Chapter 59

Conclusion

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INTRODUCTION

Like Julian Steward's much greater project (*Handbook of South American Indians*), our *Handbook of South American Archaeology (HSAA*) is intended to be descriptive, analytical, and even political. We hope that it will encourage scholars and lay readers to better understand how much they have in common, promote archaeological research, and band together into a cooperative community for the protection of archaeological patrimony and the development of heritage. No nation alone can achieve these goals. Multi-country and world-wide commitment and participation are essential.

Our intention in creating the *HSAA* was to bring together in a single collection current articles describing the people and cultures of the aboriginal South American past. There were many reasons for having undertaken such a project, but certainly our primary motivations involved the fact that as archaeological area studies increase, the practitioners and their discourses become more knowledgeable and specialized, and also more involuted, with fewer and fewer relationships among scholars in neighboring places. Eventually, continental issues and common goals recede into the background, replaced by concerns as well as knowledge defined in local, regional and national theaters. With few exceptions archaeologists are no longer South Americanists, but Amazonianists, Caribbeanists, Central Andeanists, etc. Many pre-historians, and especially the residents of modern South American nations, have become even more spatially specialized, bounded by the arbitrary frontiers of modern states – the archaeology of Peru, or Argentina, or Colombia, etc. Of course, modern national boundaries have nothing to do with prehistoric cultures and their spheres of interaction, but they have everything to do with the current practice of archaeology, from institutional control of archaeological patrimony to professional training and circles of colleagues, to journals, associations, and languages of communication. Furthermore, more and more contemporary archaeology is linked to identity, that is, almost always, presently defined as *national* identity, or regional or community identity. Rarely does the framework involve a more international Native American identity, or global humanist identity. Surely,

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our new century will see this change, as enlightenment ideology of national sovereignty is eclipsed by international organizations such as the Mercosur in the South American southern cone and the European Union, to say nothing of postmodern globalism. In the meantime, we need grander, continental perspectives on the past. Necessarily, the *HSAA* expresses the area foci of our era, but it seeks to promote knowledge of a whole, stimulating dialogue and collaboration among the diverse assemblage of pre-historians and other readers interested in the South American continent.

By bringing together this set of integrative summaries and analytical discussions – some from traditional, but many from less conventional perspectives – we hope to encourage a more inclusive intellectual gaze, embracing the continent, among South American archaeologists as well as the broader community of scholars, students, and lay readers who enjoy archaeological knowledge. Beyond the increased depth of knowledge area specialists acquire when they refine their understandings of neighboring cultures, the teaching of *South American* archaeology may benefit from more continental perspectives, as well as the new instructional resource that the *HSAA* represents for comparative scholarship, presenting current statements as well as extensive bibliographies that should promote cultural comparisons and generalization, both among the prehistoric cultures of South America and between South American and other societies of the ancient world.

TRANSCENDING CULTURAL AREA STUDIES: INDEPENDENCE AND INTERACTION

Cultural area studies are sure to continue growing in the future, focusing and specializing as scholarship advances, but it must be remembered that the ancient native people of South America experienced more than just their own culture area. They participated in continental processes of cultural adaptation, domestication, migration, and interactive culture change, making it especially important to embrace a continental perspective. South America was more isolated and independent than any other continent except Australia, and it was certainly the most isolated continent to achieve intermediate range and complex societies through wholly autochthonous processes. While there will always be questions about cultural diffusion from other areas – such as documented by occasional interchanges with Mesoamerica (Hosler 1996; Marcos 1995), there can be no question that the emergence of social inequality, political hierarchy, civilization and empire in South America was an exclusively South American process. South American societies developed their cultural potentials within the continent – including such distinctive structural configurations as dual organization shared continentally, from "marginal tribes" in the East Brazilian highlands to "civilized" Incas of the Central Andes. One clear proof of South America's independence is the khipu, a unique solution for information recording (Urton, this volume). All forms of writing in early civilizations shared certain characteristics (Trigger 2003), except the South American khipu, which was entirely innovative, distinguishing South America's achievement of civilization from processes in the rest of the world.

