Continuity and change in the evolution of religion and political organization on pre-Columbian Puerto Rico

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ABSTRACT

Trajectories of cultural evolution are diverse, depending on unique blends of social, economic, and ideological factors. Assessing case-specific historical circumstances is crucial when identifying underlying processes of change. In this paper, I detail a model of cultural evolution based on the historical circumstances of the island cultures in the pre-Columbian Caribbean. We see continuity in key elements of cosmology and structural organization within a framework of evolving social complexity, leadership roles, and inequality. In the case of Puerto Rico, cosmology and ideology were intertwined over approximately 2000 years, spanning tribal to chiefdom sociopolitical formations.

Introduction

Trajectories of cultural evolution are diverse, depending on unique blends of social, economic, and ideological factors (Earle, 1997; Feinman and Marcus, 1998; Marcus, 2008; Spencer, 1990, 1993, 1997; Upham, 1990). Given the variety of trajectories observed around the world, one might reasonably ask whether underlying processes of change can be identified. Historical contingency is crucial to address when accounting for change in any given trajectory. In doing so, we may propose *kinds* of processual lines of evolution, depending on case-specific conditions. In this paper, I present a model for cultural evolution based on the historical circumstances of the island cultures in the pre-Columbian Caribbean.

At the end of pre-Columbian Caribbean history

In the early morning hours of Friday, October 12, 1492, a contingent of men under the command of Christopher Columbus landed on one of the islands in the Bahamian archipelago (West Indies). A couple of months later they arrived to Hispaniola, a large island currently shared by the Dominican Republic and Haiti (Fig. 1). In the next several years most of the Caribbean islands had been vis-

ited by emissaries of the Spanish crown. Accounts written by Columbus, Las Casas, Oviedo, Martire, and Pané, among others, revealed complex chiefly polities located on Hispaniola and Puerto Rico. These were the Taíno Indians and they built ceremonial and political centers with monumental architecture, they maintained inherited status distinctions, and tribute flowed through their networks of settlements (Moscoso, 1981, 1986, 1999; Rouse, 1992; Wilson, 1990, 2007). The chroniclers documented these groups to be fiercely territorial and competitive, politically hierarchical, and frequently engaged in pitched battles of conquest amongst themselves (Siegel, 2004). Like chiefdoms all over the world, Taíno polities were unstable social and political formations (Anderson, 1994, 1999; Cobb, 2003; Earle, 1997; Emerson, 1997; Pauketat, 1994; King, 2003; Redmond and Spencer, 1994). Jostling for territories in geographically circumscribed spaces like islands presented unique challenges to winners and losers. An ideology of domination was the ethic that ambitious chiefs followed in their pursuit of followers and more territory (Moscoso, 1981, 1986, 1999; Siegel, 1999, 2004). Losers in campaigns of conquest could either become followers of winning caciques (chiefs) or align themselves with other polities.

I will track the social, political, and cosmological evolutionary trajectory that lead to the Taínos on Puerto Rico. In doing so, we need to look back nearly 20 centuries before the arrival of Columbus – to colonization of the West Indies by Saladoid migrants and subsequent developments. In order to build a model of religious

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Fig. 1. Map of the Caribbean Basin.

and political evolution we need to begin with a solid understanding of Saladoid social, political, and cosmological organization. These were the people from whom the Taínos originated. The paper is structured around six overlapping parts. First, I review colonization processes of early ceramic-age people into the Caribbean islands, discussing in particular aspects of homeland communities that were reproduced or modified in new places. Second, I address Saladoid social and political organization in the Caribbean, with special reference to belief systems. Third, Saladoid village structure is discussed in relation to sociopolitical and cosmological organization, and recent alternative perspectives are assessed. In the fourth and fifth sections of the paper, I propose a multiscalar method of understanding the use of space, ranging from house interiors to village ground plans to entire landscapes based on principles from structural anthropology and cognitive science. This discussion is placed squarely in the context of West Indian and lowland South American archaeology and ethnography and linked to observed changes in political organization and hypothesized conceptions of the cosmos. I conclude the paper with a proposed model for how we can chart the evolution of religion and political power from a structural and cognitive perspective in the historical context of pre-Columbian Puerto Rico.

Colonization of the West Indies

Why and how people migrate are questions that transcend the boundaries of anthropology, sociology, political science, and his-

tory. Numerous pushes and pulls have been cited as causal, depending on interrelated factors of demography, environment, economy, politics, ideology, and historical circumstance (Anthony, 1990; Chapman and Hamerow, 1997; King, 2007; Manning, 2005; Rockman and Steele, 2003). Do people move because they want to or must? Do they go in large groups, entire villages, family groups, age-grade cohorts? Do people try to reproduce their homelands in new places? Are colonization processes different for people moving across expanses of mainland compared to islands? Finally, what are the dynamics of people moving into places already occupied by others, compared to situations of first settlers?

When addressing trajectories of cultural evolution it is crucial to consider sources and circulation of people, ideas, and things and the political strategies followed by emergent leaders: "what do the bosses do to gain and extend power?" (Earle, 1991a, p. 5). Intra and intergroup relations take many forms, including competition; alliance building; mate exchange; and exchanges of resources, both symbolically charged and decidedly quotidian. Needless to say, these forms of group interactions are constantly shifting in response to social, political, economic, ideological, and cosmological dynamics (Earle, 1991b, 1997; Feinman and Marcus, 1998; Marcus, 2008; Upham, 1990). The focus on colonization processes and subsequent circulation of people becomes particularly sharp in island settings as there is constant trafficking in a wide range of items (ideas to objects to people) between adjacent islands, across island groups, and with mainlands (Anderson, 2003; Kirch, 1984, 1990, 1997). Colonization, interaction, and

inter-regional connections are important to consider in the context of shifting social formations and emergent complexity in the Caribbean (Hofman et al., 2007).

Colonization of the Caribbean islands by Archaic and later Neolithic people has been the center of archaeological research for decades (Chanlatte Baik, 1981, 1991; Keegan, 1995; Rainey, 1940; Rouse, 1958, 1986, 1992; Siegel, 1991a; Wilson, 2007; Wilson et al., 1998). Much of this research has been descriptive and viewed rather monolithically, with little to no concern for underlying processes or historical circumstances. We still see references to distinct "migratory waves" of cultures: Archaic waves of migration, early ceramic-age wave, late ceramic-age wave (Chanlatte Baik and Narganes Storde, 1990; Coppa et al., 2008; Keegan, 1995). This one-dimensional perspective may not be surprising especially for the early ceramic-age Saladoid cultures, for which there is remarkable consistency in artifact assemblages, cosmology, and social organization from Venezuela through Puerto Rico (Rouse, 1992; Siegel, 1989a; Wilson, 1997, 2007). However, there is great diversity in the island ecologies, ranging from desert to low-coral to high-volcanic tropical-island settings (Woods, 1989; Woods and Sergile, 2001). This diversity is crucial to address in the context of understanding colonizing strategies, variability in human–land relations, and inter-regional connections (Boomert, 2001; Hofman et al., 2007).

In terms of underlying processes, especially in pre-industrial settings, I think it makes more sense to view migration as a series of non-mutually exclusive "pulses" or small-scale excursions rather than as distinct population waves riding on the backs of big directional arrows. That is, I would expect that in the band and tribal-based social context of the Archaic and Saladoid settling of the Caribbean, exploratory forays by small groups of people into the islands were made as an additive process of "landscape learning" (Meltzer, 2003; Rockman, 2003). As camps and settlements were established by these pioneers or scouts, lines of communication were maintained with homeland communities. In the Caribbean, lines of communication between pioneering settlements and homeland communities may have been reinforced through the exchange networks recently addressed by Corinne Hofman and her colleagues (Hofman et al., 2007). Measuring colonization pulses archaeologically is a challenge, given the small number of people involved. The paleoecological record may provide a more reliable or observable view of otherwise nearly indiscernible archaeological traces. As people set foot on new landscapes, modifications were made to them if for no other reason than to clear vegetation for shelters. These modifications are likely to show up in microbotanical records, with qualitative and quantitative shifts in pollen and phytolith assemblages and concentrations of charcoal microparticulates. Paleoecological investigations have been successful in identifying human modifications to landscapes that were nearly invisible archaeologically (Burney, 1997; Burney et al., 1994, 1995; Jones, 1994; Neff et al., 2006; Pohl et al., 1996; Pope et al., 2001).

In their analysis of the Neolithic colonization of Europe, Fiedel and Anthony (2003) suggested that colonists followed a two-stage strategy. First, small groups of scouts started out from Anatolia, checking out landforms, soils, and other people and reported back to home communities. This was followed by some portion of the home community making the journey to the new place. Fiedel and Anthony (2003, p. 145) "introduced the concept of 'leap-frog' migration... Initial migrants moved long distances to colonize selected locations that met specific ecological and social criteria [leaving] large uninhabited areas that were filled in only after population increase within the initial settlements." Anthony suggested that people following a focal subsistence economy (see Cleland, 1976) are more likely to leap frog great distances when searching for "particular types of terrain ... where a variety of crops and farming econiches are exploited" (Anthony, 1990, p. 901).

In discussing patterns of migration, Patrick Manning distinguished colonization, whole-community migration, and cross-community migration (Manning, 2005, pp. 4–10). Colonization is defined as individuals leaving one community and establishing a new one outside of the original home range, more or less replicating the home community (Manning, 2005, p. 5). Whole-community migration refers to entire communities picking up and re-establishing themselves elsewhere (Manning, 2005, pp. 5–6). Cross-community migration consists of some individuals departing one community and joining another (Manning, 2005, p. 6). I think, but cannot prove, that some combination of colonization and cross-community migration characterized the entry of Saladoid people into the Caribbean islands. However, I would modify Manning's definition of colonization by not requiring replication of the home community. In regard to the European Neolithic, Fiedel and Anthony observed that

> we should be able to recognize the Anatolian origin of immigrant material culture [and] we should not expect to find an exact reproduction of Anatolian material culture in Greece, because long-distance migration usually has a transforming effect on social identities. Colonists do not represent a random sample of all parts of their homeland, but instead tend to recruit from quite specific places and social segments, so they depart carrying just a subset of the homeland's dialects and material culture (Fiedel and Anthony, 2003, p. 150).

In the case of the insular Saladoid, we see replication and modification of home-community patterns, depending on local circumstances (Boomert, 2000; Roosevelt, 1980; Rouse, 1992; Siegel, 1996). Saladoid people certainly had a model for how they viewed village organization and they adapted that model to the islands as appropriate. And I would add the expectation, especially in an archipelago setting, for the two-stage process described by Fiedel and Anthony (2003): small groups of scouts followed by subsets of larger communities. "Within specific historical contexts, migration can be understood as a behavior that is typically performed by defined subgroups with specific goals, targeted on known destinations and likely to use familiar routes" (Anthony, 1990, pp. 895–896). Anthony (1990, p. 908) concluded that "'Cultures' do not migrate... [but] goal-oriented subgroup[s]" do. I urge my colleagues in the Caribbean to start considering small-scale migration or colonization pulses when addressing Saladoid dispersal patterns.

Evidence to date indicates that Saladoid colonists originated in the Orinoco Valley of Venezuela and moved into the Caribbean islands by about 500 cal BC (Boomert, 2009; Heckenberger, 2002; Siegel, 1991a,b; Rouse, 1992; Wilson, 2007).[1] The Orinoco Valley contains intact archaeological deposits with assemblages of pre-500 BC Saladoid artifacts (Roosevelt, 1980, pp. 193–196, Table 15,

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[1] Chanlatte Baik and Narganes Storde have argued for a separate migration of non-Saladoid horticulturalists from South America (Chanlatte Baik, 1981, 1991; Chanlatte Baik and Narganes Storde, 1983, 1990). They referred to this proposed distinct culture or cultural series as Huecoid, named after the La Hueca site on Vieques. This assertion is based on differences in decorating ceramic vessels and carving stone amulets compared to Saladoid versions. Many of these distinctively decorated vessels are interspersed with typical Saladoid painted pottery (Hofman et al., 1999; Petersen and Watters, 1995; Siegel, 1992; Watters and Petersen, 1999). Technologically, Saladoid and the supposedly different Huecoid pottery are very similar if not identical (Carini, 1991; Watters and Petersen, 1999). Radiocarbon dates associated with Saladoid and Huecoid artifacts overlap enough to be indistinguishable (Narganes Storde, 1991; Oliver, 1999; Siegel, 1991b). Oliver (1999, p. 296) made the excellent observation that "limited use/availability of contextual archaeological data" hinder efforts to clarify presumed distinctions between "Huecoid" and "Saladoid" or "Huecan Saladoid" and "Cedrosan Saladoid" assemblages. In my opinion, evidence to date does not warrant establishing a separate series of "Huecoid" cultures. Instead, I view what Chanlatte and others have identified to be a distinct cultural tradition as part of the larger repertoire of Saladoid material culture and what it means socially.

Roosevelt, 1997, pp. 73–95). Recently, there has been some discussion that the Saladoids may not have settled Trinidad and the southern Lesser Antilles before the northern Lesser Antilles and Puerto Rico (Fitzpatrick, 2006; Keegan, 2009). Two radiocarbon dates from the Goddard site place Saladoid occupations on Barbados potentially as early as 400 BC (Drewett, 2006, p. 212; 1950 ± 150BP, cal400BC–AD450, 2 sigmas [Beta-20,723, charcoal]; 2253 ± 55, cal400BC–AD170, 2 sigmas [Beta-19,969, charcoal]). Boomert (2000, p. 129, 2009, p. 66; also Fitzpatrick, 2006, Table 1) observed that Cedrosan Saladoid settlers occupied Trinidad by approximately 300–400 BC, although as Keegan (2009) emphasized marginally older C-14 dates in Saladoid contexts are available from the northern Lesser Antilles and Puerto Rico (see also Siegel, 1991b, Table 1). This may be an example of the "leap-frog" approach to long-distance migration or colonization discussed by Fiedel and Anthony (2003, pp. 145–147; Anthony, 1990, pp. 902–903).

