

# Amazonian Archaeology

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## Abstract

Amazonian archaeology has made major advances in recent decades, particularly in understanding coupled human environmental systems. Like other tropical forest regions, prehistoric social formations were long portrayed as small-scale, dispersed communities that differed little in organization from recent indigenous societies and had negligible impacts on the essentially pristine forest. Archaeology documents substantial variation that, while showing similarities to other world regions, presents novel pathways of early foraging and domestication, semi-intensive resource management, and domesticated landscapes associated with diverse small- and medium-sized complex societies. Late prehistoric regional polities were articulated in broad regional political economies, which collapsed in the aftermath of European contact. Field methods have also changed dramatically through in-depth local and regional studies, interdisciplinary approaches, and multicultural collaborations, notably with indigenous peoples. Contemporary research highlights questions of scale, perspective, and agency, including concerns for representation, public archaeology, indigenous cultural heritage, and conservation of the region's remarkable cultural and ecological resources.

## INTRODUCTION

Archaeology in the Amazon River basin has changed the way anthropologists and natural scientists view the world's largest tropical forest. Recent studies challenge scientific and popular stereotypes of ecological and cultural uniformity, notably of small, dispersed human settlements living in virgin tropical forest wilderness. These studies reveal dynamic change and variability, including complex social formations and large-scale transformations of the natural environment. The paradigm shift from ecological equilibrium and cultural stasis to diversity and change highlights social dynamics and the role of human agency in long-term change in coupled human natural systems.

Amazonian anthropology over the past several decades promotes synergy—if not synthesis—between studies focused on the past and perspectives on present social formations and environments (Carneiro da Cunha 1992, Descola & Taylor 1993, Roosevelt 1994, Sponsel 1995, Viveiros de Castro 1996). Building on the region's prodigious ethnographic tradition, notably North American cultural ecology and Franco-Brazilian structuralism, recent ethnography encourages approaches that address temporal and spatial scale and change, including indigenous histories and perspectives (Fausto & Heckenberger 2007, Whitehead 2003). In tropical forests it is difficult to ignore the natural environment, but contemporary ecological anthropology highlights symbolic, historical, and sociopolitical dimensions and diversity in human ecological systems (Balée & Erickson 2006, Biersack 1999). Today, regional specialists agree that humans and environments act recursively, rather than directionally (i.e., one simply causing change in the other), noting that pre-Columbian and historical societies made major impacts on plant and animal communities, hydrology, and soils. Likewise, human groups underwent dramatic transformations, including varied pre-Columbian trajectories of sociohistorical change and the political ecology of colonialism and modern globalization (Cleary 2001, Hecht 2009).

In-depth studies of the Amazonian past are beginning to strike a balance with the archaeology of the Andes, as reflected in the recent *Handbook of South American Archaeology* (Silverman & Isbell 2008). Interests have changed in stride with broader changes in archaeology, including shifts from description and culture history to explanation and culture process and, more recently, questions of perspective and voice, including the hybrid interests of Latin American archaeology (Barreto 1998, Funari 2001, Oyuela-Caycedo & Raymond 1998, Polítis & Alberti 1999) and collaboration with indigenous peoples (Colwell-Chanthaphonh & Ferguson 2007, Green et al. 2003, Heckenberger 2003). Archaeology suggests broad similarities with other world areas, particularly in the Americas and other tropical forest regions but also emphasizes the uniqueness of Amazonian societies and environments (Fausto 2000, McEwan et al. 2001, Neves 2006, Stahl 1995). This review focuses on recent field research, particularly along the Amazon and southern borderlands of the Brazilian Amazon, to highlight the deep history and temporality of the Amazon's indigenous people (see, e.g., Gassón 2003, Lathrap 1970, Myers 2004, Prous 1991, Rostain 2008b, for adjacent areas).