At first glance South America appears to be a continent of such extremes that one might suspect concomitant areal isolation. But such is not the case. Long-distance contact and population movement is part of the prehistory of the continent from earliest peopling into the latest pre-Hispanic period. South America is uniquely equatorial. The continent clusters around the largest tropical forest region in the world, containing the greatest natural waterway of the globe. The immense Andean cordillera actually creates a remarkable high

elevation pastoral corridor, facilitating north-south movements by hunters, pastoralists, and armies whose quartermaster depended on llama caravans. A small number of language families were widely dispersed, demonstrating shared cultural heritage extending into the remote past, while South Americans continued carrying out remarkable expansions up to the moment of European invasion – expansive cultures as different as the Caribs, Arawaks, Tupi, Wari, and Incas. There is no culture in South America that did not participate in uniquely South American heritage and experience, sharing the environment, ancient cultural patterns, and communities of neighbors.

CULTURAL COMPARISON AND SOCIAL EVOLUTION IN SOUTH AMERICA

Notwithstanding various post-processual assaults, cultural evolution is still the most important master theory for anthropological archaeology, and South America continues to play an important role in its theorization. In the 1940s, faced with the daunting task of organizing South American societies into volumes for the original *Handbook*, Julian Steward's approach was evolutionary – "marginal tribes," "tropical forest tribes," "Circum-Caribbean tribes," and "Andean civilizations." There can be no question that Steward's classification established foundations for the evolutionary stages employed almost universally by Americanist archaeologists in the 1960s and '70s: "band," "tribe," "chiefdom," "state" (Sahlins and Service 1960; Service 1962, 1971; and see also Fried 1967). Equally apparent, critical scholarship springing from Service and Sahlins' scheme underlies Kent Flannery's (2002) most recent pronunciation of the universal stages of cultural evolution: "hunting and gathering band," "autonomous village society," "rank society," "chiefdom," "archaic state," and "empire". The problem is that along the way Steward's original emphasis on multi-linear evolution – evolution that celebrated variation – became progressively unilinear – evolution emphasizing a single sequence of stages. "Descent with modification" is no longer the grounding concept of this variety of cultural evolution, as in its biological analogue, for cultural evolution has been re-defined as *transformational change* – change from one stage or level to another. For subscribing scholars, cultural change that is not transformational is considered irrelevant "drift," permitting extraneous variations to accumulate, like different word pronunciations as languages separate through time (Flannery 2002; Stanish and Haley 2005).

South American archaeology reveals the inadequacy of currently popular unilinear evolution, recognizable by its focus on cultural progression through a set sequence of stages, each conforming to an ideal culture type. It also demonstrates the inadequacy of somewhat more flexible models based on unilinear evolution, such as "dual-process theory" (Blanton et al. 1996), by the remarkable societal variability apparent in the continent's archaeological past. In spite of South America's impressive isolation and developmental independence, its shared, deep cultural traditions, its universal tropical sky, its vast environmental regions and its natural pathways of communication—pre-Hispanic cultures were bewilderingly varied in form as well as evolutionary trajectories. In fact, perhaps the greatest contribution of the *HSAA* is the frequency with which South American prehistory surprises us, thwarting traditional expectations, and of course, confirming affirmations of phenomenology that knowledge *does* come from in-the-world perception –postmodernists to the contrary (Sokolowski 2000). While South American cultures have certainly evolved in size, organizational complexity, and technological sophistication, they do not conform to

popular, unilinear formulations about evolutionary changes. Robert Drennan (this volume) states the case most succinctly, even though speaking only for middle range societies from southwestern Colombia:

> Not only did the episodes of rapid social change discussed above come at different times, they produced chiefdoms of distinctly different character. … All this amounts to a remarkably varied pattern of changes in just a few regions not very widely separated from each other. The complicated and varied interplay between economic and symbolic bases of power, between subsistence and craft economies, between highly personal and more communal leadership, and between nascent and fully institutionalized social hierarchy produces a rich array of different social forms within the broadly defined chiefdom class. This array altogether fails to correspond to any simple dichotomy or single gradient, such as the recently popular one playing a corporate mode of organization off against a network mode (Blanton et al. 1996). The multiple important axes of variation just do not fall into the simple pattern of correlation suggested (for example, by Feinman 2001). This situation does, however, offer rich opportunities for continued research aimed at providing fuller and more reliable reconstructions of the nature of the societies … to sustain further efforts to understand the processes that produced them and gave them their distinctive characters.