Saladoid social and political organization

The social and political context of Saladoid expansion into the Caribbean and subsequent developments have been debated for years (Boomert, 2000, 2001; Keegan, 2009; Roe, 1989; Siegel, 1989b, 1991b; Rouse, 1986, 1992; Rouse and Allaire, 1978). At one time I believed "that the 'complex tribe' characterizes well the sociopolitical organization represented by the Saladoid groups ... Decision-making authority is not centralized within a single chiefly lineage, but status differentiation is clearly represented (in the burials) and the involvement with the ceremonial complex signifies a more integrated community organization than a simple tribe" (Siegel, 1989b, p. 202). Boomert took some exception to the concept of complex tribe because it lacked "theoretical and empirical backing in the literature to date" and he suggested "that the Saladoid pattern of social and political structure can best be characterized as forming a 'big man collectivity', i.e. a tribal society in which due to their personal qualities particular headmen are able to dominate in war and trade" (Boomert, 2001, p. 56).

Based on data collected over the last two decades, I am now in agreement with Boomert. Artifact assemblage, settlement, and burial data reveal that the Saladoids were organized into tribal egalitarian societies based on a mixed economy of hunting, gathering, foraging, collecting, and horticulture (Boomert, 2000, 2001, 2009; deFrance et al., 1996; Newsom and Wing, 2004; Siegel et al., 2005). William Keegan recently argued that "Saladoid peoples were not egalitarian" and in fact were organized "in ranked societies" (Keegan, 2009, p. 379). He based this speculation on my conclusion that Saladoid cultures were steeped in ancestor veneration and then asserted that "ancestor veneration is most common in ranked societies and rare in those described as egalitarian" (Keegan, 2009, p. 379).

In reviewing the literature, and depending on how we define ancestor veneration, I somewhat agree with Keegan that the practice is more associated with societies typed as ranked, chiefdoms, or states, where spirits of the dead are named and organized hierarchically (Balandier, 1970, pp. 117–122; Evans-Pritchard, 1956, pp. 106–122; Fortes, 1970, pp. 164–200; Fortes, 1987, pp. 66–83; McAnany, 1995, pp. 10–21; Radcliffe-Brown, 1964, pp. 136–138, 190; Radcliffe-Brown, 1965, pp. 163–177). In her study of ancient Maya kingship and kinship, Patricia McAnany (1995, p. 11) defined ancestor veneration as the "rituals and practices surrounding the burial and commemoration, by name, of apical ancestors of kin groups." On the Andaman Islanders, Radcliffe-Brown (1964, p. 137) observed that "a man who occupies a prominent position in his tribe is called a 'big' man [and] so the ancestors of the Andamanese legends are called 'big' spirits ... to distinguish the ancestors from the spirits of ordinary persons." Rather than simply creating

"a static typology of evolutionary forms" (McAnany, 1995, p. 4) associated with belief systems I prefer to address underlying processes of change. Why did ancestor veneration come to be in a specific context? What were the historical circumstances that resulted in a distinctive way of relating to the ancestors specifically and the cosmos in general? McAnany's study of Maya kingship and her notion of "living with the ancestors" serves as a wonderful model for taking a richly contextual approach to understanding "transformational processes [in the] *longue durée* of kinship" (McAnany, 1995, pp. 131–144). In doing so, we are able to rid ourselves of typological straitjackets that come with cultural classification and assess "variability through time and across space in the presence, size, organization ... monumental expression [and degree] of centralized authority" if it exists (McAnany, 1995, p. 144). When I use the term "evolution" as in "the evolution of religion and political organization" I am talking about change through time in social dimensions and not about pigeonholing cultures into types, like tribe, chiefdom, or state.

In the case of the protohistoric/Contact-period Taínos, ancestor veneration was of fundamental importance in maintaining power and authority within chiefly lineages (Oliver, 2005, 2009; Rouse, 1992; Siegel, 1997; Wilson, 1990). In reviewing Fortes' (1987) discussion of "ancestor worship" McAnany (1995, p. 11) observed that the term (more correctly referred to as "ancestor veneration") should be reserved for cases where ancestors are called out by name in contrast "to those who display a general attention to spirits of the dead" (consistent with Radcliffe-Brown's (1964) notion of ancestor spirits). Fortes did discuss the application of two forms of "ancestor worship" within a single group of people: (1) corporate lineages with an "exclusive common descent group" and (2) in "given situation[s] may comprise only a domestic group, be it an elementary family or a family of an extended type" (Fortes, 1987, p. 66; see also Lewis, 1989, pp. 120–133). However, Fortes gave priority to the first kind, which he called "the paradigmatic case ... [of] ancestor worship" (Fortes, 1987, p. 66).

Behavioral correlates of ancestor veneration include great attention afforded people of high status in death, feeding them, and frequently bringing out the curated bodies of notable people to engage in important rituals and feasts with the living (e.g., Isbell, 1997; Kan, 1989, pp. 181–212; Mantha, 2009; Radcliffe-Brown, 1964, pp. 136–185; Roosevelt, 1987, p. 154; Roosevelt, 1991, pp. 81, 90). In contrast to the *veneration* of ancestors, Mary Helms (2004, p. 123) used the term "ancestorship" associated with the needs of early agricultural (and pastoral) societies, especially in regard to "responsibilities for temporally-extended processes of food production [and] growing concern[s] with the temporal durability of the house." And, Helms used the term "house" "not necessarily [as] a physical dwelling but also [as] ... the basic organizational component of a given society ... to identify a focal home center or focal group ... to avoid the vague and unwieldy term 'society'" (Helms, 2004, p. 125). Thus "house" in some cases may be generalized to "village." Helms' use of ancestorship does not imply a ranking of the spirits as does McAnany's definition of ancestor veneration. Compared to hunter–gatherers, where the dead physically returned to "life" as an animal, plant, or rock, the dead of early farmers "remained permanently intangible and 'lived' again as invisible ancestors" (Helms, 2004, p. 124). As such, it is in these early Neolithic communities that "we find elaboration of mortuary rites and burial procedures ... and burial in increasingly elaborate and temporally-lasting shrines, mounds, tombs, or cemeteries, along with appropriate social and religious procedures to cosmologize the landscape and assure extended remembrance of the dead by the living" (Helms, 2004, p. 124). Likewise, Ian Hodder (1990, p. 36) noted the "complex symbolic web" associated with house, death, elaborate mortuary rituals, and the origins of agriculture in Neolithic Europe. It is the more imprecise term of "ancestorship"

that I now suggest is applicable to the Saladoid world of mortuary rites and the demarcation of sacred space in contrast to the veneration of sacred ancestors among the later Taíno cacicazgos. For the Saladoids, like in any early horticultural communities, "cosmological stabilization and order [was founded] on careful regulation" of critical rituals associated with important transformations of state, especially death (Helms, 2004, p. 126; see also Wallace, 1966, pp. 70–71).

Burials, spatial distributions of artifacts, settlement patterns, and regional exchange networks are the data from which we can infer social, political, and cosmological organization. To date, these lines of evidence do not indicate institutionalized social inequality or political centralization in the Saladoid periods (ca. 500 BC–600 AD). There are no documented Saladoid people in the Caribbean who were afforded exceptional treatment in death, whether young or old, male or female. There are no documented Saladoid people in the Caribbean who dined exceptionally well or better than their peers, based on skeletal isotope, zooarchaeological, or archaeobotanical studies. There are no documented Saladoid settlement hierarchies in the Caribbean to indicate any degree of political centralization or authority. Boomert (2001) noted a size progression from small to large Saladoid sites, ranging from the southern to northern Lesser Antilles to Puerto Rico. But a geographic size progression, especially across islands, does not make for a settlement hierarchy with political implications. As Boomert (2001) correctly observed, other factors like relative island area, demography, and the presence of Archaic residents may be important considerations in Saladoid settlement size from island to island. Saladoid villages on Puerto Rico tended to be big, but big villages do not make for ranked society. Inter-regional exchange networks were well developed during the early ceramic age and we might expect middlemen or people in control of circulation amassing wealth, power, and prestige, much like the Kula ring of the Trobriand Islanders (Malinowski, 1961 [1922], pp. 81–104). Again, this scenario should be expressed in differential displays of prestige in burials and in regional settlement patterns with key villages that are larger or more visible than the rest or with greater assemblage diversity, or some combination of all. We do not see any indicators for institutionalized social inequality, or rank society in general, during the Saladoid. In their review of Caribbean pre-Columbian exchange networks, Hofman and colleagues suggested that during the early ceramic age

> the exchange of prestige goods appears to be more an epiphenomenon of the rapid Saladoid migration(s) rather than a causal factor. The eagerness with which they engaged in exchanging prestige goods in the region suggests that ... exchange was a survival strategy of the colonizers, designed to establish firm linkages, probably through mating networks, among the various new settlements as well as between the latter and the homeland communities (Hofman et al., 2007, p. 262).

Roe (1989) noted that much of the island Saladoid ceramic iconography reflected their Amazonian origins. This observation was anticipated years earlier by Adolfo de Hostos in his discussion of Puerto Rican pottery: "Where did the native find a model for the monkey heads which predominate over all other animal forms? Monkeys were not known to Porto Rico. They must have been familiar, however, to the continental [South American] Arawaks, whose descendants the Porto Rican Indians probably were" (de Hostos, 1919, p. 386).

Saladoid village organization

Where Saladoid village sites have been sufficiently sampled, we see distinctive and rather consistent arrangements, suggesting that the people had a mental model for how they viewed community layout and village organization.[2] So, for example, the 20-hectare Maisabel site on the north coast of Puerto Rico is in the form of a semicircle with a series of five dense midden deposits (mounded middens) arranged in a circular to horseshoe configuration in the center of the site. These middens ring a cleared (low in artifact density) central area about the size of a football field that served as a plaza and cemetery.

Other similar ceramic-age sites in the Caribbean include Indian Creek, Antigua (Rouse, 1974; Rouse and Morse, 1999); Golden Rock, St. Eustatius (Josselin de Jong, 1947; Versteeg, 1989; Versteeg and Schinkel, 1992); Trants, Montserrat (Petersen, 1996); Tutu, St. Thomas (Righter, 2002a); Sorcé, Vieques (Chanlatte Baik and Narganes Storde, 1983); Punta Candelero, Puerto Rico (Rodríguez, 1991); and Monserrate, Puerto Rico (Rainey, 1940) (Fig. 2). The spatial layouts of these sites have been interpreted to be cosmograms or physical representations of the Native American cosmos (Heckenberger and Petersen, 1995; Oliver, 1998; Siegel, 1995, 1997, 1999; Wilson, 2007) (Fig. 3). Space became a "symbolic creation of cosmic order" (Parker Pearson and Richards, 1994, p. 6), and as such the village layout represented an organizing principle for the community members.

Keegan (2009) recently critiqued the notion of Caribbean ceramic-age site layouts as cosmograms from a few perspectives. First, he argued

> that none of the sites he [Siegel] uses to support his concentric model have a perfect concentric plan and distribution of mounded middens ... Indian Creek is circular but the middens are sequential and not simultaneous; Golden Rock ... and Sorcé appear to be semicircular; Punta Candelero is oval; Maisabel seems to have two open plazas; Monserrate has a mounded midden near the middle of the plaza; and Trants is circular but lacks central plaza burials. In addition, central plaza burials are not limited to the Saladoid; El Chorro de Maíta site in eastern Cuba has central plaza burials in a proto-historic context (Keegan, 2009, p. 377).

I have variously referred to the composite distributions of these midden features as concentric or horseshoe-shaped in configuration. The point is, as a group they share a common center (dictionary defines concentric as "having a common center" [Webster's, 1991, p. 272]), which I argue represents the plaza. That's the culturally relevant point: a series of middens filled with cosmologically charged artifacts are positioned in such a way as to define a large centrally located open space.

A second issue raised by Keegan

> is the assumption that ... all of the mounded middens at a site are contemporaneous... Yet at least some of the sites seem to have developed through the sequential construction of middens over a long period... the outcome may appear to represent a roughly concentric distribution [which] may be the final product of centuries of occupation and not reflect accurately the layout of the settlement at any particular time. In other words, the

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[2] Not every Saladoid site (or site with Saladoid artifacts) displays the kind of stereotypical pattern documented in intensively occupied villages. Like in any human community there is variability in settlement organization determined by a variety of factors, including subsistence and economics, group interactions, politics, ideology, and cosmology. For example, in horticultural communities temporary camps may be established next to agricultural plots that exceed a specified distance or travel time from the main village (Carneiro, 1961; Leeds, 1961). I expect that in the context of large Saladoid horticultural communities we will find outlying temporary farm camps and resource-extraction places that leave archaeological signatures dramatically different than big villages. The point is, Saladoid peoples had mental models for their cosmos and how they related to it. Where this cosmovision structured on-the-ground village organization we should be able to detect it archaeologically.
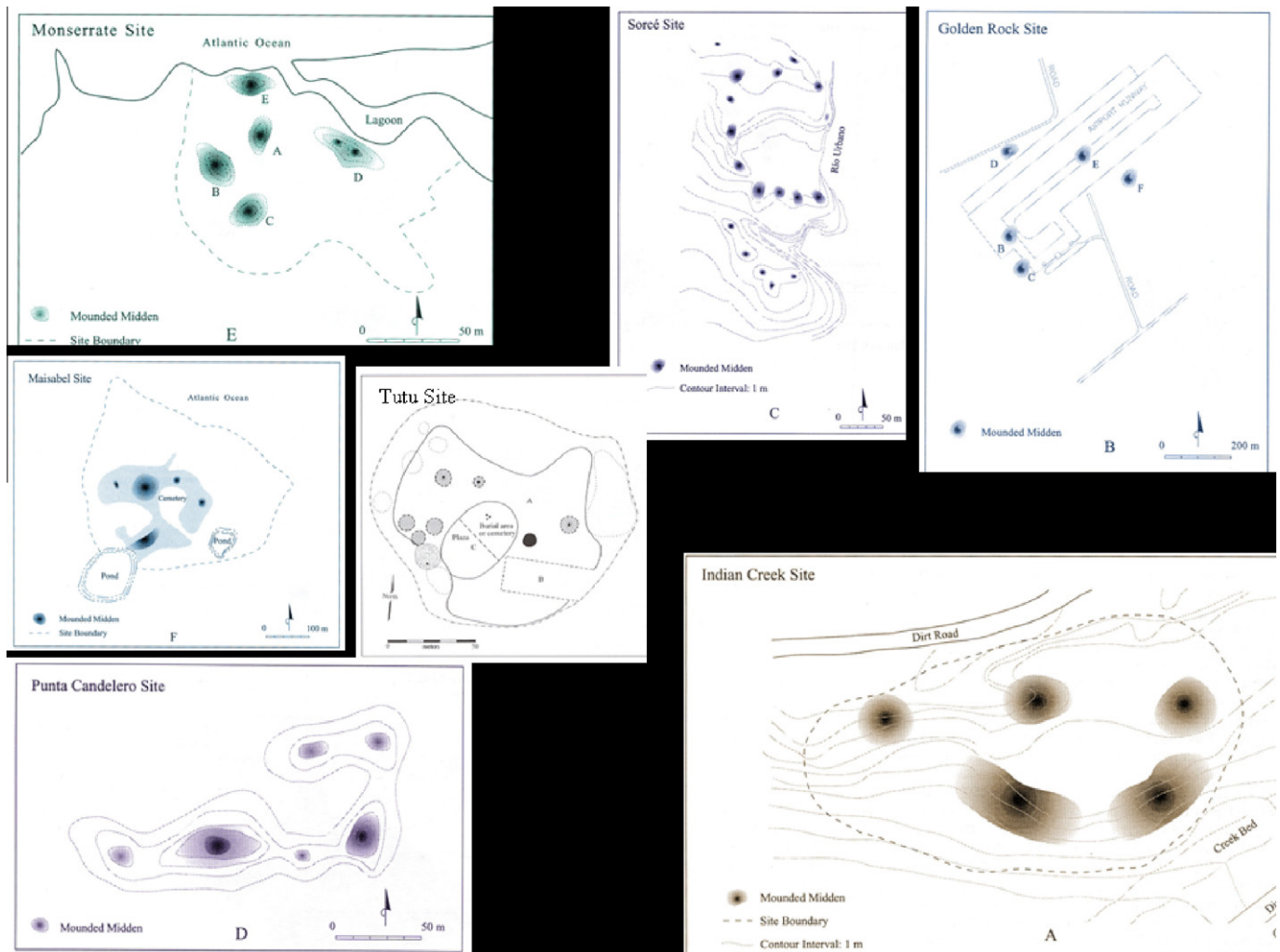
Fig. 2. Sample of Caribbean early ceramic-age sites showing concentric arrangements of dense midden deposits surrounding cleared open areas.

village itself was never a concentric arrangement of structures (Keegan, 2009, p. 377).