## AMAZONIA: A BRIEF HISTORY

The Amazon River basin, covering nearly seven million square kilometers, is by far the largest on Earth, well over twice the size of the next largest basin, the Congo. Its monthly discharge far exceeds that of the Mississippi River (the third largest basin) in a year. Over this vast area there is tremendous variation in forest and river ecologies, but three forest regimes dominate throughout the Holocene (Colinvaux et al. 2000): closed broadleaf evergreen forests of the Amazon River and western tributaries [ $<150$  meters above sea level (masl)]; more open broadleaf evergreen forests in adjacent uplands (150–250 masl); and complex contact zones in borderland areas, such as the Andes and the Guiana and Brazilian plateaus ( $>250$  masl).

Rivers are likewise highly variable, but are commonly divided into white (Andean-derived), black (northwestern), and clear-water river systems (Meggers 1996, Moran 1993). Culture history includes varied early forager occupations, mid-Holocene settled foragers and horticulturalists, and the late Holocene emergence of settled, agricultural societies. In late pre-Columbian times, small- to medium-sized polities living in complex constructed landscapes occupied the Amazon River bottoms and several other areas (Denevan 2001).

### Early Occupations

Early (~11,000 to 8500 B.P.) occupations included diverse tropical forest foraging societies. In the central and lower Amazon, bifacial (stemmed) projectile points have been identified (Costa 2009, Neves & Petersen 2006, Roosevelt et al. 1996), associated with developed rock art traditions in the lower Amazon (Pereira 2004). Other early occupations are described for several upland areas (Barse 1990, Magalhães 1994, Meggers & Miller 2003, Miller 1992, Mora 2003, Prous & Fogaça 1999). Mid-Holocene (~7500–3500 B.P.) shellfish foragers in the lower Amazon and along the Atlantic coast with early ceramics (6000 B.P. or before) have been described, with broad affinities with preagricultural shell mounds in eastern coastal South America (Bandeira 2008, Gaspar et al. 2008, Roosevelt et al. 1991, Rostain 2008b). Early evidence from coastal Peru, Northern Colombia, and Panama documents domesticated Amazonian species, including manioc, and mid-Holocene innovations, notably house gardens (Castillo & Aceituno 2006, Oliver 2008, Piperno et al. 2000, Piperno & Pearsall 1998, Raymond 2008). Mid-Holocene horticultural societies have been identified in the upper Madeira region (Miller 1999).

### Late Holocene Domestication and Agriculture

In Amazonia, house garden horticulture underwent significant changes as some groups

developed extensive slash-and-burn agriculture and semi-intensive strategies during the Late Holocene (Denevan 2001, Lathrap 1977, Oliver 2008). Of the wide inventory of domesticated and semidomesticated plants, root crops, particularly manioc, and arboriculture were critical elements of Amazonian agricultural systems, although some systems relied heavily on maize (Lathrap et al. 1985, Perry 2005, Roosevelt 1980). These findings generally support Sauer's (1952) prediction that domestication and agricultural development in tropical regions differ in important ways from classic Neolithic settings and cereal crop agriculture, including complex systems of wetland management and fish farming (Erickson 2000, Schaan 2004). Further complicating conventional models of food production, numerous non- or semidomesticated plants are actively managed or cultivated in Amazonia, notably palms (Goulding & Smith 2007, Morcote-Ríos & Bernal 2001, Smith 2007). Peach palm (*Bactris gasipaes*) is the only domesticated palm, but numerous species, such as buriti (*Mauritia flexuosa*), açai (*Euterpe oleracea*), and others, were subject to intense management (Clement 2006). Diverse agricultural strategies were coupled with systems of faunal exploitation that included a variety of managed species, such as birds (Muscovy ducks, parrots and macaws, and others), fish, and other aquatic species, including the giant Amazon river turtle (up to 80 cm) and manatee, or sea cow. Many managed plants and animals are difficult to distinguish morphologically from wild varieties, but detailed archaeobotanical, zooarchaeological, and genetic studies are rare (Clement 1999, Mora 2003, Morcote-Ríos 2008, Perry 2005).