South America's array of archaeological surprises begins as soon as people reached the continent. North Chile's Chinchorro peoples were neither hunting and gathering bands, nor autonomous village societies. By the end of the Pleistocene they were enjoying a sedentary life style but based on fishing in coastal bays and river mouths (Arriaza et al., this volume). By 7,000 BP they were practicing astonishingly elaborate mummification of at least some corpses, which might normally be interpreted as indicative of ranking, although nothing else about Chinchorro culture reveals social hierarchy. On the other side of the continent, material remains from Brazilian shell mounds are not so well preserved, but imply long-term occupation and steps toward complexity (Gaspar et al., Chapter 18 of this volume).

Even more surprisingly, by between 5000 to 4000 BP, substantial artificial mounds were constructed by foragers of the Pampas and Campos (Politis, this volume) – "cerritos de indios" in Uruguay (see Verdesio, this volume) and "aterros" in Brazil. Qualifying as some of the earliest monuments in the New World, they represent an autochthonous lowland architectural tradition almost exactly contemporary with Peru's first temple mounds (Pozorski and Pozorski, this volume). Denise Schaan (this volume) describes Marajoara culture, which produced immense mortuary mounds and spectacular ceramic art, as an essentially non-agricultural chiefdom based on remarkably complex, but communally maintained, facilities for fishing a seasonally inundated landscape. Apparently, neither agriculture nor autonomous village society were necessary for significant social complexity in South America.

Surprisingly, South America's earliest pottery comes not from the Central Andes, nor even the Northern Andes, but from Amazonia (Neves, Oliver, this volume). Studies of historical ecology contradict old ecological precepts with, for example, Amazonian Dark Earth (ADE) showing that human occupation can significantly *improve* environments and immensely increasing carrying capacity, contrary to the precepts of traditional human ecology (see Erickson, Neves, Oliver, Rostain, Versteeg, this volume). Throughout South America, domesticated plants appeared much earlier than ever imagined (Pearsall, this volume), and Pleistocene adaptations look much more like the Archaic in North America. Ecuador and Colombia (the North Andes), not Peru or Bolivia (the Central Andes), appear to have been the places where the first steps were taken toward "autonomous village societies"

(Raymond, Zeidler, this volume). But villages are not a natural outgrowth of sedentary farming, as southwestern Colombia's dispersed households show (Drennen, this volume). In fact, "autonomous village societies" do not seem to have been the antecedent of intermediate or complex society in the Central Andes, where by Late Pre-ceramic (Late Archaic) times, settlements were integrated into valley-wide systems that constructed huge monuments and centers – perhaps cities – before the transition to sedentism and agriculture was fully achieved.

Regarding Andean cities, all scholars would likely agree that the Central Andes was an urban society from at least Middle Horizon times, if not dramatically before (e.g., claims for cities in Late Pre-ceramic by Shady 2006 or Initial Period Peru by Pozorski and Pozorski, this volume). But Makowski (this volume) argues convincingly that Central Andean cities were so different from urbanism in the rest of the world that "anti-urban" better describes at least Peru and Bolivia. Furthermore, of the first "empires" to arise in South America, Tiwanaku strains the ideal evolutionary type almost beyond recognition (Isbell, this volume). The list of South American surprises goes on, exceeding available space.