Indian Creek is the only site that Keegan named with the problem of "sequential construction of middens over a long period." In their discussion of the site chronology, Rouse and Morse (1999) documented Indian Creek deposits (0–600 AD) in Middens 1, 5, and 6; Mill Reef deposits (600–900 AD) in Middens 2, 4, 5, and 6; and Mamora Bay (900–1100 AD) deposits in Middens 3–5 (Table 1). The three middens with Indian Creek deposits form the eastern half of the concentric ring. Two additional middens were added during the Mill Reef occupation, completing the ring, and Midden 3 was added during the Mamora Bay period between two of the western middens.[3]

Examining the internal spatial arrangements of these ceramic-age sites reveals a preoccupation with planning for the short and long terms. The larger point, which applies also to Keegan's one example of "sequential construction," is that people in early and later occupations recognized the importance of these midden features for ritual disposal. (Think of the ritual economy.) The mounded middens contained the most elaborate artifacts fabri-

cated by the occupants of the sites and evidence of ritual behavior, sometimes spanning more than 14 centuries. These include finely crafted ground stone celts and adzes with no apparent use damage on their bits (Fig. 4); highly decorated pottery (Fig. 5); anthropomorphic and zoomorphic effigy vessels (Fig. 6); a snuff inhalator (Fig. 7); shell, stone, and bone amulets, beads, and plaques; guanin (tumbaga) at Maisabel (Siegel and Severin, 1993); feasting remains (Fig. 8); and such.

Out of all the sites that Keegan discussed, Maisabel probably has been the most intensively excavated and reported on. All five of the mounded middens contained Hacienda Grande style artifacts (oldest Saladoid complex on Puerto Rico) in the lowest levels. Most of the systematically excavated auger pits across the site did not contain Hacienda Grande style artifacts so the presence of this complex in all of the spatially discrete middens indicates that these features were selected for during the earliest time period. Keegan's conclusion that "the village itself was never a concentric arrangement of structures" does not apply to Maisabel or the other sites he discussed. In their review of Saladoid site plans, Heckenberger and Petersen observed that:

> In various Caribbean archaeological sites associated with the Saladoid period … concentric circular village patterns have been reconstructed. These are characterized by central cleared areas, or plazas, with ringing domestic areas. It is widely

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[3] The chronological assessments at Indian Creek are based on limited excavations, especially given the size of the site in general and the defined middens in particular. We need to acknowledge the very real possibility that with more extensive excavations in the site the chronology of the middens will be revised.
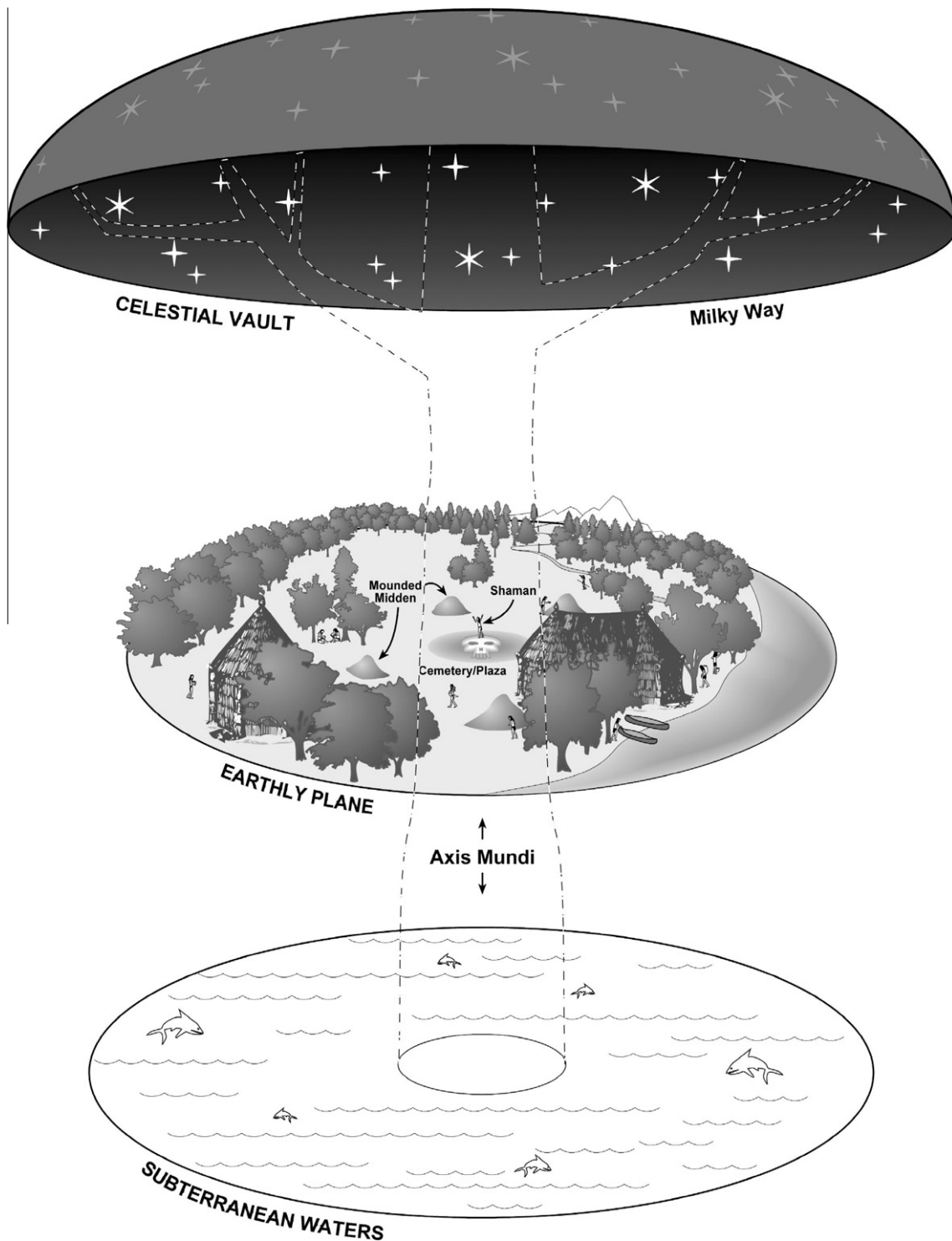
Fig. 3. Representation of the Caribbean early ceramic-age cosmos based on the Maisabel archaeological plan map. The earthly plane is surrounded by the celestial vault above and the subterranean waters below. The shaman, as intermediary between the human group and spirit world, travels along the axis mundi. In this depiction, the axis mundi is represented by the centrally located village plaza/cemetery ringed by mounded middens filled with the most elaborate artifacts produced by the community. Many of the burials excavated in the Maisabel cemetery were in flexed fetal positions, symbolizing death as a form of rebirth to a new status.

recognized that these concentric village patterns ... have clear correlates in the ethnography of lowland South America... [B]ased on ceramic and linguistic evidence, it is widely agreed that Saladoid populations were derived from northern South America [and that] circular village patterns have been interpreted as the surficial expression of an underlying conceptual model of concentric cosmological and earthly space (Heckenberger and Petersen, 1995, pp. 379, 382).

Heckenberger and Petersen (1995, p. 382) suggested that the idea of "'tropical forest cosmology' ... carried by Saladoid people [from Amazonia] to the Caribbean" and expressed in village ground

Table 1
Distribution of Cultural Complexes in the Indian Creek Site, Antigua by Midden.

Cultural Complex	Midden 1	Midden 2	Midden 3	Midden 4	Midden 5	Midden 6
Mamora Bay			×	×	×	
Mill Reef		×		×	×	×
Indian Creek	×				×	×

Information from Rouse and Morse (1999).

plans should be tempered by other or additional considerations, including "public ritual performance and village politics." I agree completely with this point, although would add that ritual and politics often are intimately linked to cosmology (Bell, 1992, pp. 182–196, Bell, 1997, pp. 128–137; Cohen, 1981; Kertzer, 1988; McCauley and Lawson, 2007; Rakita, 2009; Rothenbuhler, 1998, pp. 96–104).

Keegan (2009, p. 377) purported that the model of pre-Columbian village cosmological organization is based on inappropriate
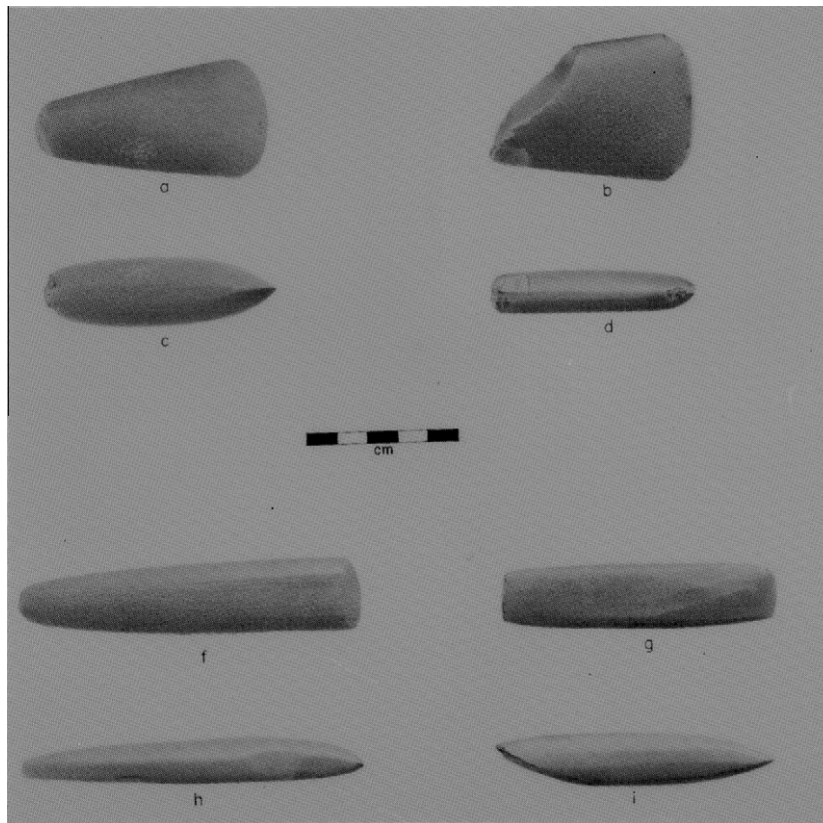

Fig. 4. Sample of celts found in mounded midden deposits.

Fig. 5. Examples of elaborately decorated pottery from mounded midden deposits.

Fig. 6. Sample of zoomorphic and anthropomorphic effigies from mounded midden deposits.

Fig. 7. Snuff inhalator from mounded midden deposit.

Fig. 8. Feature excavated in one of the mounded middens containing faunal remains and elaborate pottery, suggestive of ritual feasting.

comparisons to lowland South American ethnographically documented villages and to ethnohistoric reports of the Taíno Indians, with no concern for archaeological data. Regarding archaeology, we have the spatial arrangements of midden deposits, the contents of midden deposits, and in some sites burials in central plazas ringed by midden deposits. In a nutshell, here's the argument: (1) the Saladoids originated in the Orinoco Valley about 2500 years ago and dispersed into the West Indies, not as a single monolithic migration but most likely as colonizing pulses, discussed earlier (archaeological evidence), (2) the Saladoids brought with them, among other things, a worldview that they developed in South America (inference based on archaeological evidence and ethnographic comparison), and (3) crucial aspects of Saladoid material culture and religion are linked to post-Saladoid cultures and eventually to the protohistoric/Contact-period Taínos (archaeological and ethnohistoric evidence).

One might reasonably question the appropriateness of comparing ethnographically documented village organization in Amazonia (Fig. 9) to pre-Columbian archaeological site plans in the Caribbean dating to 2500 years ago. Appropriateness of comparison is important to demonstrate when making an ethnographic analogy, "when analogs are compared for the relations that hold among the properties they share rather than for the simple presence or absence of these properties considered independently of one another" (Wylie, 1985, p. 95). Weak analogies are limited to simple formal similarities between source (ethnographic) and subject (archaeological) contexts. Moving beyond ad hoc formal similarities and producing strong well-reasoned analogies, "archaeologists must work aggressively on both sides of the analogical 'equation' and ... establish the principles of connection – the consideration of relevance – that inform the selection and evaluation of analogies (Wylie, 1985, p. 101). Or, as Evangelos Kyriakidis stated more recently: "Though there is no doubt that continuity can, and indeed does, exist, it has to be proven in every case and cannot be considered a given for any given society" (Kyriakidis, 2007a, p. 297). I am concerned with the connections between lowland South American ethnographic data on cosmology and community organization and early ceramic-age Caribbean site plans and "under what conditions these connections may be expected to hold" (Wylie, 1985, p. 101).