Change is commonly manifest in broad transformation of habitats, rather than focus on specific domesticated plants and animals. The “domestication of landscape” refers to the “conscious process by which human manipulation of the landscape results in changes in landscape ecology and the demographics of its plant and animal populations, resulting in a landscape more productive and congenial for humans” (Clement 1999, p. 190). Human impacts

on the natural environment resulted from long-term occupations of select settings, in some cases initiated by semisedentary early to mid-Holocene societies. Agricultural intensification typically refers to large-scale technological advances, such as terracing and irrigation, but in the Amazon forest extractive strategies and semi-intensive agriculture and wetland management in broad domesticated landscapes were critical (Denevan 2001). Late Holocene landscaping involved raised mounds for crops in wet savanna areas of southwestern and northeastern Amazonia (Erickson 2008, Rostain 2008a), management of Amazonian dark earth or *terra preta* (Glaser & Woods 2004, Lehmann et al. 2003, Woods et al. 2009), and complex forest and wetland management strategies, which often leave obvious marks or “footprints” detectable (like crop-marks) in orbital imagery (Erickson 2000, Heckenberger et al. 2003).

### **Language, Agriculture, and Regional Development**

In a worldwide review, Diamond & Bellwood (2003) suggest that dispersals of early agriculturalists “constitute collectively the most important process in Holocene human history” (p. 597). The farming/language dispersal hypothesis argues that early agriculturalists expanded rapidly owing to the adaptive advantage over existing foragers and horticulturalists (Bellwood 2004). Amazonia has played a small role in these discussions, but the widespread and fairly early (2500–2000 B.P.) dispersal of several language families, notably Arawak, Tupi-Guarani, and Carib, has long been recognized (Brochado 1984, Dixon & Aihkenvald 1999, Hill & Santos-Granero 2002, Lathrap 1970, Noelli 2008). Speakers of the three families dispersed widely across the tropical lowlands, including eastern coastal South America and the Caribbean.

Linguistic diversity is a notable feature of Amazonia, but no single language family dominates the region, as is true of Europe (Indo-European), sub-Saharan Africa (Niger-Congo), or the Pacific (Austronesian). Likewise, no

single agricultural system, such as manioc cultivation, was accountable for the diversity of crop systems that prevailed in the area. Furthermore, no sociopolitical formation was strong enough to expand its political influence on a large scale, as was true of several episodes of Andean prehistory. Changes appear to be tied to early variability of resource management systems, including settled riverine (Arawak) and more mobile upland (Tupi-Guarani and Carib) strategies, as well as climate change and changes in agricultural lifestyles in the mid to late Holocene. Although still poorly understood, agricultural expansions were more complicated than posited by a wave of advance model, such as Lathrap’s (1970) “cardiac model,” or unified processes of site or trait diffusion, but instead involved complex and variable processes of change, broadly oriented to river and upland ecologies, and resulted in cultural pluralism (Carneiro 1995, Hornborg 2005, Zucchi 2002). Whether cause or consequence, changes in technoeconomics are correlated with important changes in sociopolitical organization, notably emerging social hierarchy and regional integration, as was true in the other major tropical linguistic diaspora. Carneiro’s (1970) observation bears scrutiny in the general sense that in broad forested landscapes, societies tend to ramify, whereas tightly circumscribed areas, such as coastal Peruvian river valleys, seem to promote rapid and more rigid stratification.

By ~2500–1500 B.P., early expressions of sociopolitical complexity, in terms of local landscape domestication, monumentality, and integration in regional social systems, appeared in several parts of the Amazon, during a regional formative period (Arroyo-Kalin 2008, Neves 2006). These small-scale regional polities were roughly comparable with other formative cultures of the Americas, in terms of technological innovations, such as ceramics, agriculture, and settled villages or towns (Raymond 2008, Zeidler 2008). Multiethnic societies, regional sociopolitical systems, and interregional interaction underscore the diverse pathways of social complexity in the region. In this context, politically independent, permanent villages

may have periodically joined into larger, regional confederations, for instance around singular leaders and warfare. In other cases, more centralized and hierarchical regional societies were integrated through ritual and elite exchange, although they maintained diverse strategies of political power, as known from several areas during the final millennium of prehistory.