CURRENT ISSUES IN SOUTH AMERICAN PREHISTORY

Archaeological field research by South American area specialists has dramatically transformed the continent's prehistory in just the past few decades with an abundance of new information. The Andean, and particularly the Central Andean, culture area was archaeologically privileged by an early burst of investigation in the late nineteenth and early twentieth centuries, with German scholar Max Uhle leading the way. When Steward produced the *Handbook of South American Indians* fifty years later, many parts of the continent were still completely unknown archaeologically, or known very poorly. Moreover, some scholars were transient. The South Americanist pre-historian could devote a season to Venezuela, a second to Argentina, and a third to Bolivia, and make profound contributions in each place by simply establishing a stratigraphic sequence of ceramic styles. But today, few areas are unknown, as investigators from universities, museums, and national archaeological authorities reveal the past in even extremely remote locations. Furthermore, new techniques for, and approaches to, the recovery of archaeological information are finally overcoming at least some of the incredibly destructive effects of the wet tropics on archaeological artifacts and related remains of human activities (see Stahl 1995). At last, even the Amazonian jungles are giving up secrets of early human settlement. In fact, the abundance of new information from Amazonia is perhaps the most impressive current development in South American prehistory. These and other new research programs contribute to a dramatic increase in the knowledge of South American archaeology throughout the continent since publication of the *Handbook of South American Indians*. These advances, collected now into the *HSAA*, provide a new resource that reveals a changing flavor to the South American past.

How have new investigations changed South American archaeology? Certainly, there are too many innovative discoveries and creative new interpretations for all to be reviewed here, but something of the new flavor can be brought out by considering a few of the great problems that beleaguered the South American past throughout the last half of the twentieth century. These issues and their protagonists shaped debates, motivated research, determined funding priorities, and established the outlines in terms of which South American pre-history was presented. Among the key debates were the antiquity of humans in South America, the origins of agriculture and village life, and the role of Amazonia in South

American cultural evolution (were its societies developmentally late and simple recipients of innovations made in the Andes, or were Amazonian cultures precocious, intermediate level donors of cultural developments to surrounding areas, including the Andes?). Other important debates have regarded origins of South American civilization – and the nature of Andean states and urbanism. Finally, what is happening to South American cultural patrimony? Is the archaeological record contributing to heritage, and how?

The Peopling of South America

There is a pervasive image in western hemisphere nations that characterizes the past as "taming nature's wilderness," imagined as civilized European men spreading into American interiors. So popular is the image that even environmental scientists have fallen into this erroneous representation of the past, imagining pre-European flora and fauna as untouched by human intervention (Denevan 1992; Stahl 2002). But this was not the case. Humans have been in the Americas for a long time – but just how long? Indeed, it seems more and more apparent that it was the last great land mass on earth to be populated.

A review of the Paleoindian literature, and especially the "Clovis First" argument is unnecessary for it is published in many, easily-available books and journals (see summary in Dillehay 2000). In brief, most archaeologists agree that the Americas were populated by immigrants from Asia, who entered the continents via the Bering Strait. The immigrants were either terrestrial hunters who walked into the new continents in pursuit of big game, or littoral hunter-gatherers who paddled small boats along frozen shorelines, fishing, collecting, and hunting marine mammals, or both. The first migrants must have entered North America long before they reached South America, so human antiquity in the southern continent has always been capped by dates from North America.

In North America, there has been a long-enduring consensus that no convincing evidence for human activities precedes the Clovis culture, with its diagnostic fluted projectile points, dated between about 11,500 and 10,500 BP (uncalibrated). To the degree that this "Clovis First" argument is correct, the peopling of South America would have to be later than 11,500 BP, and probably half a millennium or more later, for the first inhabitants of North America had to travel thousands of kilometers to reach South America. Most archaeologists theorize that population growth and demographic pressure were the mobilizing agents, since the migrants had no knowledge of what lay ahead. Even under ideal conditions, expansion would not have been many kilometers each generation.