A lot has happened over the millennia in Amazonia, especially after the arrival of Europeans. Populations occupying lowland South America today, pale in comparison to precontact populations. Explorers and missionaries in the sixteenth century described large and dense communities occupying the main trunks of big rivers (de la Cruz, 1942; Fritz, 1922; Medina, 1934; Morey and Marwill, 1978; Myers, 1974), perhaps maintaining "no-man's lands" as buffers between adjacent groups (DeBoer, 1981; Myers, 1976). These occupations were intense, resulting in nearly continuous middens or organic-rich dark-earth deposits along river bluffs, up to four meters deep in places (Denevan, 1976, p. 217, 1996, 2001; Falesi, 1974; McCann et al., 2001; Roosevelt, 1987, p. 157, 1989; Woods, 2004; Woods and McCann, 1999; Woods et al., 2000). Descriptions of the villages, and how they were structured, indicate that these groups were organized into chiefdoms
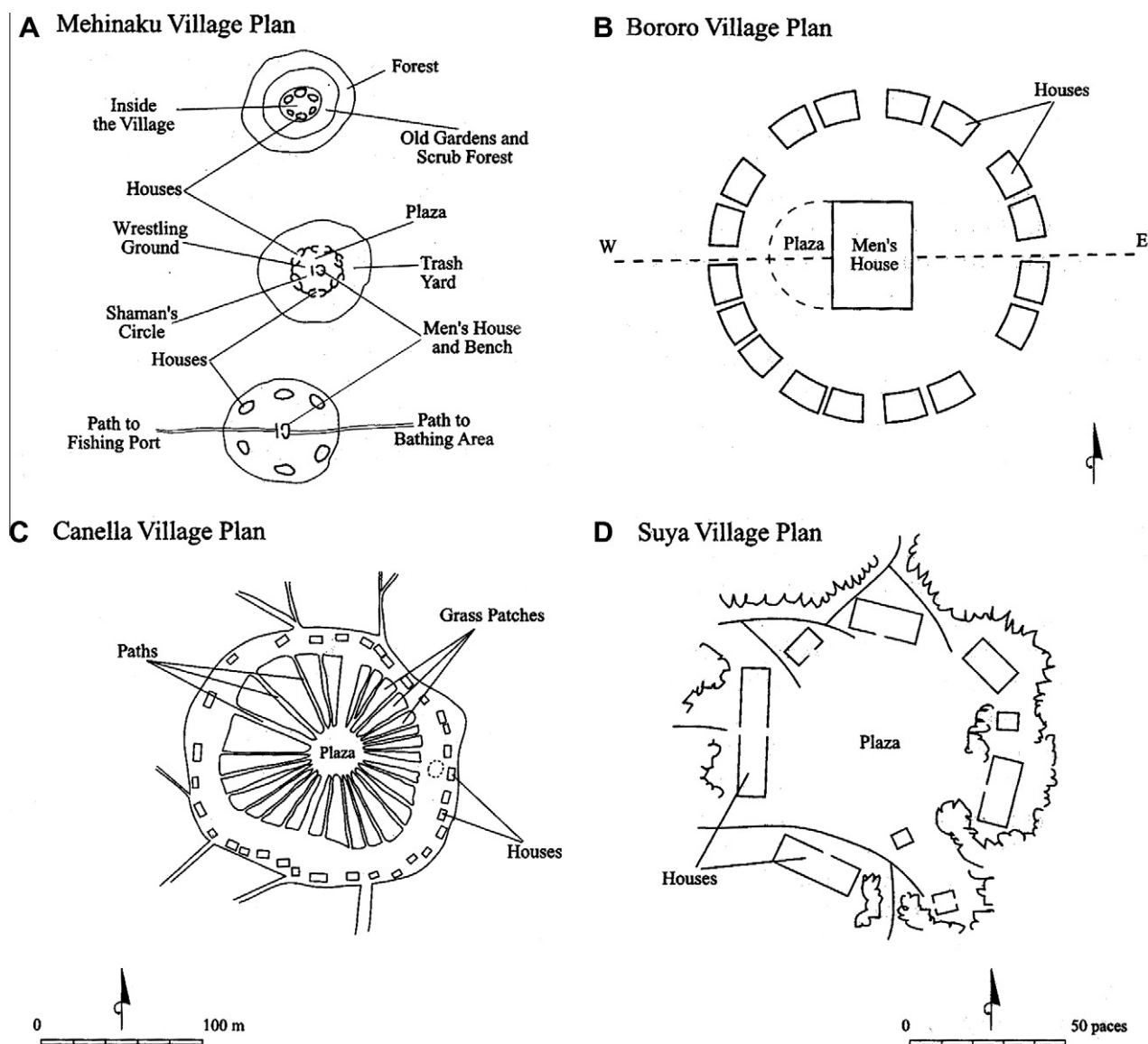
Fig. 9. Four Native American communities in lowland South America, depicting a common arrangement of cleared central plazas surrounded by domestic spaces (after Siegel 1996: fig. 2).

and perhaps even small states (Myers, 1973; Roosevelt, 1987, 1991, 1999). As a result of European contact, the large densely populated settlements were nearly completely decimated within 100 years (Denevan, 1976). Disease, enslavement, and systematic genocide reduced complex chiefdoms to small-scale communities taking refuge in disparate, usually interfluvial, regions of Amazonia (Denevan, 1976, pp. 217–218). In her discussion of the process, Anna Roosevelt observed that:

the dislocations and depopulation of the historic period apparently brought a return to the less intensive root crop and animal capture economies of the early prehistoric period. The shifting cultivation, hunting, and fishing subsistence of ethnographic Indians seems thus to be a return to an archaic way of life that existed in the Amazon before the development of the intensive economies of the chiefdoms (Roosevelt, 1987, p. 159).

Boomert made a similar observation:

in many respects, the way of living and cultural traditions of the first horticulturalists of the Caribbean are comparable to those of recent Amerindian societies in the South American tropical lowlands. Insight in the latter thus yields valuable understanding of the patterns of infrastructure, sociopolitical organization and religion, shown by the Saladoid series... their configurations of settlement and subsistence correspond to those of many present or former Tropical Forest horticulturalists (Boomert, 2001, pp. 55–56).

The appropriateness of using ethnographically documented peoples from South America for interpreting the Caribbean archaeological past has been discussed extensively (Alegría, 1986; Arrom, 1975; Fernández Méndez, 1972; López-Baralt, 1985; Oliver, 2005; Pons Alegría, 1987; Roe, 1982; Stevens-Arroyo, 1988; Wilbert, 1987) and more specifically for the early ceramic age (Boomert, 2000, 2001, 2009; Oliver, 1992, 1998; Roe, 1982, 1989, 1991, 1995a, 1997, 2005; Siegel, 1989b, 1995, 1996, 1999). Roe (1989, 2005) and Boomert (2000) in particular have discussed ceramic iconography in the context of shamanist practices, ancestor spirits, and access to the numinous, bolstering their interpretations by referring to such practices extensively documented in Amazonia. Looking across Amazonia (and across language groups) we

find broad similarities in myths, conceptions of cosmos, and materializations of such. In regard to cosmology, Peter Roe observed that:

> the Amazonian region is a perfect highway of ideas [the impact of which is] seen in a uniformity of mythical themes throughout the region... Such an explanation would go a long way toward explaining the Guianan or Gran Chacoan similarities with the central Amazon ... or the uncanny resemblances I uncovered between the myths of the Peruvian montaña and the Guianas (Roe, 1982, p. 26).

In questioning the appropriateness of using specific ethnographically documented Amazonian groups in comparison to pre-Columbian Caribbean village layouts, Keegan observed that "Siegel ... cites the case of the Makiritare... Yet the Makiritare associate this [axis mundi] concept with their house structures and not the central plaza. It is appropriate to ask whether ... open plazas or central open spaces were similarly designated in Arawakan cosmology" (Keegan, 2009, p. 379). Studies of community organization in lowland South America reveal a considerable amount of variation across the region (Butt Colson and Dieter Heinen, 1983–1984; Gross, 1973; Kensinger, 1984; Wilbert, 1972). Rules of residence, marriage, economic relations, and domestic organization display a multitude of patterns. However, among sedentary communities residing in relatively permanent villages (10–15 years) there are striking similarities in how space was used and what it meant to the inhabitants.

Scholars have noted the structural and symbolic aspects of lowland villages *and/or the houses* within them (e.g., Crocker, 1985; Doyon, 1998; Dumont, 1972; Gregor, 1977; Lathrap et al., 1977; Lévi-Strauss, 1948, pp. 326–327; Reichel-Dolmatoff, 1971; Staller, 2001; Turner, 2002, pp. 282–290; Urban, 1996, pp. 66–98; Wilbert, 1972, 1981). This relates to cosmological notions of time, space, and the organization of the universe. For instance, Wilbert observed that "the communal house represents a miniature of the Makiritare macrocosmos. The roof is the heavenly vault supported by a major cross-beam – the Milky Way. The central pole is the *axis mundi*, the axis of rotation for the celestial dome" (Wilbert, 1972, p. 138).

In his "alternative perspective" on Saladoid village plazas, and in stripping them of cosmological significance, Keegan (2009) argued that in death people were shipped for burial to their villages of birth, although evidence for this is lacking. He cited Booden et al.'s (2008) strontium analysis of burials from Anse à la Gourde on Guadeloupe as evidence for his model. Those researchers concluded that "It is most probable that the majority of individuals with a local strontium ratio had been living on or near the site ... in their youth... The outlying teeth are thought to represent individuals who migrated to Anse à la Gourde after the completion of enamel formation ... a definite provenance area cannot be assigned to nonlocal individuals" (Booden et al., 2008, pp. 223–225). Here's the question: how does one distinguish postmortem from premortem mobility?

Consider the scene described by Meyer Fortes in his discussion of Tallensi death, burial, and ancestors: "a wife on her death is given two funerals, a primary funeral in her conjugal settlement where she is mourned ... as wife and mother, and a secondary one when she is 'taken back home' to her paternal lineage [where] she is mourned as daughter and sister" (Fortes, 1987, p. 70). There are so many scenarios for pre and postmortem mobility that it is difficult to see how Keegan's alternative perspective is supported by the Guadeloupe study.

If we agree that Saladoid and post-Saladoid ancestors to the Taínos imbued meaning in their cognized landscapes, including houses, settlements, and spaces within settlements the next challenge is to decipher that meaning from the perspectives of the participants.

Structural analysis of houses, settlements, and landscapes

Following Wallace (1966), religion consists of three components: ritual, myth, and transformations of state. Ritual is the component through which archaeology can access religion most directly: "Ritual is religion in action" (Wallace, 1966, p. 102; see also Rakita and Buikstra, 2008; Drennan, 1976; Kyriakidis, 2007b; Marcus and Flannery, 2004; Rakita, 2009). Kyriakidis observed that "Ritual, like other forms of crystallized action, is most often a repeated activity, the material remains of which may create patterns" (Kyriakidis, 2007c, p. 9). Not all ritual is religiously based; some patterned, repetitive, and stereotyped behaviors that we call "ritual" may be secular in orientation (Kyriakidis, 2007a; Moore and Myerhoff, 1977; Rappaport, 1971, pp. 25–28; Rothenbuhler, 1998, pp. 96–116). The material products and context of repetitive and stereotyped behavior should allow archaeologists to distinguish sacred from secular rituals: "those artifacts used in ritual should exhibit a pattern of use and discard which is non-random and yields insights into the nature of the ritual itself" (Marcus and Flannery, 1994, p. 56). Joyce Marcus emphasized the importance of "situat[ing] ritual behavior in its sociopolitical and economic contexts [in order to] uncover ... the principles by which ritual coevolved with sociopolitical organization" (Marcus, 2007, p. 44). I will address the ritual and symbolic use of space diachronically and along a spatial continuum ranging from the village plaza to the landscape.

In 1948, Irving Rouse described "ceremonial structures" in the Greater Antilles as "large flat areas alongside the refuse deposits, either circular, oval, or rectangular in shape and lined with embankments, faced in some cases with upright stone slabs. These are called 'ball courts,' although many of them may have served primarily as ceremonial plazas, and several are so long and narrow as to resemble roads" (Rouse, 1948, p. 507). Sixty years later, Caribbean archaeologists are still addressing the civic-ceremonial aspects of the plazas, explicitly linking them to sociopolitical affairs of the Taínos (Curet et al., 2006; Curet and Oliver, 1998; Oliver, 2005, 2009; Rodríguez Meléndez, 2007; Siegel, 1999, 2010; Wilson, 1990). In her recent ethnohistoric and archaeological investigation, Yasha Rodríguez Meléndez (2007, pp. 2–5) preferred to use the term *batey*, recorded by the Spaniards, for Caribbean plazas:

> A batey can be taken as an open space delineated by stones or earthen embankments, used to conduct ball games or related various activities subsumed under the term *areito*. Bateyes, by virtue of activity and the type of activities described to have been conducted within them, can be interpreted as spaces for action... [A] batey is defined as an indigenous public space in the Caribbean region in which social activities took place (Rodríguez Meléndez, 2007, p. 2).

It makes sense to think of these spaces as having multiple overlapping uses, ranging from sacred to political-economic (Rodríguez Meléndez, 2007, pp. 15–17, 28–42). García Arévalo (1991) argued that *bateyes* were important forums for economic exchanges that took place when groups met for ritual ball games. In this regard it is difficult to disentangle sacred from purely secular activities and it may be appropriate to view *bateyes* as formally constructed places (like theaters) where the gaze was sharpened on activities ranging from civic to ceremonial to political. As formally constructed and landscaped spaces, I will use the terms *batey* and plaza interchangeably.