## LANDSCAPE AND POLITY, 500–1500 C.E.

By the 1970s, it was clear that Amazon River polities depended on fairly intensive exploitation of aquatic resources and diversified cultivation, based on early eyewitness accounts from the sixteenth and seventeenth centuries. Accounts report large, densely settled populations, which were decimated by the early violence of colonialism (Porro 1996; Whitehead 1994, 2003). Settled populations commonly concentrated along major rivers, as common in other world areas. Where propitious ecological conditions prevailed, notably in rich soils and aquatic resources, cultural groups developed into dense, regionally organized societies by late prehistoric times (Carneiro 2007, Denevan 1996, Lathrap et al. 1985, Myers 1992, Roosevelt 1980). However, the Amazon River bottoms are a small fraction (<5%) of the basin, which is criss-crossed by numerous large tributaries. Owing to their difficult access, many upland areas remain *terra incognita*, although this panorama is changing, particularly as “salvage archaeology” is developed in remote parts of the region (Miller 1992).

### Amazon Floodplain Polities

Early archaeological surveys were conducted primarily along the Amazon and were later expanded to several major tributaries, aimed primarily to identify broad regional ceramic traditions and local phases (Evans & Meggers 1968, Hilbert 1955, Meggers & Evans 1957, Simões & Kalkman 1987, Simões & Lopes 1987). Research in the Upper Amazon initiated by

Lathrap (1970, Lathrap et al. 1985, Myers 2004, Oliver 1991) and Roosevelt (1980, 1991) in the Middle Orinoco and lower Amazon developed more in-depth studies of regional sequences and spatial distributions, which laid the foundation for detailed regional survey and studies of intrasite variability, including in upland areas (e.g., Balée & Erickson 2006, McEwan et al. 2001). Two broad ceramic traditions are widely recognized with substantial regional variation: the Amazonian Barrancoid or Incised-Rim Tradition, ~500 B.C.E. (2500 B.P.) to 900 C.E. and the Amazonian Polychrome Tradition, widespread by 1000–1250 C.E. (Lima 2008). Several sub-traditions, such as the early Marajoara style, combine elements of modeled, incised-line, and bichrome decoration, typical of Amazonian Barrancoid, and the painted pottery of the southeast Amazon Tupiguarani tradition, suggesting cultural pluralism or “ethnogenesis” (Barreto 2009, Brochado 1989, Neves 2006).

Marajoara mound-building societies flourished from ~400 to 1300 C.E. in the wooded savannas and gallery forests of eastern Marajó, the large fluvial island in the Amazon estuary. Emerging from earlier ceramic groups, Marajoara is notable for numerous small- to medium-sized domestic mounds and major ceremonial and elite residential mounds (Meggers & Evans 1957; Roosevelt 1991; Schaan 2004; Simões 1969, 1981). In the Anajás River headwaters, Schaan (2004) describes a small polity, perhaps numbering in the thousands, which integrated dozens of domestic mounds organized around large ceremonial mounds. The large ceremonial Camutins and Belém mounds (up to 12 meters high and 2.5 ha) indicate large-scale construction, apparently early, ~400–600 C.E., and highlight the difference between small- to medium-sized domestic mounds and larger mounds, distinguished by major public ritual and elite urn-burials. Camutins/Belém mounds are centrally located between other mound groups, more or less equidistant (~8 km) to the southeast (Monte Carmelo), northwest (Pequaquara), and northeast (upper Camutins stream), which may have defined the territory of the regional polity, with smaller intervening

domestic mounds along waterways. Shared styles of prestige goods, notably burial urns, suggest subregional identities across the island and clearly reflect important social distinctions, such as gender and social hierarchy, as true of other urn cemetery complexes in the region (Guapindaia 2008b, Schaan 2004). Marajó communities were supported by a diverse resource base and focus on managed river products, such as fish and palm farming (Meggers 2003, Roosevelt 1991, Schaan 2008). Mound construction apparently declined after ~1300 c.e., but Marajoara ceramic styles continue into the dynamic and plural social landscapes of the sixteenth and seventeenth centuries (Schaan 2004).