The "Clovis First" argument was seriously questioned from the 1960s by South American excavations yielding radiocarbon dates in excess of 11,500 BP. Taima Taima in Venezuela, Tagua Tagua in Chile, Pacaycasa in Peru, Pedra Furada in Brazil—to name some of the more notorious sites—produced radiocarbon dates from a few centuries before the Clovis barrier to 30,000 BP and earlier. However, rigorous interrogation of the data from each site revealed serious inadequacies. In some cases the artifacts were not convincing. In others the organic samples that had been dated were not securely associated with the artifacts. In one case, what appeared to be butchering marks on bones of Pleistocene megafauna might actually have come from activities long after the death of the animals. One by one, virtually all of South America's early finds were discredited [Note 1], until the discovery of Monte Verde by Tom Dillehay and its indisputable shattering of the Clovis Barrier (see summary in Dillehay 2000 and Chapter 2 in this volume).

Indeed, as the chapters by Dillehay (Chapter 2) and Borrero (Chapter 4) in this volume show, from both Chile and Argentina, archaeological sites with dates in excess of 12,000 BP

are too frequent and too convincing to be dismissed. However, dated remains in excess of 11,200 BP are not the major story. More significantly, virtually all of South America, from Tequendama in Colombia to Fell's Cave at the southern tip of the continent, has remains of prehistoric settlement *contemporary* with North American Clovis culture – at least 11,200 to about 10,000 BP. Apparently, these South Americans migrated through North and Central America long before anyone manufactured a Clovis point.

Clovis-era occupations are found in almost every South American ecozone. As Roosevelt, Douglas and Brown (2002) emphasize, these were not the arriving migrants but the first round of adaptations to the new continent – cultures already well accommodated to specialized environments. Among them are the earliest peoples documented in the Amazonian forests, at Caverna da Pedra Pintada (Roosevelt et al. 1996; Oliver Chapter 12 in this volume). Apparently, as North American hunters were learning to kill and butcher mammoths and giant bison on the great plains, Paleoindians along the Amazon mainstream had learned to exploit a wide range of tropical fruits, seeds, and palm products, to fish in river estuaries, and to hunt small game in adjacent forests. Their stone tools seem crude, but they painted curious images on rock shelter walls, implying a rich spiritual life probably associated with significant sedentism. Indeed, several *HSAA* authors make the point that Late Pleistocene South American cultures were much like the Holocene cultures of the North American Archaic in terms of their broad-spectrum foraging.

At last it is clear that South America was populated during the Pleistocene, before Clovis culture appeared in North America. Significantly, none of the *HSAA* authors supports a much earlier Pleistocene occupation (i.e., millennia before Clovis culture), except perhaps Navarrete (this volume) with his citation of Taima Taima. The other sites dated earlier than 13,000 BP have been omitted as unconvincing. So, although the peopling of South America was pre-Clovis, it seems not to have been much pre-Clovis. The new maximum may well be about 13,000 BP, with continental dispersal seeming extremely rapid. Perhaps Clovis and the early South American cultures are all descendent of the same initial migrants, adapting to different New World environments.

Other issues regarding early human colonization of the Americas remain far less resolved than the Clovis Barrier. On the basis of skull morphology, it seems that in South America, and probably throughout the New World, there was an *early* physical type more closely resembling Australians and Pacific peoples and a *later* morphological type more like Asians and modern Native Americans (Neves et al. 2005). This suggests at least two migrations, probably in temporal sequence. Two waves of different people with different cultures would fit nicely with two early lithic traditions generally identified in South America, a unifacial Edge-Trimmed Tradition, and a Bifacial Tradition (Dillehay Chapter 2 in this volume). However, at present there is no detectable chronological difference between these two technologies, and neither has been associated with one or the other early physical types in South America. Perhaps these technological differences are simply adaptations to different kinds of environments: wood working in forests vs. grassland hunting, for example. Perhaps skull morphology also represents adaptation to new conditions in South America – chewing different kinds of food, for example.

