, T. (eds.), *Identity and Gender in Hunting and Gathering Societies*, Senri Ethnological Studies No. 56, National Museum of Ethnology, Osaka, pp. 89–104.
- Jacknis, I. (2002). *The Storage Box of Tradition: Kwakiutl Art, Anthropologists, and Museums, 1881–1981*, Smithsonian Institution Press, Washington, DC.
- Jochim, M. A. (1998). *A Hunter-Gatherer Landscape: Southwest Germany in the Late Paleolithic and Mesolithic*, Plenum, New York.
- Johnson, J. R. (2000). Social response to climate change among the Chumash Indians of south-central California. In McIntosh, R. L., Tainter, J. A., and McIntosh, S. K. (eds.), *The Way the Wind Blows: Climate, History, and Human Action*, Columbia University Press, New York, pp. 301–327.
- Jones, T. L., Brown, G. M., Raab, L. M., McVicker, J. L., Spaulding, W. G., Kennett, D. J., York, A., and Walker, P. L. (1999). Environmental imperatives reconsidered: Demographic crises in western North America during the Medieval Climatic Anomaly. *Current Anthropology* **40**: 137–170.
- Jordon, P. (2002). *Material Culture and Sacred Landscape: The Anthropology of the Siberian Khanty*, AltaMira, Walnut Creek, CA.

- Kaplan, D. (2000). The darker side of the “original affluent society.” *Journal of Anthropological Research* **56**: 301–324.
- Keen, I., and Yamada, T. (eds.) (2000). *Identity and Gender in Hunting and Gathering Societies*, Senri Ethnological Studies No. 56, National Museum of Ethnology, Osaka.
- Kennett, D. J. (1998). *Behavioral Ecology and the Evolution of Hunter–Gatherers Societies on the Northern Channel Islands, California*, PhD Dissertation, Department of Anthropology, University of California, Santa Barbara.
- Kidder, T. R. (2002). Mapping Poverty Point. *American Antiquity* **67**: 89–103.
- Kobayashi, T., and Kaner, S. (2003). *Jomoneseque Japan: Forager Life and Culture in the Pacific Japanese Archipelago*, Oxbow Books, Oxford.
- Kujit, I. (2001). Reconsidering the cause of cultural collapse in the Lillooet area of British Columbia, Canada: A geoarchaeological perspective. *American Antiquity* **66**: 692–703.
- Kusimba, S. B. (2002). *African Foragers: Environment, Technology, and Interactions*, AltaMira, Walnut Creek, CA.
- Lee, R. B., and Daly, R. (eds.) (1999). *The Cambridge Encyclopedia of Hunters and Gatherers*, Cambridge University Press, Cambridge, UK.
- Lee, R. B., and Hitchcock, R. K. (1998). African hunter-gatherers: History and the politics of ethnicity. In Connah, G. (ed.), *Transformations in Africa: Essays on Africa’s Later Past*, Leicester University Press, London, pp. 14–45.
- Lindauer, O., and Blitz, J. H. (1997). Higher ground: The archaeology of North American platform mounds. *Journal of Archaeological Research* **5**: 169–207.
- Mendoza, M. (2002). *Band Mobility and Leadership Among the Western Toba Hunter–Gatherers of Gran Chaco in Argentina*, Mellon, Lewiston, NY.
- Mithen, S. (ed.) (2000). *Hunter–Gatherer Landscape Archaeology: The Southern Hebrides Mesolithic Project, 1988–98*, McDonald Institute for Archaeological Research, Cambridge.
- Morrison, K. D., and Junker, L. L. (eds.) (2003). *Forager-Traders in South and Southeast Asia: Long-Term Histories*, Cambridge University Press, Cambridge, UK.
- Morse, D. F. (1997). *Sloan: A Paleoindian Dalton Cemetery*, Smithsonian Institution Press, Washington, DC.
- Morwood, M. J. (2002). *Visions From the Past: The Archaeology of Australian Aboriginal Art*, Smithsonian Institution Press, Washington, DC.
- Mulvaney, J., and Kamminga, J. (1999). *Prehistory of Australia*, Smithsonian Institution Press, Washington, DC.