In-depth archaeological research at the confluence of the Solimões and Negro rivers (Manaus) has identified more than 100 archaeological sites, providing the clearest picture to date of late Holocene occupations along the Amazon (Arroyo-Kalin 2008, Lima 2008, Neves 2008, Neves & Petersen 2006). Major ceramic complexes include two early variants of the Incised-Rim Tradition, the Açutuba (300 B.C.E. to 400 C.E.) and Manacapuru phases (400 C.E. to 900 C.E.), a local Paredão phase (700 C.E. to 1200 C.E.), and a regional variant of the Amazonian Polychrome Tradition, called Guarita (900 C.E. to contact). The chronology shows overlapping and mixed occupations, which suggests extensive interaction and ethnic diversity (Lima 2008). Despite ceramic differences, sites share a circular or horseshoe layout. The period from 600 to 1200 c.e. appears to mark a peak in regional population, but Paredão ceramics disappear after ~1200 c.e., coincident with an apparent increase in conflict as reflected in defensive ditches constructed at Açutuba and Lago Grande at ~1100 c.e. (Moraes 2007, Neves 2008).

In late prehistory, fairly large regional populations lived in dispersed small settlements (<10 ha) and larger residential and ceremonial centers (>30 ha), such as the sites of Açutuba and Hatahara, and others located within the limits of the modern cities of Manacapuru and Manaus. Large centers were

spaced roughly 30–50 km apart, which served as the sociopolitical and ritual centers of small regional polities, such as those described in the sixteenth and seventeenth centuries. Core residential areas overlooking the Negro and Solimões rivers were surrounded by peripheral areas of lighter traffic and nonresidential areas of anthropogenic dark earth for agricultural production (Petersen et al. 2001, Neves et al. 2003). In the centuries before 1492, major centers were structurally elaborated for ritual consumption, including prestige goods, such as elaborate elite-ware ceramics. At Açutuba, the central area is defined by a broad sunken amphitheater-like plaza (400–100 m), flanked by a series of habitation mounds with subfloor and adjacent burials, as well as ramps, ditches, and managed wetlands. Landscape transformations and available radiocarbon dates in major centers suggest long continuous occupation of these centers and stable, sedentary populations, perhaps numbering in the low thousands by ~1000 c.e. (Neves & Petersen 2006).

Early chronicles from the floodplains describe populous territorial polities with regional overlords, major settlements or towns with large-scale roads and productive technoeconomies, rich artistic and ritual traditions, and organized martial forces (Porro 1996). Among these, the polity that dominated the lower Tapajós River was perhaps the largest (Nimuendajú 1952). The Santarém or Tapajônica archaeological culture is renowned for its ornate ceramics associated with the “Incised Punctate” regional tradition (Gomes 2005, 2008). It shares affinities with the coeval Amazonian Polychrome Tradition and, particularly, the Arauquinoid ceramic complexes of the Orinoco and Guianas, which suggests that Carib-speaking peoples expanded into the middle-lower Amazon between 500 and 1000 c.e. (Lathrap 1970, Zucchi 1985). The large capital town at Santarém is composed of a core area with dense archaeological deposits (~100 ha) within a broader settled landscape up to 25 km, which rivals many major centers in the Americas (e.g., Cahokia, Chan Chan) (Gomes 2008, Roosevelt 1999). The polity was

supported by intensive floodplain and upland agriculture, including both occupation site dark earth (*terra preta*) and nonoccupational agricultural soils (*terra mulata*) (Denevan 2001, Woods & McCann 1999). The study of Amazonian dark earths, the focus of significant recent research in a wide range of settings, has critical implications not only for cultural development, particularly related to the enrichment of infertile soils, but also for sustainable development strategies (Glaser & Woods 2004, Lehmann et al. 2003, Petersen et al. 2001, Woods et al. 2009).

Floodplain archaeology and ethnohistory suggest complementarity between densely and sparsely settled stretches of the main rivers, including buffer-zones, and with hinterland zones (DeBoer 1981, Denevan 1996, Porro 1996). In the Parauá area, 80 km upstream from the Santarém site, Gomes (2005) found little evidence of influence by the Santarém polity. Likewise, regional survey in the Trombetas River (Konduri ceramic tradition) indicates fairly small and shallow deposits (Guapindaia 2008a, Kern et al. 2003). Throughout the region, the largest centers were generally not that large (<50 ha), and cycling between periods of greater and lesser political centralization is apparent in the Central Amazon, with notable fluctuations in site locations and population densities. It remains unclear whether Santarém was a large, centralized polity or represents smaller integrated polities within a regional peer-polity, as seems to be the case in the estuary, central Amazon, and southern borderlands.