Building on Rouse's early observations about the political and ceremonial aspects of *bateyes*, I want to address Native American

worldview and how this relates to the symbolic and metaphorical qualities of their cognized environment and evolving social organization. I approach the problem from two somewhat different perspectives, which hopefully converge in some meaningful understanding of plaza space and cultural landscape. First, plazas as public spaces "locate, both physically and metaphorically, social relations and social practice in social space" (Low, 1996, p. 861). As such, their "meaning ... [is] revealed through ... metaphorical connections and ritual practices" (Lawrence and Low, 1990, p. 492). By employing "contextual theories of space" we can address the dynamic political, religious, and contested values encoded in the built environment: "These aesthetic, political, and social aspects of the plaza are dynamic, changing continually in response to both personal action and broader sociopolitical forces" (Low, 2000, pp. 33, 47). Second, structural analysis of the cultural or cognized landscape provides a spatial-analytic method to investigate and characterize the built environment in the context of Native American symbolic thought. As Trevor Watkins (2004, p. 97) observed, the "built environment [is used] as a frame of symbolic reference, imbued with meaning and significance."

Researchers in cognitive science have demonstrated that humans generally make sense of the world around them through the process of "metaphor." As cognitive scientist George Lakoff observed, in literary theory "the word 'metaphor' was defined as a novel or poetic linguistic expression where one or more words for a concept are used outside of their normal conventional meaning to express a 'similar' concept" (Lakoff, 1993, p. 202). He quickly dispelled the literary idea as naïve and pointed out that "the locus of metaphor is not in language at all, but in the way we conceptualize one mental domain in terms of another" (Lakoff, 1993, p. 203). In this sense, Lakoff (1993, pp. 206–208) referred to "conceptual metaphor." Likewise, Gilles Fauconnier and Mark Turner noted that "conceptual integration, which we also call conceptual blending, is another basic mental operation, highly imaginative but crucial to even the simplest kinds of thought" (Fauconnier and Turner, 2002, p. 18).

In efforts to understand people's organization and conception of space, scholars "have noted, in societies where literacy is unknown or of limited service in daily activities, it is concrete and contextualized symbols and metaphors rather than abstract and decontextualized logical manipulations that serve as the tools for assigning and apprehending order and meaning in one's life" (Kus and Rahariaona, 1990, p. 23). Or, as Paul Wheatley put it, "religions which hold that human order was brought into being at the creation of the world tend to dramatize the cosmogony by reproducing on earth a reduced version of the cosmos [and that] before territory [or landscape] could be inhabited, it had to be sacralized, that is cosmicized ... as an imitation of a celestial archetype" (Wheatley, 1971, p. 417). This is not to say that literate societies have abandoned metaphor or symbolic representation of space (e.g., Bachelard, 1964 [1958]; Glassie, 1975, 2000; Lawrence, 1990; Low, 2000; Wheatley, 1971).

Much of the symbolism associated with the meaning behind cognized landscapes is based on binary or dual comparisons of spatial domains (Doyon, 1998; Fauconnier and Turner, 2002; Lakoff and Johnson, 1999; Ossio, 2002; Roe, 1995b; Seeger, 1981, 1989; Shore, 1996; Staller, 2001; Turner, 2002). Importantly, these domains may be grouped and combined as spatial referents change, referred to as "conceptual blending" (Fauconnier and Turner, 2002), "cognitive fluidity" (Mithen, 1996, 1998), or "figure-ground reversals" (Lakoff and Johnson, 1999, pp. 148–149). David Maybury-Lewis (1989a, pp. 1–2) argued some time ago that "dualistic systems of social thought" are "a fundamental feature of all human experience." This assertion underpins much of recent structural anthropology. By freeing dualistic analysis from the constraints of moiety systems and clans, anthropologists are able to explore the full range of human experience in terms of oppositions that provide structure, meaning, and stability to the participants.

Numerous societies exhibit some form of dualism, whether it's the classic structural form of a moiety system to a dualistic cosmology (Maybury-Lewis, 1989b). Indeed, in a tribute to Robert Hertz (1973), author of the seminal paper "The Pre-eminence of the Right Hand: A Study in Religious Polarity," E.E. Evans-Pritchard wrote that "once the symbolism of right-left had been brought back to the notice of anthropologists it was found all over the world... Now it is elementary that concepts derive their meanings in relation to their opposites, that X means something in relation to non-X" (Evans-Pritchard, 1973, p. ix). Oppositions come in many forms; it is how they are reproduced, transformed, combined, reversed, and mediated that is of interest. As Maybury-Lewis (1989a, p. 7) noted, there are "different styles of dualism."

Dualism is based on the recognition of binary oppositions that are used by individuals to help structure, organize, and make sense of the world around them specifically and the universe in general. Day–night, good–evil, sacred–profane, male–female, birth–death, up–down, east–west, cooked–raw, cosmos–chaos are familiar examples of oppositions documented in many cultures (Lévi-Strauss, 1976; Needham, 1973, 1979, 1987). In recent years, anthropologists and cognitive scientists have addressed dual organization in a variety of realms, including social and political systems and religious or cosmological structures (Cordeu, 2002; Fabian, 1992, pp. 158–161; Laughlin, 1997; Laughlin and Throop, 2009; Lawrence, 1990; Oliver, 2005, 2009; Parker Pearson and Richards, 1994; Roe, 1995b, 1997, 2005; Rosman and Rubel, 1989; Shore, 1996). Given the broad range of contexts in which dualism has been demonstrated it seems almost inescapable that the concept underpins the very fabric of cognitive and conceptual organization in human society (Laughlin and D'Aquili, 1974; Laughlin et al., 1990; Laughlin and Throop, 2009; Paivio, 2007; Roe, 1995b; Sadoski and Paivio, 2001; Shore, 1996; Stent, 2005).

Ezra Zubrow suggested that cognitive universals exist within the human species and perhaps within the genus Homo (Zubrow, 1994). Among the universals discussed by Zubrow and relevant for my analysis of dualism, spatial symbolism, and representation include "bisection or sub-division" and "orientation." Bisection "is defined as when an object is ⟨bisected⟩ into two objects, or a space is ⟨bisected⟩ into two spaces ... [and] orientation [is when] objects or spaces are oriented in relationship to their spatial referent and takes the form object ⟨oriented⟩ spatial referent" (Zubrow, 1994, pp. 110–111). There are ideal (or universal) representations of bisected space that are reflected by the "real" (on-the-ground) that can be mapped, measured, and documented. So, "an Iroquois village site such as Howlett Hill is ... a poor reflection of the more ideal ethnohistoric Iroquois settlement at Brompton Hill which in turn is a reflection of what Iroquois have considered an 'ideal type'" (Zubrow, 1994, p. 111).

We should be able to look into antiquity for the roots of dualism and cognitive universals and how they may have been used or transformed in the longue durée of history and changing fortunes of such social formations as families, lineages, corporate groups, polities, chiefdoms, principalities, nations, or states. The methodological challenge is to recognize dualism in the archaeological record. The theoretical challenge is to link very real changes in historical trajectories of societies or cultures to shifting conceptual structures. That is, if dualistic thought or dual organization is a fundamental aspect of many social systems how flexible is it during times of turmoil; contact between drastically different cultures and ensuing new social formations; and the formation, dissolution, and coalescing of polities? What happens to dualistic thought in the transition from egalitarian society to institutionalized social inequality with the accompanying accoutrements of power? Is dualism even relevant in these discussions?

Specific aspects of dual organization are deeply rooted in the pre-Columbian past, and are still of crucial importance to

numerous indigenous groups in South America. Dual organization is shown to have been of fundamental importance in the early ceramic age of the pre-Columbian Caribbean dating to about 500 BC. Changes in social and political organization associated with the formation of chiefly polities, beginning around 700 AD in the Greater Antilles, are related to necessary changes in conceptual organization. In other words, the way people relate to each other and the universe is always crucial, during times of stasis and especially during times of crisis. Dualism may be thought of as inherently dynamic, a conceptual structure that may be molded and expanded as needed (Laughlin, 1997; Laughlin and Throop, 2009; Roe, 1995b, 1997; Seeger, 1981, 1989; Shore, 1996; Stent, 2005; Turner, 2002).

Dual organization typically is divided into two analytical and conceptual types: concentric dualism and bilateral dualism (Lévi-Strauss, 1976, pp. 71–81; Maybury-Lewis, 1989b, pp. 110–115; Shore, 1996, pp. 265–283; Turner, 2002, pp. 282–286). There has been some debate as to how these two forms of dualism relate to each other and, more fundamentally, whether or not they are "closed and static" versus "open and dynamic" cultural systems (Maybury-Lewis, 1989b, p. 111; Shore, 1996, pp. 268–273).

In his study of Andean concentric dualism, Ossio (2002) documented continuities from the Inca pre-Hispanic past to current society: "In the Inca past, the main expression of concentric dualism came from the opposition of the Inca king and the rest of the population, or of the city of Cuzco and its periphery. At the communal level, today the opposition takes the forms of main village and the rural periphery, and of the plaza and its surrounding area, and so on... Concentric dualism ... focuses on the representation of sacred center with its metaphysical connotations" (Ossio, 2002, pp. 202, 203). Ossio (2002, pp. 217–219) argued that dualistic organization of Andean society is crucial for the large extant indigenous population to cope with large-scale social, political, and economic transformations sweeping through Peru. Likewise, Terence Turner, on the Kayapó of southeastern Brazil, emphasized the importance of a dualistic cosmology that served as "a conceptual model and a pattern of social action," affording the Kayapó "a pragmatic means of controlling and coordinating the reproduction of the social processes whose forms the pattern embodies" (Turner, 2002, p. 281). These "divisions of opposites" (López Austin, 2002, p. 44) permeate Native American thought, past and present, and provide a dynamic structure for social relations and group survival in uncertain times.

It has been abundantly documented that symbolic expressions of the Native American cosmos are reproduced in many forms and at multiple intersecting conceptual scales, ranging from the human body to small portable objects to houses to villages to entire landscapes (Arroyo-Kalin, 2004, p. 73; Fabian, 1992, p. 160; Falchetti, 2003; Guss, 1989; Jean, 2004; Laughlin, 1997; Oliver, 2005, 2009; Ortman, 2000; Reichel-Dolmatoff, 1985; Roe, 1982, 1995a,b, 1997, 2005; Seeger, 1989; Staller, 2001; Turner, 2002). Charles Laughlin argued that "the semiotic aspect of the body image is central to the world view of many peoples [and] that shamanic cultures everywhere place the human body at the center of the cosmos, ... called the 'somatocentricity' of cosmology... [T]here does not exist a society anywhere on the planet among whom members do not transform either the male or female body (or both) in a symbolic manner" (Laughlin, 1997, p. 50).

David Guss on the Yekuana Indians of the upper Orinoco observed that "the ability of these symbols to evoke and organize depends [precisely on the multiple frames of references] which, although seldom verbalized, extends to every configuration of cultural expression" (Guss, 1989, p. 163). Ortman's (2000) masterful analysis of Mesa Verde textile and pottery designs powerfully demonstrates the importance of metaphor in cultural cognition. Ortman showed how design rules transcended media and scale, from cloth fabric to ceramic bowl to kiva:

The typical kiva was circular and subterranean ... and contained a small circular hole ... that represents the 'earth navel' ... the walls ... were occasionally decorated in ways that correspond with the decoration of pottery bowls... the roofs ... were constructed of concentric circuits of timbers, which formed a hemispherical vegetal surface that is perceptually similar to a coiled basket. This combination of a 'coiled basket' roof with 'pottery bowl' walls in the kiva suggest that textiles and pottery were linked in additional metaphorical concepts that defined the Mesa Verde Puebloan world (Ortman, 2000, p. 638).

Similarly, in studying ancient Andean textiles, William Conklin addressed "underlying larger meaning [in the weaving]: something concerning the nature of continuous interactive action – something to do with an Andean sense of over – and under – ness" (Conklin, 1999, p. 129). In her discussion of dual symbolism associated with metallurgical transformations and *tumbaga*, Falchetti (2003, p. 346) observed that there is "a Pan-American reality [that] can be found behind many local worldviews," a point also made by Saunders and Gray (1996, p. 810) in regard to Taíno ancestral spirits.

On-the-ground aspects of cosmological organization can be documented archaeologically and ethnographically in Indian villages across the Americas (Bowers, 1950; Chamberlain, 1982; Custer, 1995; Dumont, 1972; Higler, 1952; Kinsey and Graybill, 1971; Kroeber, 1902; Speck, 1931). I will address the symbolic and metaphorical aspects of the "built environment" and "cognized landscape." The built environment is broadly defined to be "the products of human building activity," which may include "spaces that are defined and bounded, but not necessarily enclosed, such as the uncovered areas in a compound, a plaza, or a street" (Lawrence and Low, 1990, p. 454).

Our job now is to chart the evolutionary trajectory in cosmological and political organization from the early ceramic-age Saladoid to the Contact-period Taínos. The structural analysis of village organization is used to address social and historical change. One might suppose that this is an exercise in essentialism; that is "using individual archaeological indicators to identify the origin of practices that resemble some elements in either historical or ethnographic sources. By examining these elements in isolation, archaeological statements on past ritual become little more than factoids – decontextualized statements concerning the origin of modern religious practices" (Fogelin, 2007, p. 23). To the contrary, I situate the evolutionary trajectory of ritual space into the larger context of social, political, and cosmological organization that we can identify in the archaeological, ethnohistoric, and ethnographic records. The "factoids" of ritual organization cannot be isolated from the cultural context that produced them.

Anthony Seeger (1989, pp. 199–205) discussed six major criticisms that have been leveled against the analysis of dualism. I hope to dispel two of them. These are: "you can't account for origins" and "you can't account for social change" (Seeger, 1989, pp. 203–205). Lawrence and Low (1990, p. 469), too, observed that "Critics [of structuralist approaches to the built environment] claim that its static, synchronic view of culture fails to take account of social historical change, and that its focus on human cognitive practices excludes action or praxis." Or, as Michael Harkin put it, structuralism is often seen "to be in the business of denying or suppressing history" (Harkin, 2009, p. 39).