Studies of molecular genetics do not seem to square with morphological or cultural difference among the early Paleoindians. In an excellent summary, Schurr (2004a, b) presents the case for a single Paleoindian migration into South America, even though later waves represented by different modern haplotypes probably reached North America. Fortunately, there are some contributions from molecular genetics that appear to support parts of the archaeological picture. Several approaches to dating the migration(s) with molecular

clocks suggest modestly pre-Clovis arrival – about 12,000 to 14,000 BP (or about 13,500 to 16,000 cal. BP, alternatively referred to as calendar years).

Now, if Paleoindians were migrating from Asia via the Bering Strait into the New World by 13,000 or 14,000 BP they were not following a continental route, for Alaska and much of Canada were covered with glacial ice. The alternative seems to have been the coastal path, employing water craft (Fladmark et al. 1988; [Note 2]). If this were the case, it is possible that marine hunters, fishers and gatherers spread quickly down the west coast of the Americas, dispersing inland only where attractive conditions prevailed, and perhaps actually moving north again through the interior when climate improved in Holocene times. Perhaps the North American archaeological record does not constitute the definitive temporal ceiling constraining the antiquity of human settlement in South America after all!

Sandweiss (Chapter 10 in this volume) makes important points relevant to a coastal dispersal route for Paleoindians, in his discussion of the antiquity of fishing in South America. If Pleistocene settlements were on ancient shorelines this evidence was inundated as sea levels rose, except on beaches where geological uplift has been as rapid as the encroaching ocean, swelled with post-Pleistocene glacial melt. Parts of Peru and Ecuador have rapidly rising coasts, and early human occupational histories. However, readers should note that Sandweiss presents calibrated dates (pre-Vegas occupation about 13,000 to 11,400 cal BP; Las Vegas site about 11,400-7500 cal BP; Amotape campsites, 12,200 cal yr BP; Quebrada Tacahuay about 12,900 to 12,000 cal yr BP), that are 1,500 to 2,000 years older than equivalent dates in radiocarbon years, employed by most other *HSAA* authors (see discussion in Preface of this volume). So the Ecuador-Peru coastal sites are contemporary with Clovis and early post-Clovis Period cultures, not the pre-Clovis sites of Chile and Argentina. Temporally, they seem to represent the first or second round of adaptations to local environments, not the initial migrants.

The Chilean and Argentine pre-Clovis sites appear to represent terrestrial adaptations. Similarly, in Venezuela, megafauna seems to have been the primary prey at possibly pre-Clovis Taima Taima, implying specialized terrestrial hunting that differed significantly from marine fishing, hunting and gathering. If the initial dispersal of Paleoindians was along the coast, employing watercraft, Vegas, Amatope, Quebrada Tacahuay and the other earliest western coast settlements are not their remains. They are a millennium or more too late. None of the "earliest sites," more than 12,000 uncalibrated BP, has been found in coastal environments, even where the coastline has been rising. The archaeological record is paradoxical, although coastally adapted migrants would help explain the antiquity of Chinchorro fishers in northern Chile, who had achieved significant sedentism at sites like Acha and Las Conchas as early as 10,000-8,000 BP (Arriaza et al. Chapter 3 in this volume). By 7,000 BP they were practicing complex mummification. Was Chinchorro a legacy of the initial migrants? The collapse of the Clovis Barrier poses a set of exciting new questions.

Origins of Farming and "Autonomous Village Society"

In the past, archaeologists imagined hearths of domestication where associated complexes of plants were tended into dependence on human-created environments – farmers' fields. It was also imagined that centers favored by enough of the new cultigens would develop sedentary villages that in turn, represented the first step toward civilization. This kind of adaptation has been called the "Formative Stage" by many cultural evolutionists. Early Middle Eastern farming villages probably best represent the ideal type (see Redman 1978) and in the Americas archaeologists sought the first farming villages in areas where civilization

was also achieved very early (see Flannery 1976). These locations, Mesoamerica in the north and the Central Andes in the South, were considered the hearths of plant (and animal) domestication, the sources from which farming villages spread, and the precocious centers where progressive intensification of farming led from simple, to intermediate, to complex societies.