### **Southern Borderlands Polities**

The broad transitional forests between the central Brazilian plateau (>300 masl) and the evergreen Amazon forests extend from the upper Tocantins (east) to the upper Madeira (west) rivers. A century ago, Max Schmidt (1917) noted that southern Arawak groups dominated forested headwater basins of the major southern tributaries, surrounded by more mobile groups in the rolling upland topography and open wooded savanna and gallery forest landscape of

central Brazil and eastern Bolivia. Cultural variation across the region highlights the interplay of phylogenetic and reticulate processes, as well as ecological diversity, as early Arawak-speaking settled agriculturalists developed into distinctive ethnically plural societies, as seen in other areas of the lowlands (Hill & Santos-Granero 2002, Hornborg 2005).

Archaeological complexes associated with these multiethnic groups, notably mounds, roads, and agricultural earthworks, are well known from the Llanos de Mojos. Erickson's (e.g., 2000, 2006, 2008) recent work has revealed the remarkable scale and integration of agricultural earthworks in broad domesticated landscapes, including causeways, fish weirs and ponds, forest islands (ancient settlements), raised fields, and diverse other archaeological landscape features. These complexes can be subdivided into an eastern group of ring-walled villages, major causeways, and wetland fish-farming complexes in forest and savanna landscapes (Baures) and a western group, including mounds and raised fields, in the central llanos, which provide detailed examples of urban-scale production landscapes (see also Denevan 2001, Walker 2004). Excavations of mounds in the Upper Mamoré area have revealed a complex sequence indicating that the area has been occupied by different groups in the past (Calandra & Salceda 2004, Erickson & Balée 2006, Prümers 2004, Walker 2008). The plural ethnic landscape of eastern Bolivia and adjacent areas strongly influenced the development of "mission" or other postcontact "mixed blood" peoples (Block 1992, Gow 1996).

Early accounts (1600–1750) from eastern Bolivia describe diverse large, densely settled populations, with complicated settlement and agricultural works, and regional sociopolitical organization (Denevan 1966, Metraux 1942). Along the eastern Bolivian-Brazil border (Guaporé), ethnohistory documents palisaded ring villages (Block 1992, Erickson 2000). Farther east in central Brazil, Campos (1862, pp. 443–44) describes a networked settlement pattern in the 1720s, which included densely settled plaza communities, well-maintained

roads, and a plaza ritual complex (“temple-idol-priest complex”) considered characteristic of the “theocratic chiefdoms” of the southern Amazon (Steward & Faron 1959). More autonomous ring village settlements are also widely known from central Brazil (Wüst & Barreto 1999).

In southwestern Amazonia, an area also dominated by Arawak-speaking people historically, major geoglyphs in the upper Purus River region of Brazil and adjacent portions of Peru and Bolivia reveal another complex of related monumental sites (Pärssinen & Korpisaari 2003, Schaan et al. 2007). The well-planned and laterally extensive earthworks, including massive circular and square ditches (up to 7 m deep) and long linear processions (up to 50 m wide and nearly 1 km in length), suggest sociopolitical integration based on broadly shared ritual interaction among numerous sites (~150, which is estimated as 10%; Mann 2008). Linkages between sites is not yet described, but it is clear that basic orientations are similar and were conceived as related elements of a regional built environment and served as ceremonial central places within regional social systems.