- Odell, G. H. (1996). *Stone Tools and Mobility in the Illinois Valley: From Hunter–Gatherer Camps to Agricultural Villages*, International Monographs in Prehistory, Ann Arbor, MI.
- O’Shea, J. M. (2003). Inland foragers and the adoption of maize agriculture in the Upper Great Lakes of North America. *Before Farming: The Archaeology and Anthropology of Hunter–Gatherers* (<http://www.waspjournals.com/>) 2003/1(3).
- Owens, D., and Hayden, B. (1997). Prehistoric rites of passage: A comparative study of transegalitarian hunter-gatherers. *Journal of Anthropological Archaeology* **16**: 121–161.
- Panther-Brick, C., Layton, R. H., and Rowley-Conwy, P. (eds.) (2001). *Hunter–Gatherers: An Interdisciplinary Perspective*, Cambridge University Press, Cambridge, UK.
- Parkington, J. (2002). Men, women, and eland: Hunting and gender among the San of southern Africa. In Nelson, S. M., and Rosen-Ayalon, M. (eds.), *In Pursuit of Gender: Worldwide Archaeological Approaches*, AltaMira, Walnut Creek, CA, pp. 93–117.
- Pleu, M. G. (ed.) (1996). *Prehistoric Hunter–Gatherer Fishing Strategies*, Boise State University Press, Boise, ID.
- Pluciennik, M. (2001). Archaeology, anthropology, and subsistence. *The Royal Anthropological Institute* **7**: 741–758.
- Politis, G. G. (1996). Moving to produce: Nukak mobility and settlement patterns in Amazonia. *World Archaeology* **27**: 492–511.
- Politis, G. G., Martinez, G. A., and Bonomo, M. (2001). Early pottery found at hunting sites: Evidence from the Pampean region of Argentina. *Latin American Antiquity* **12**: 167–181.
- Prentiss, W., and Chatters, J. C. (2003). The evolution of collector systems on the Pacific Coast of Northwest North America. In Habu, J., Savelle, J. M., Koyama, S., and Hongo, H. (eds.), *Hunter–Gatherers of the North Pacific Rim*, Senri Ethnological Studies No. 63, National Museum of Ethnology, Osaka, pp. 49–80.

- Price, T. D., and Gebauer, A. B. (eds.) (1995). *Last Hunters, First Farmers*, School of American Research Press, Sante Fe, NM.
- Renouf, M. A. P. (2003). Hunter-gatherer interactions: Mutualism and resource partitioning on the island of Newfoundland. *Before Farming: The Archaeology and Anthropology of Hunter-Gatherers* (<http://www.waspjournals.com/>) 2003/1(4).
- Richerson, P. J., and Boyd, R. (1999). Complex societies: The evolution of origins of a crude superorganism. *Human Nature* **10**: 253–289.
- Sassaman, K. E., and Anderson, D. G. (eds.) (1996). *Archaeology of the Mid-Holocene Southeast*, University Press of Florida, Gainesville.
- Shady Solis, R., Haas, J., Creamer, W. (2001). Dating Caral, a preceramic site in the Supe Valley on the central coast of Peru. *Science* **292**: 723–726.
- Smith, B. D. (2001). Low-level food production. *Journal of Archaeological Research* **9**: 1–43.
- Sosis, R. (2001). Sharing, consumption, and patch choice on Ifaluk atoll: Evaluating an explanatory hypothesis. *Human Nature* **12**: 221–245.
- Sugiyama, M. S. (2001). Food, foragers, and folklore: The role of narrative in human subsistence. *Evolution and Human Behavior* **22**: 221–240.
- Thorp, C. R. (2000). *Hunter-Gatherers and Farmers: An Enduring Frontier in the Caledon Valley, South Africa*, Archaeopress, Oxford.
- van der Leeuw, S., and McGlade, J. (eds.) (1997). *Time, Process, and Structured Transformation in Archaeology*, Routledge, London.
- Wengrom, D. (2001). The evolution of simplicity: Aesthetic labour and social change in the Neolithic Near East. *World Archaeology* **33**: 168–188.
- Wiessner, P. (2002). The vines of complexity: Egalitarian structures and the institutionalization of inequality among the Enga. *Current Anthropology* **43**: 233–270.
- Wolf, E. R. (1999). *Envisioning Power*, University of California Press, Berkeley.