Dualistic village organization: symbolizing the landscape in the pre-Columbian Caribbean

Concepts of cosmic spatiality, materialized on the ground in village layouts, articulate with discussions of dualistic societies (e.g., Crocker, 1985; Fabian, 1992; Gregor, 1977; Guss, 1989; Nimuendajú,
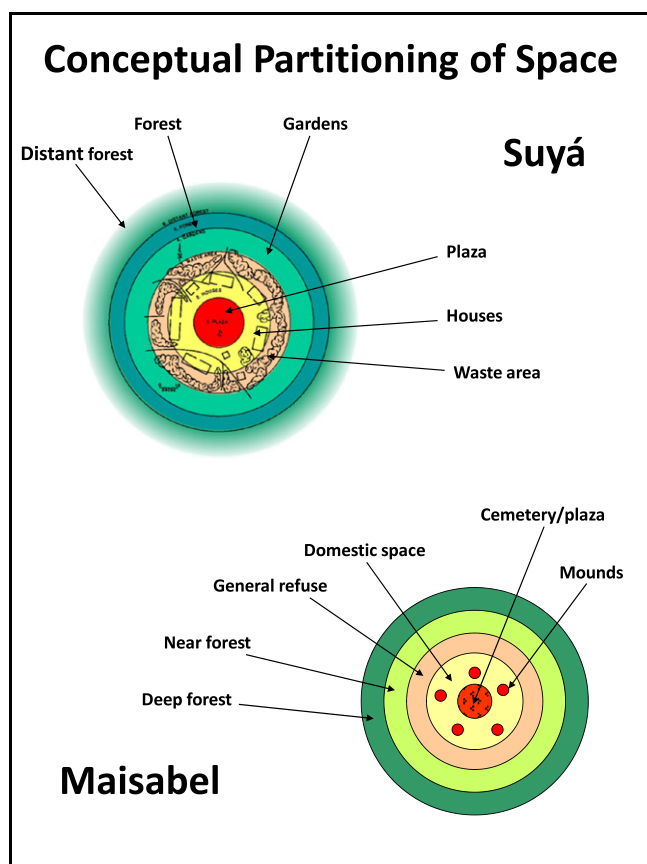
Fig. 10. South American and Caribbean conceptual partitioning of space based on Seeger's (1981, Fig. 2.2) analysis of the Suyá Indian village and Siegel's (1995, Fig. 2.12) excavation of the Maisabel site.

1946; Oliver, 2005, 2009; Roe, 1982, 1997, 2005; Shore, 1996; Seeger, 1981, 1989; Staller, 2001; Turner, 2002; Urban, 1996; Wilbert, 1981). For instance, Seeger's (1989, Fig. 1) depiction of the Brazilian Suyá village plan showing concentric spatial domains is similar to the plan map of the Maisabel site and my ring-model interpretation of it (Siegel, 1995, Fig. 2.12) (Fig. 10). In terms of the major opposition of culture versus nature, Seeger argued that components of village space could be viewed hierarchically and as a series of overlapping and nested oppositions (see also Doyon, 1998, Fig. 4; Staller, 2001, pp. 26–30; Turner, 2002, pp. 282–290). As such, there are gradations of social versus natural space, which Seeger linked to fuzzy set theory in mathematics (Seeger, 1989, pp. 197–199). Or, in his literary analysis of space, Gaston Bachelard (1964 [1958], p. 216) observed "that the dialectics of inside and outside multiply with countless diversified nuances."

By ordering, classifying, and generally reflecting on space it becomes part of everyday actions. Meanings and perceptions of space will necessarily change in the context of social and historical contingencies (Parker Pearson and Richards, 1994, pp. 3–5). In his study of concentric dualism in Samoan village organization, Bradd Shore also documented a gradation in how space was conceptualized: "the village defines a … *graded relationship* between center and periphery rather than a simple [static] *binary* opposition. It defines a symbolic space in terms of a central viewpoint that looks out at a world defined by a gradually diminishing gradient of dignity and order" (Shore, 1996, p. 270). The point of particular relevance for archaeology is that the symbolic and physical spheres form a unifying whole. That is, there "is a cognized or conceptualized materiality in which the physical and conceptual aspects emerge together… [There is] a unifying … relationship towards

the dualistic concepts of mind or thought on the one hand and brute matter on the other, and towards such other dualities as symbol and referent, or signifier and signified" (Renfrew, 2004, p. 25). In identifying "key principles that structured [Mesoamerican] ritual performance and gave it meaning" Marcus observed that rites were "replicated at three [social and conceptual] levels: by one family in its house compound, by clusters of family compounds, and by entire hamlets" (Marcus, 2007, pp. 48–49).

Sets of dualistic oppositions are evident in the structure of early Neolithic West Indian villages. I have argued that the plaza and mounded middens were structurally isomorphic (Siegel, 1995, 1996, 1999). That is, as people were buried in the plaza, offerings were placed in the surrounding mounds.[4] *The plaza and mounds, as a complex, were the preeminent and most public form of sacred space.* This mortuary pattern reinforced the collectivist and egalitarian ethics of the group; in death, no one individual was more esteemed than another (see also Boomert, 2009, p. 66). Keegan (2009, pp. 376–377) misunderstood the model when he stated "that the circular arrangement of … mounded middens reflected secular (profane) space."

Starting from the village center we may contrast the sacred space of plaza and mounded middens with profane domestic space (Fig. 11). Moving a step out in the village plan, ceremonial and domestic space may be grouped and redefined as a cultural core versus an outer ring of refuse or profane space. Yet more general, the village proper, including ceremonial, domestic, and refuse areas, is contrasted with the forest and gardens immediately surrounding the village. In coastal areas, this outer zone includes the littoral region of the ocean, where collecting of shell fish and schooling reef fishes took place. Finally, the combined near-forest/littoral zone and village are contrasted with the deep forest, or the domain of nasty monsters and evil spirits. The marine counterpart to deep forest is deep sea, the realm of large and dangerous water creatures.[5] This nested gradation of conceptual space is remarkably similar to the Samoan landscape:

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[4] Elizabeth Righter observed the same phenomenon of the ritual economy at the Tutu site on St. Thomas: "Objects of ornamentation and magico-religious objects, such as greenstone inlays, are found in dispersed midden at Tutu, associated with early occupations houses… This disposal pattern suggests ceremonial or sacred 'ritual disposal'… These objects of spiritual and personal value most likely were offered during ritual feasting and disposal associated with human burial and ancestor worship" (Righter, 2002b, p. 350).

[5] Ethnohistoric documents contain references to the profane nature of the terrain surrounding villages. "They believe the dead walk by night and feed upon *guarina*, a fruit resembling the quince… "These ghosts love to mix with the living and deceive women… These ghosts frequently appear by night to the living, and very often on the public highways… When the Spaniards asked who ever had infected them with this mass of ridiculous beliefs, the natives replied that they received them from their ancestors, and that they have been preserved from time immemorial in poems which only the sons of chiefs are allowed to learn" (Martyr D'Anghera, 1970 [1912], I, pp. 171–172). "Estando viva la persona, llaman al espíritu goeíza, y después de muerta, le llaman opía; la cual goeíza dicen que se les aparece muchas veces tanto en forma de hombre como de mujer, y dicen que ha habido hombre que ha querido combatir con ella, y que, viniendo a las manos, desaparecía, y que el hombre metía los brazos en otra parte sobre algunos árboles, de los cuales quedaba colgado. Y esto lo creen todos en general, tanto chicos como grandes; y que se les aparece en forma de padre, madre, hermanos o parientes, y en otras formas. El fruto del cual dicen que comen los muertos es del tamaño de un membrillo. Y los sobredichos muertos no se les aparecen de día, sino siempre de noche; y por eso con gran miedo se atreve alguno a andar solo de noche" (Pané, 1974, p. 33). In his observation of a curing ceremony performed by a shaman, Pané described how the behique treated the patient and the illness: "Entonces comienzan a entonar el canto susodicho; y encendiendo una antorcha toman aquel jugo. Hecho esto primero, después de estar algún tiempo quieto, se levanta el behique, y va hacia el enfermo que está sentado solo en medio de la casa, como se ha dicho, y da dos vueltas alrededor de él, como le parece; y luego se le pone delante, y lo toma por las piernas, palpándolo por los muslos y siguiendo hasta los pies; después tira de él fuertemente, como si quisiera arrancar alguna cosa. De ahí va a la salida de la casa y cierra la puerta, y le habla diciendo: 'Vete a la montaña, o al mar, o adonde quieras'" (Pané, 1974, p. 36). The shaman extracts ("como si quisiera arrancar alguna cosa") evil from the patient and jettisons it to some external domain of the profane landscape ("la montaña, o al mar, o adonde quieras").
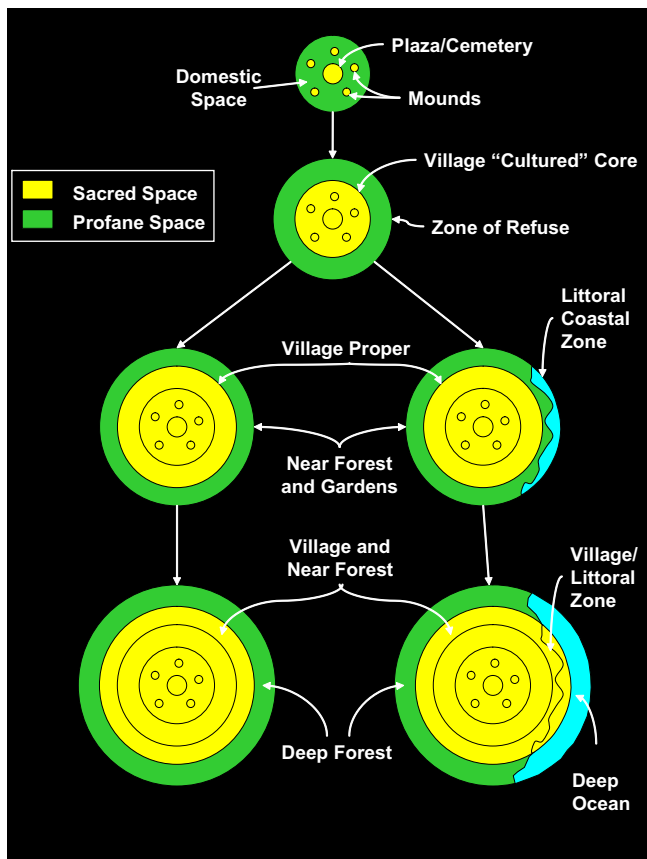
Fig. 11. Model of the early ceramic-age cosmicized landscape. The nested gradation of conceptual space provided an organizing framework for the village occupants.

the residential core of a village, and, more precisely, a *malae* or sacred political meeting ground is defined about which the chiefly residences are placed. The *malae* may be compared to a radiant source of dignity and power much like that attributed to royalty and divinity in Southeast Asian kingdoms, often represented as a navel. From this viewpoint, we look out through concentric zones of gradually diminishing intensity of power and dignity. Certain features of the landscape mark the gradual transformation: starting with the *malae* itself, . . . chiefly meeting/guest houses, then ranging outward to sleeping huts, cook houses, latrines, cultivated gardens or shallow lagoons, the cultivated inland areas or deep sea, and finally to the uncultivated and unknown bushland or the unfished and unknown reaches of the sea (Shore, 1996, pp. 270–271).

This set of logical relations is a manifestation of the general equation, center : good :: periphery : bad. Nested dual oppositions provided an organizing framework for the village occupants. Seeger (1989, p. 195) referred to this division of space as "recursive symmetrical dualism." With increasing levels of inclusiveness (as the conceptual model encompassed more of the surrounding landscape) the spatial distinctions between center and periphery shifted accordingly.[6] In his discussion of Shipibo "dynamic dualism," Roe observed that the "conceptual tendency to create new entities by shifting one's point of view . . . [are expressed] in a number of different

domains," including art, myth, social relations, time, and space (Roe, 1988, p. 116) and that there are "profound cognitive similarities between South Amerindian groups of even differing ecological and sociological settings" (Roe, 1988, p. 133). By symbolically linking the village ground plan to the structure of their cosmos, space becomes more than simply representational and a device to transmit information (DeMarrais et al., 1996; Robb, 1998; Rothenbuhler, 1998; Wobst, 1977). Viewing the world around them in the context of dual thought enables village occupants to transform nature into a knowable and potentially controllable domain of culture (see Guss, 1989, pp. 61–68).

Dynamic dualism: accommodating origins, accounting for change

One of the criticisms of structural analysis is that it cannot account for social change. This criticism is especially damaging for archaeologists who deal with long trajectories of time and who have an interest in structuralism. If the critics are right, then structural archaeologists are doomed to careers of studying snapshots of the past that can never be linked to a larger historical trajectory (Seeger, 1989, pp. 204–205).

The "sliding scale" of cultured versus profane space across the landscape was a concept embedded in the West Indian world view and originated in lowland South America.[7] In the context of dualistic cosmology, structural oppositions and relations between numerous dyads of good and evil, living and dead, rebirth and death, and so on were mediated by the shaman, a point discussed at great length by Roe and others (Oliver, 2005, 2009; Roe, 1982, 1988, 1997, 2005; Siegel, 1997, 1999; Staller, 2001). Since Columbus and his colleagues were not recording the myths and cosmology of the Native Americans in the Caribbean around the time of Christ, we only have the archaeological record and appropriate ethnographic sources to provide insight into such matters. Importantly, the archaeological record unambiguously links crucial elements of rituals and the ceremonial toolkit of the earliest Neolithic people with the Contact-period Taínos.[8] Given the accoutrements of rituals and the physical icons of tutelary spirits that we have, combined with cosmologically grounded village plans, it is a safe bet that shamans were front and foremost on the scene.[9]

Shamanism is defined generally as "one of the archaic techniques of ecstasy – at once mysticism, magic, and 'religion' in the broadest sense of the term" (Eliade, 1964, p. xix). Cross-culturally, shamanism is widespread among band, tribe, chiefdom, and state societies (Ames, 1995; Eliade, 1964; Furst, 1973–1974; Helms, 1988; Jones, 2006; Krupp, 1997, pp. 153–182; Langdon and Baer, 1992; Lewis-Williams and Pearce, 2005; Pearson, 2002, pp. 164–154; Rakita, 2009; Reichel-Dolmatoff, 1971, 1985, 1988; Romain, 2009; Thomas and Humphrey, 1994; VanPool, 2009; Velásquez, 1987; Vitebsky, 2001; Winkelman, 1992, 2000, 2002, 2004; Winzeler, 1993). Historically, it was studied most intensively among the hunting cultures of

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[6] Seeger's (1989, p. 195) discussion of recursive dualism was inspired by Fox's (1989, p. 39) analysis of "dual symbolic classification systems in eastern Indonesia." Two "features" of Fox's typology include "recursive complementarity" and "categorical asymmetry" (Fox, 1989, pp. 44–48). Depending on the context of complementary oppositions we may think of either recursive symmetrical dualism or recursive asymmetrical dualism.

[7] See Seeger (1989, pp. 197–199) for the discussion of sliding scale along a continuum of social to natural space.