In eastern portions of the southern borderlands region, the headwater basin of the Xingu River preserves a sequence of occupations from early agricultural groups (Arawak), who colonized the basin by 500–800 C.E. or earlier, to contemporary Xinguano peoples (Heckenberger 2005; Heckenberger et al. 2003, 2008). In one study area (~1200 km<sup>2</sup>), corresponding to the traditional lands of the Kuikuro (Xinguano) community, two dozen residential sites have been identified, most or all of which were occupied in late prehistoric to early protohistoric times, ~1250–1650 C.E. Late prehistoric settlements were integrated in two ranked clusters, which represent small, territorial polities. In clusters, large walled towns (25–50 ha), estimated to number more than 1000 in some cases, and smaller nonwalled villages were linked by an extensive road system. Road and settlement nodes, marked by large ceremonial plazas surrounded by residential areas, are archaeologically visible as linear earthworks at the

margins of roads and plazas (curbs) and around major settlements (ditches). Settlement hierarchies were defined by an exemplary center and four major satellites and smaller peripheral plaza settlements and hamlets within territories of ~250 km<sup>2</sup> or more. The two clusters were part of a regional peer-polity—a confederation of culturally related territorial polities extending across an area ≥20,000 km<sup>2</sup> and likely numbering well into the tens of thousands. Across the region, land use was fairly intensive, with settlements and countryside features (fields, orchards, wetlands) rigidly planned and defined, including dark earth farming plots within the patchy agricultural landscape.

The domesticated landscapes of the Upper Xingu basin provide a particularly striking example of the self-organized built environments of the southern borderlands. Descendent Xinguano populations, well described since the 1880s, continue to practice basic cultural patterns documented from prehistoric times, notably in terms of technoeconomy, house and village spatial organization, and general settlement locations (Fausto et al. 2008, Heckenberger 2005). Agricultural landscapes, in the past and today, included broad areas under cultivation in primary staple crops of manioc (*Manihot esculenta* spp.) and pequi fruit (*Caryocar* sp.), large tracts of sapé grass (*Imperata* sp.) for thatch, diverse palms and other secondary crops, and managed secondary forest, as well as managed wetland areas (Carneiro 1983). Although isolated from early colonial activities, Xinguano peoples were not insulated from the catastrophic effects of early colonialism, notably disease that decimated populations across the Amazon. Xinguano settlement and land-use provides graphic testimony of the post-1492 population collapse, with regional populations reduced to nearly 500 by the 1950s, and documents the extensive landscape following that occurred across the southern borderland regions.

## CONCLUDING REMARKS

The archaeology of the Amazon, an area larger than Europe, is still poorly known—the least

known region of the “least known continent” (Lyon 1974)—but recent advances in archaeology have dramatically changed the way scholars view the region. In world historical schemes, Amazonia was long appraised by what it lacked, notably the absence of harbingers of classic civilizations, such as stone architecture, writing, grain surplus, and domesticated ungulates. Archaeology reveals novel variation and dynamic indigenous histories, including alternative pathways to domestication, settled life, and social complexity. Recent studies into the deep history of the region, like other tropical forest regions worldwide, challenge stereotypes of small-scale, dispersed villages—primitive tribes—in a largely pristine forest. These studies raise the possibility that the average Amazonian person in 1492 did not live in an isolated, autonomous village, but instead was part of a regional polity or articulated with one in broad regional social networks that extended across the region.

These findings suggest remarkable sociocultural diversity, although it seems likely that no large bureaucratic state or integrated macroregional political entity or empire ever developed in the area. In the comparative context of other tropical forest regions or complex social formations in the Americas, Amazonian complex societies do not seem out of place (McIntosh 1999, Pauketat 2007). In general terms, the forest polities of the Amazon were more diffuse and less centralized in terms of techno-economic, sociopolitical, and symbolic resources than areas with more circumscribed resources, such as the desert river valleys of the Peruvian coastal region (Carneiro 1970). As the medieval historian Jacques Le Goff (1964) once noted of Europe’s forest civilizations, they are like the “photographic negative” of classic “oasis” civilizations. Nonetheless, the settled territorial polities that dominated various areas in late prehistoric times constructed elaborate domesticated landscapes, linking important centers in regional peer polities and perhaps more centralized tributary systems, as suggested along portions of the Amazon River (Roosevelt 1999).

As well documented among more recent social formations, the primary capital in Amazonian political economies was sociopolitical and symbolic, in the sense that surplus and wealth orbited around human bodies, constructed through ritual and social interaction, rather than the other way around. In diffuse and often multicentric regional systems small and large settlements were integrated through major public ritual, notably including elite mortuary rituals (Chaumeil 2007, Guapindaia 2008b). Ritual performance in highly structured public ceremonial spaces and material culture, notably prestige goods and bodily adornment, were primary mechanisms of social communication—a symbolic language—within multiethnic and, in some cases, multilingual regional sociopolitical systems (Barreto 2009, Lathrap 1985). The fine-ware ceramics of the Amazonian Polychrome Tradition are the most obvious expression of such broad prestige goods economies, spread throughout the Amazon floodplains, but these economies also included numerous other wealth items, such as shell, stone, and perishable wood, basketry, and feather valuables and other commodities (McEwan et al. 2001).

Communication and integration in regional systems of interaction did not create cultural homogeneity but produced remarkable diversity and pluralism. Against the backdrop of diversity, the distinction between river and upland regimes of dwelling was critical to local and broader regional patterns of social interaction, as witnessed in archaeological distributions and “sedimented” in the languages, bodies, and built environments—the cultural memory—of living descendent peoples. The sociocultural integrity of descendent peoples, following traditional lifestyles in generally nonindustrialized landscapes, provides rich opportunities for ethnoarchaeological research into indigenous history and archaeological formation processes (e.g., DeBoer et al. 1996, Polítis 2007, Roe 1982, Silva 2008). Research with descendent populations also highlights questions of multicultural collaboration and dialogue (Colwell-Chanthaphonh & Ferguson 2007, Green et al. 2003, Schmidt & Patterson 1996).

The recognition of sociohistorical variation has great relevance to contemporary debates on biodiversity, which reflects dramatic prehistoric influence and complex post-1492 histories across the region (Cleary 2001, Denevan 1992, Erickson 2008, Stahl 1996). Long-term and, in some cases, semi-intensive resource management strategies had widespread and dramatic impacts on the natural environment. The domestication of nature began early, and over time human groups became increasingly tethered to certain places, which by late prehistoric times included major centers and dense populations in a variety of areas. The focus shifts from human societies adapting to the natural environment to humans participating as active agents of change, both before and after European contact (Balée & Erickson 2006). The decimation of regional polities and native world systems in the early centuries of European colonialism resulted in the fallowing of the region's tropical forests, which were then affected by colonial extractive economies, such as the Rubber Boom, and twentieth-century development (Balée 2006, Hecht 2009).

Discovering that the region's forested landscapes are not pristine in no way diminishes their relevance in debates on conservation and sustainable development in the Amazon, the poster child of global environmentalism. However, it does complicate things and makes archaeology—the primary means to understand change in coupled natural human systems over long timescales—not only more interesting and contested but also more central in contemporary debates on the Amazon. The legacy of cultural landscapes, including contemporary practices, offers important clues to discussions of resource management in the future (Willis et al. 2007). This is true par-

ticularly in indigenous areas, which constitute more than 20% of the Brazilian Amazon and are a critical barrier to deforestation (Nepstad et al. 2005). In these areas, indigenous and folk knowledge systems, including diverse forms of cultural and ecological memory, draw attention to the need for memory conservation and cultural property rights alongside conservation of natural resources (Nazarea 2006, Posey 2002, Posey & Balée 1989).

Much has changed in recent decades regarding how scholars view the world's largest tropical forest, including the antiquity and diversity of human occupations and how they transformed the natural environment. Much has also changed in archaeological practice, notably increasingly interdisciplinary approaches, regional perspectives, fine-grained excavations, and the application of new technologies (e.g., remote-sensing applications and geo-archaeology). These changes occur within the context of broader changes in scientific research, notably the shift from science as detached, objective observation to multivocal and multiscale contexts of research applications, including engagement with local communities and attention to regional and global concerns (Latour 2004). In this world of research, archaeology plays an important role, particularly in understanding centennial- and millennial-scale change in human-natural systems, which are vital to debates regarding conservation, sustainable development, and human rights in an era of unprecedented change across the region. For practitioners of archaeology this entails getting dirty, digging more deeply into the Amazonian past, and learning to read the varied traces of the deep past. One thing is certain: It is an exciting, challenging, and important time to be engaged with Amazonian archaeologies.

## DISCLOSURE STATEMENT

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