[8] Oliver (2009, pp. 12–13) recently reviewed possible evidence for cosmological icons found in Archaic deposits of the Puerto Ferro site (Vieques), dating from 2330 to 460 BC. Depending on where within this span of time the artifacts date, there may or may not have been overlap with the earliest Saladoid colonists to Vieques and Puerto Rico.

[9] In one of the mounded middens at Maisabel, two artifacts in particular are linked to shamanism: one of the anthropomorphic effigies (Fig. 6k) and an inhalator (Fig. 7). The effigy forms the exterior of a small restricted bowl, probably used for a liquid. The modeled and slitted eyes of the figure are closed; the modeled eyebrows are angled downward towards the nose; and above the eyebrows, across the forehead, are painted a series of white dots and two sharply angled white lines. The visage clearly depicts a person in deep thought or in a trance state. Studies into the neurophysiology of altered states of consciousness document visual hallucinations including dots, zigzags, flashes of light, spirals, etc. (Assad and Shapiro, 1986; Siegel, 1978, 1989; Siegel and West, 1989).

Central Asia and Siberia; in fact, the word "shaman" comes from the Siberian term "šaman" (Eliade, 1964, p. 4; Laufer, 1917, p. 362). Eliade argued that shamans and other religious specialists, such as priests, may coexist, although in societies where:

> the ecstatic experience is considered the religious experience par excellence, the shaman, and he alone, is the great master of ecstasy ... [T]he shaman specializes in a trance during which his soul is believed to leave his body and ascend to the sky or descend to the underworld ... [P]eoples who profess to be shamanists accord considerable importance to the ecstatic experiences of their shamans ... for it is the shamans, who by their trances, cure them, accompany their dead to the 'Realm of Shades,' and serve as mediators between them and their gods, celestial or infernal, greater or lesser. This small mystical elite not only directs the community's religious life but, as it were, guards its 'soul.' The shaman is the great specialist in the human soul; he alone 'sees' it, for he knows its 'form' and its destiny (Eliade, 1964, pp. 4–8).

An important dimension of shamanism is the interplay between sacred communication with the spirit world and curing (Furst, 1973–1974; Winkelman, 2002). By means of ecstatic trance the shaman is able to interact with the numinous, gaining special insight into the problem at hand (Otto, 1950).

Klein and colleagues (2002) criticized the use of "shaman" and "shamanism" by archaeologists in the context of complex societies. Mesoamericanists in particular, they asserted, wrongly conflated spiritual actions of shamans with the power of political leaders. Likewise, Alice Kehoe stated that "the terms 'shaman' and 'shamanism' should be limited primarily to Siberian practitioners so called in their homelands" and that the terms should not be applied to "a variety of culturally recognized distinct practices and practitioners" (Kehoe, 2000, pp. 53, 102). "Alternately, we could use descriptive English: ritual practitioner, adept, religious leader, spiritual healer, diviner, seer, sorcerer" (Kehoe, 2000, p. 53). Like those critics of structuralism, Klein et al. accused scholars with "idealist" leanings of pushing timeless interpretations of shamans and shamanistic behavior, so much so that there is no critical evaluation in how religious specialists (like shamans) might have transformed over time with changes in social, political, and economic factors: "Eliade's ahistorical model played to the same intellectual sentiments ... [of] the cognitive 'structures' promoted by French scholars such as the anthropologist Claude Lévi-Strauss" (Klein et al., 2002, p. 387). In response to Klein et al.'s complaint about a naïve ahistorical idealist (and essentialist) perspective, I argue below that there is a necessary synergy between idealist and materialist factors in the organization of any culture; in other words, I am not afflicted with the disease "shamanitis" that Klein et al. believe plagues some scholars of Mesoamerican art (Klein et al., 2002, p. 386).

In comparing the goals, methods, and functions of shamanic journeys, and the quest for esoterica, between tribes and empires, Helms observed that:

> [R]oyal collections of the strange and the sacred ... can be considered as vastly elaborated expressions of the power-filled medicine pouches of tribal shamans, filled with potent bits and pieces of unusual minerals ... replete with (and symbolic of) cosmic power... The emperor's zoos and botanical gardens, like the shaman's pouch, contained bits and pieces of the animate cosmos, power-filled natural wonders, examples of the rare, the curious, the strange, and the precious – all expressions of the unusual and the different attesting to the forces of the dynamic universe that by definition lies outside the ... controlled, socialized, civilized heartland (Helms, 1988, pp. 165–166).

Helms is not saying that shamanistic practices are static, unchanging, ahistorical, or fossilized forms of ritual behavior. The precise form in which shamanism is expressed hinges on the sociopolitical setting of the institution. Indeed, there is a cybernetic feedback loop between the form of shamanism and the social, political, economic, and demographic context in which it operates. Piers Vitebsky (2001, p. 116) also emphasized the evolutionary aspects of shamanism: "all forms of shamanism that are known ... have changed constantly as they have been affected by contacts between peoples, struggle for territory, inter-tribal warfare, the growth and collapse of empires or the imposed world-views of colonialism."

In his review of shamanism, James Pearson stated that:

> [V]estiges of shamanic practices can still be found in cultures far removed from their hunting origins – in pastoral communities, in agriculturally based chiefdoms, in sacred kingships, and even in agrarian empires... Shinto, the religious basis of Japan's imperial tradition, still adopts the world perspective of the shaman and interacts with the spiritual realm according to ancient shamanic procedures (Pearson, 2002, p. 165).

Emiko Ohnuki-Tierney also related shamanism to the Japanese imperial system, where the "early agrarian leaders, like the early emperors, were magico-religious leaders; i.e., shamans-cum-political leaders, whose political power rested upon an ability to solicit supernatural powers to ensure good crops" (Ohnuki-Tierney, 1991, p. 200). Writing about chiefly power of northwest coast Indian groups, Kenneth Ames observed that "chiefs could be shamans, but not necessarily" (Ames, 1995, p. 171).

On the Classic Maya, David Freidel stated that "the literate elite included scribes, artisans, and second-rank nobility, who, along with the king and his immediate relatives, participated in shamanic rituals [and that] the king [had a special place] to perform his functions as shaman, to commune with the Otherworld beings" (Freidel, 1992, pp. 117, 122). Among the Kayan people of central Borneo, Jérôme Rousseau found that priests and shamans coexist although they "have very different tasks, become specialists in different ways, and have distinct social characteristics" (Rousseau, 1993, p. 134). Shamans deal with medical matters, mostly concerning women and children, whereas "priests perform the rituals of the annual cycle, as well as other communal rituals, under the authority of the chief; furthermore, they are co-opted into the power structure by joining the select group of men who advise the chief" (Rousseau, 1993, p. 132). Rousseau observed that the respective roles of shaman and priest "were originally performed by the same person, and that a differentiation followed the increasing use of religion as an ideological tool to support the traditional system of inequality" (Rousseau, 1993, p. 131).

In his cross-cultural study of magico-religious specialists, Michael Winkelman observed that:

> [s]ome claim that the concept of the *shaman* should be used to refer only to practices from cultures in Siberia, where the term was derived. This reflects a limited perspective on shamanism and is not empirically grounded... Shamanism is not an arbitrary or culturally specific concept but a specific complex of characteristics found in the magico-religious practitioners of hunter–gatherer and simple pastoral and agricultural societies around the world (Winkelman, 2004, p. 195).

Later in his article, Winkelman (2004, p. 212) noted that "shamans' utilization of ASC [altered states of consciousness] to communicate with the spirit world on behalf of the community and for divination and healing is found in all societies."

In the case of pre-Columbian Puerto Rico, we can trace elements of shamanism from the early ceramic-age egalitarian horticultural Saladoid communities to the Contact-period Taíno complex chiefdoms. Shamanism was fundamental to Taíno chiefly ideology, and all individuals of power employed shamanistic techniques of ecstasy to enter the spirit world (Deive, 1978; Fernández Méndez, 1972; Oliver, 2005, 2009, pp. 50–51, 84–86; Pané, 1999, pp. 21–27; Roe, 1997, 2005; Siegel, 1997, 1999; Stevens-Arroyo, 1988; Wilbert, 1987). Although the ethnohistoric literature indicates that ecstatic trances, séances, and curing ceremonies were conducted by a select few, there appears to have been partitioning of these activities by subsets of individuals suggesting distinct roles or spheres of authority (e.g., Colón, 1947, pp. 193–199; Columbus, 1959, p. 158). In the sections of Ramón Pané's account dealing with curing ceremonies, José Juan Arrom suggested that *behiques* are shamans, comparable to those observed ethnographically in Amazonia (Pané, 1974: Note 92; see also Deive, 1978). Further, it is frequently documented that caciques participated in drug-induced trances to enter the realm of the numinous (Columbus, 1959, p. 151; Oliver, 2009, pp. 83–84; Stevens-Arroyo, 1988, p. 143). It is difficult to unravel the positions (shaman, priest, and cacique) from the actors in the ethnohistoric accounts. Chiefs frequently are presented by their names; shamans and priests are not. Jeff Walker (1993, p. 42) observed that "behiques [shamans] are often mentioned in the same breath as caciques, suggesting that they closely interacted with the socio-political leaders."

Rouse (1986, p. 115) indicated that "chiefs and priests derived political power and social status from their zemis [and that] deities were also worshiped in temples." This connotes a public role for these individuals, in contrast to shamans who dealt more in the realm of private, household-based curing ceremonies (Columbus, 1959, p. 159; Rouse, 1948, pp. 537–538). However, chiefs, too, dealt with household matters. For instance, it was observed that gravely ill individuals would be carried to the cacique, who then decided whether they should be strangled (Columbus, 1959, p. 152). It may be that a continuum of authority existed between shamans and priests, such that there were no distinct spheres of jurisdiction.

With institutionalized social inequality among cultures in southern Central America and northern Colombia, Hoopes (2005, p. 32) noted that emergent leaders "shared the roles of shamans, priest, and chiefs." In the context of emergent complexity in the Casas Grandes polity, Gordon Rakita observed that with increasing specialization in ritual duties ultimately resulting in a professional priest cult, shamans and priests typically functioned in overlapping domains of authority (Rakita, 2009, pp. 72–76, Table 3.1). In her recent overview of the archaeological correlates of religious specialists, VanPool (2009) emphasized the polythetic nature of shamans and priests and that it is incorrect to necessarily decouple these "religious practitioners into two [mutually exclusive] groups"; as she says, there are "Priests AND shamans, not priest[s] OR shamans" (VanPool, 2009, p. 178, Fig. 1). These discussions of religious specialization varying along dimensions of social complexity were anticipated long ago by Anthony Wallace when he developed his typology of cult institutions: individualistic, shamanic, communal, and ecclesiastical (Wallace, 1966, pp. 84–91).

Previously, I argued that the Saladoid village plaza/cemetery, and the cosmological organization that it represented, was also a focal point around which ceremonial space was formalized and political change transpired, ultimately resulting in the development of *bateyes*, or formally constructed plazas, in the post-Saladoid periods of Puerto Rico (Siegel, 1991c, 1996, 1997, 1999). Cosmology and ritual are seen as an enduring tradition from the early Saladoid period through to Contact in Puerto Rico. Tracking the historical trajectory of culture change during the ceramic age

we find that the use, development, and elaboration of ceremonial space was a focal point in the consolidation of power and authority (Fig. 12).

Cosmological concepts were necessarily transformed in response to shifting ideological principles, which, in turn, reflected changes in social and political institutions. In the context of this "spiritual continuum" we may think of "dynamic dualism" as the operative process (see Roe, 1997, p. 124). That is, in the particular mix of social, economic, and ideological factors that resulted in the narrowing of political power to specific subsets of society, cosmological concepts were adapted accordingly. And, shamans, as interpreters of cosmological concepts, were strategically situated to control actions of community members.

The model that I envision is one in which the spiral of mythic time is incorporated into the linear trajectory of historical time (Fig. 13). Guss, on the Yekuana Indians of the Orinoco Valley, referred to "historical incorporation," whereby "verifiable events are recontextualized within an already established mythic universe" (Guss, 1989, p. 14). However, over long trajectories of time, where the very nature of social and political institutions have changed, it may be appropriate to think of *mythic* recontextualization to accommodate or reflect history. That is, in practice, the sun rises and sets each day and the cosmic order of things is maintained by people observing the proper set of relations that defines good and evil, us and them, and so on. John Barrett too discussed the notion of "re-worked" cosmologies in the context of changing "cultural values":

> Cosmologies are not simply intellectual schemes by which the world may be described, they are revealed empirically when carried forward in practice… Routine or institutional activities are often described in terms of their repetitive, cyclical or timeless quality. These routines seemingly embody, and endlessly rework, certain cultural values… However to describe these values as timeless (for example in the way cosmological schemes are often described) is to forget that they are re-worked in practices which occupy a trajectory in time–space (Barrett, 1994, p. 90).

Harkin (2009, p. 52) suggested that "mythical thinking [of] … indigenous people robustly affects their historical actions and their actions, in turn, affect myth and structure, in a sort of feedback loop." And, in her analysis of Lévi-Strauss's method, Wendy Doninger observed that Lévi-Strauss "always … argue[d] for the diachronic aspects of myths (changing through time) [and that he] squarely face[d] the issue of chronology, putting historical flesh on the structural bones by tracing the specific cultural development of a corpus of myths" (Doninger, 2009, p. 210). In comparing prehistoric evidence of ritual patterning with ethnohistoric descriptions, Howey and O'Shea (2009, p. 195) emphasized "that while the core logic and general structure of the sites are probably similar, much of the detail *would* be different, *precisely because ritual systems are no more inherently stable or unchanging than any other aspect of culture*." In their review of pre-state Formative-period evolution in Mesoamerica, David Grove and Susan Gillespie stated that "ideological systems are not … static. They are constantly redefined and transformed by the dialectical processes involved in fitting the constructed order of existence to actual historical events… This process of transformation of ideology and its effects on future human behaviors is an integral part of cultural evolution" (Grove and Gillespie, 1992, p. 16). On Mesoamerican religion and ritual in general, Marcus observed that "Even when the archaeologically recoverable paraphernalia of a rite persist over thousands of years, the meaning and function of a rite may be gradually changing along with an evolving society" (Marcus, 2007, p. 67).
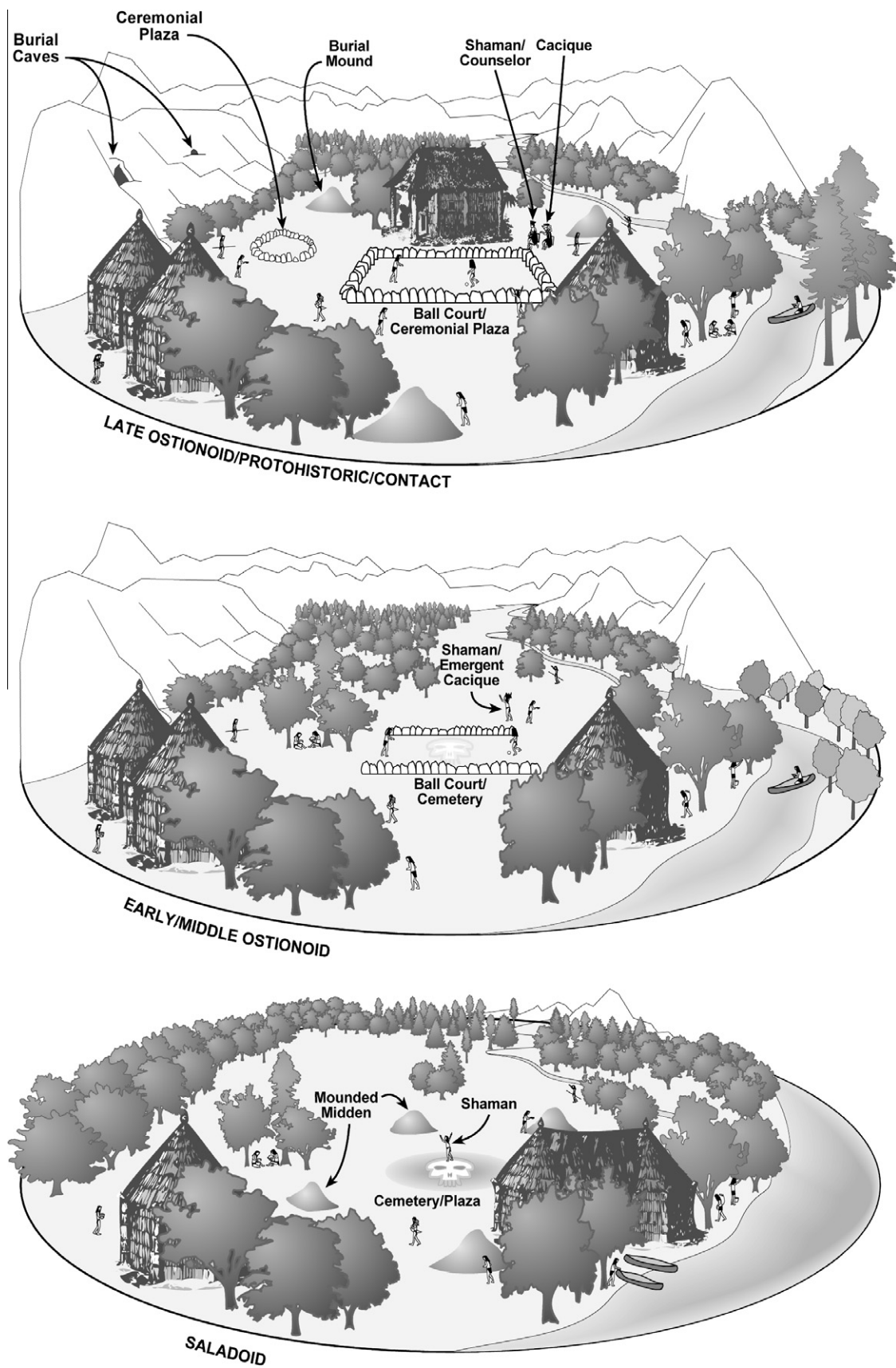
Fig. 12. Model charting the evolution of plaza space during the ceramic age of Puerto Rico.

If we had a collection of Las Casas/Colón/Pané-like documents written say every 100 years from about 400 BC to 1500 AD, we might see continuities in certain mythic themes about fish, frogs, gourds, turtles, woodpeckers, spirits, and such. However, there
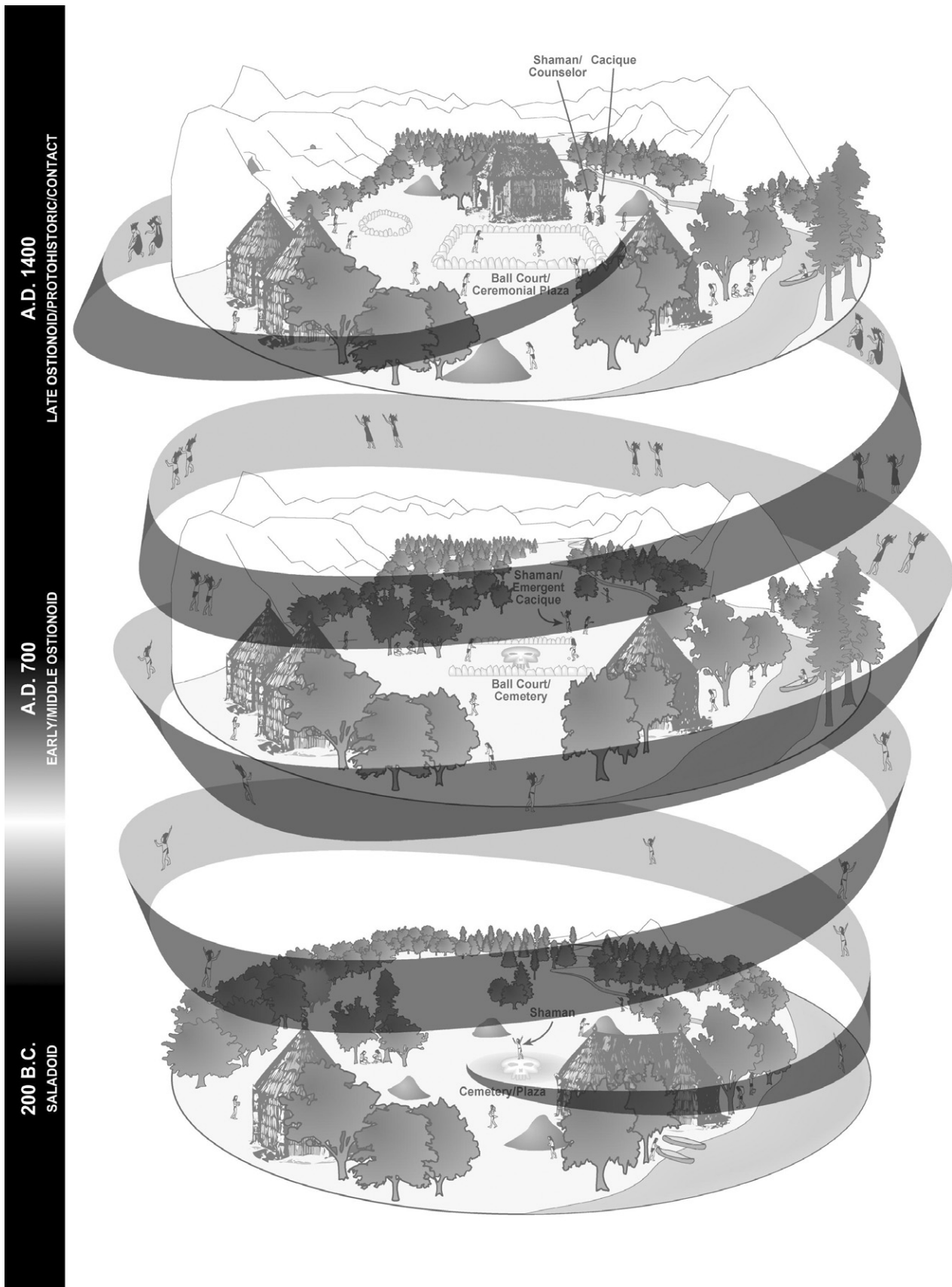
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Fig. 13. Evolution of institutionalized leadership roles plotted over the model of increasingly formal plaza space in pre-Columbian Puerto Rico. The spiral of mythic time is incorporated into the linear trajectory of historical time and cosmologies are "re-worked" to accommodate sociopolitical circumstances during any given era.

would undoubtedly be some critical differences in how key social institutions, like leadership and governance, were presented and the nature of intergroup relations. Doniger said: "the myth-maker's toolbox consists of fragments of old stories that can be recycled in new stories. Storytellers can build a potentially infinite number of stories by rearranging a limited number of known mythic themes. Each culture chooses the scraps that it wants to keep; some have proved more recyclable than others" (Doninger, 2009, p. 203).

José Oliver convincingly argued that the protohistoric and Contact-period Taíno caciques mediated "between the extraordinary and primordial cosmic domain and the ordinary, yet numinous and natural domain of cosmos. If one removes either the living cacique or the cacique-petroglyph-*cemí*, the structural order collapses, and the mediation of past and present, remote and immediate, natural and supernatural, is no longer attainable" (Oliver, 2005, p. 278). The early Saladoid ancestors of the Taínos had a core belief system that shared fundamental features with Taíno cosmology. However there is no archaeological evidence for chiefs in Saladoid society. If, as Oliver argues, cacical power was the glue that held together the cosmic structural order for the Taínos then what implications does this have for Saladoid cosmology in the absence of caciques?

At any given time in the trajectory from 400 BC to 1500 AD, the cosmic order of the moment would be maintained by people observing the proper set of structural relations defining (and redefining) the sacred and secular realms. However, as the historical context of their world changed, the nature and scale of many of the dual oppositions needed to change accordingly. Thus, the archaeologically documented shift from the Saladoid village community to the post-Saladoid multivillage polity was undoubtedly associated with a number of conceptual shifts in how the universe was structured. The domain of nested dual oppositions, discussed earlier in connection with the village-forest dyad, now expanded to encompass the regional landscape. Feuding territorial chiefdoms, alliance networks, and all the political machinations associated with this scenario would be incorporated into the logic of dual oppositions in very tangible ways (Siegel, 2004).

Building on the work of Bloch (1977, 1985), Bradley (1991, 2002) developed a concept of "ritual time" in contrast to "mundane time." Ritual time "involves the merging of the past in the present" (Bradley, 1991, p. 211). In discussing consistent ritual use of Stonehenge over 15 centuries, he noted that "so much stability does not mean that such societies stay the same [and that] if ritual helps to preserve the social order, it can also be manipulated … By playing off ritual time against the archaeological evidence of sequence, we may be better equipped to explore the nature of social evolution" (Bradley, 1991, pp. 211–212).

In the post-Saladoid world, formally constructed plazas became the preeminent sacred spaces, like the earlier Saladoid unlandscaped central plazas. These places functioned in a variety of public and private events and may be thought of as ritual interaction centers (Alegría, 1983; Curet and Stringer, 2010; Oliver, 1998, 2005; Roe, 2005; Siegel, 1991c, 1999; Wilson, 1990). In an earlier paper, I suggested that West Indian social and political relations, from the egalitarian tribes of the early Saladoid (ca. 400 BC–400 AD) to the complex chiefdoms of the protohistoric and Contact-period Taínos (ca. 1200–1500 AD), revolved around the same concepts of cosmos (Siegel, 1996). I still think this is true, with some revisions. In the context of dynamic dualism, such historical contingencies as demographic shifts, changes in social relations, the formation of complex polities, and population re-structuring were at once incorporated into their overall cosmological structure, while components and the

scale of their cosmos changed.[10] Just as modern cosmologists contemplate an expanding and contracting universe, so too did the Native Americans of ancient Puerto Rico.

Summary and conclusions

Over the last 15–20 years, archaeologists have increasingly emphasized strategies employed by individuals or subsets of larger groups in accumulating, manipulating, and representing power, prestige, followers, and resources (Blanton et al., 1996; Clark, 2000, 2004; Clark and Blake, 1994; DeMarrais et al., 1996; Earle, 1997; Feinman, 1995; Hayden, 1995; Hoopes, 2005; Spencer, 1993). In so doing, multiple pathways to power and institutionalized social inequality have been identified (Earle, 1997; Feinman, 1995; Hayden, 1995) and as Feinman (1995, p. 262) observed, explanations for social change "must recognize the historical nature of these social transitions." Social, economic, and ideological domains have variously been cited as factors seized on by aggrandizers in building power bases and followers (Clark and Blake, 1994; Earle, 1997). In the context of "multiple pathways," specifics of historical circumstances are crucial to address in characterizing any given trajectory of social and political change. We may identify the mix and interaction of underlying social processes and institutions that were responsible for observed evolutionary trajectories.

In the case of the Taíno chiefdoms of Puerto Rico, we need to consider the larger evolutionary geopolitical context of the Caribbean archipelago, ancestral homelands in lowland South America, and representations of cosmos and person in an intertwined historical spiral revolving around myth, ritual, landscape, and emergent leadership. The best evidence to date indicates colonization from northern South America into the islands by Saladoid settlers approximately 2500 years ago. With this colonization, Amazonian ideas of cosmos and representation of it were introduced into the islands. The magnitude, timing, and route(s) of these dispersals are currently the center of debate, although there may have been some amount of "leap frogging" up the island chain by the earliest Neolithic pioneers.

Archaeological data from burials, site plans, and regional distributions of sites reveal non-hierarchical egalitarian social and political organization during Saladoid occupations of the Caribbean. Archaeological site plans, spatial distributions of artifacts, and ethnographic analogy to lowland communities in South America indicate an emphasis on village planning, household organization, and production of specific classes of artifacts linked to material representations of the cosmos. Elements of Saladoid and post-Saladoid myths, rituals, and cosmology were materialized on the landscape and in artifacts. Through this materialization of myth, rite, and cosmos over nearly 20 centuries – to when the Spanish arrived in the fifteenth century AD – we are able to track the evolution of religion, ascribed social inequality, and political organization on Puerto Rico.

Acknowledgments

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[10] For instance, there are numerous references in Taíno myths to chiefs, nobles, and commoners (*caciques*, *nitaínos*, and *naborías*, respectively) (Arrom, 2000; Pané, 1974). Social inequality was an intrinsic part of Taíno mythology and cosmology. It is unlikely that inequality was referenced in Saladoid myths, 18 centuries earlier. I would guess that around 700 AD, when the first *bateyes* were being constructed, was the time when substantive changes were occurring in the content of myths. As Oliver (1998, 2005, 2009) and Roe (1997, 2005) have argued, *bateyes*, and the petroglyphs associated with them, were materializations of myths and power relationships.

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