In the final decades of the twentieth century, South American archaeology has benefited immensely from paleoethnobotanical studies of prehistoric plant use and the beginnings of farming. New techniques and methods permit the recovery of macrofossils, pollen, phytoliths, and starch microfossils from diverse contexts, including residues on tools, cooking pots, and even human teeth. The great increase of information is showing that intensive use and morphological modification of plants was much earlier and more widely dispersed in South America than anyone imagined. Pearsall, Raymond, Sandweiss, Oliver (Chapters 7, 5, 10, 12, respectively) and others show that while North American Paleoindians were chasing big game, South Americans were practicing broad-spectrum foraging, living semi-sedentary lives, and in many cases, changing the selective factors operating on plants. Squash has been identified at Las Vegas, Ecuador, in strata dated about 9750 BP, and by 9000 BP phytolith size suggests domestication. Llerén and maize were not much later in Ecuador, and in Colombia arrowroot, macaw palm, and other tropical plants were at least under human control by 10,000 BP (Chapter 7, this volume). Even as far south as Argentina and Chile, traditionally considered the most remote from centers of domestication, maize, beans and chili peppers were present before 8000 BP and a full complement of crop plants was available, either locally domesticated or introduced, between 4500 and 2500 BP. But few if any of these cultures were characterized by sedentary villages.

Increasingly, it seems that in South America, village life was *not* strongly linked to agriculture. It apparently was neither the context in which domestication occurred, nor the most probable outcome of increasing dependence on farming. Rather, the critical cultural adaptation seems to have been broad-spectrum foraging, associated with various degrees of mobility, but emphasizing successive occupations of the same locations, encouraging the development of useful patches of plants (see Chapters 7, 12, 14, 20, 57, this volume). Erickson (Chapter 11, this volume) may have captured the essence of the process when he affirms that South Americans didn't really domesticate plants – they domesticated local environments. In some cases it appears that horticulture was practiced by mobile communities for millennia without sedentary villages appearing. In others sedentism is apparent, but in dispersed households, not villages (Drennan, Chapter 21). However, in some cultures, such as Ecuador's early Valdivia, a marked switch to villages is clearly documented archaeologically. Curiously, there seems to have been little apparent change in the plant inventory or technology of farming between earlier and more mobile Vegas lifeways and the first Valdivia villages (Chapters 5 and 24, this volume). Of course, fisher peoples such as the Chinchorro maintained sedentary or semi-sedentary communities for millennia with little or no farming (Chapter 3, this volume). Apparently, in South America, farming was not a necessary or a sufficient antecedent for sedentary village life. Continental prehistory shows that evolutionary causality was much more complicated and diverse.

South America's earliest sedentism on the north central Peruvian coast did not produce sedentary village society either. Early and Middle Pre-ceramic foragers employed a mix of wild and cultivated plants, but lived relatively sedentary lives along the coast where fishing was sufficiently productive. Late Pre-ceramic settlements included new farming communities well up valley, where small-scale irrigation was practiced, but they were integrated into complex settlement systems dominated by centers filled with huge architectural monuments.

Role of Amazonia in South American Cultural Evolution

Two radically opposed models and their respective proponents have shaped archaeological discourse about Amazonia during at least five or six decades – although we must remember that until at least very recently, these scholars were working with woefully little actual archaeological information. Betty Meggers almost single-handedly brought cultural ecology and evolution back into the practice of modern American archaeology, while also conducting excavations in remote areas of Amazonia with her late husband, Clifford Evans. She argues that most of Amazonia has a very low carrying capacity. Consequently, deterministic laws of environmental potential dictate that cultures occupying the neotropical forest are destined to be small and simple. Little or no evolutionary development took place across the vast Amazon Basin. Instead, Amazonian prehistory consists of a succession of migrations that swept out of the culturally more complex (and ecologically more productive) Andes, down tributary rivers and onto the mainstream floodplains. In many cases the ceramic styles of these migrants eventually reached the far corners of the tropical forest ecozone, as migrations in search of farm land continued. But in the expansion process these complex Andean societies quickly devolved. Intensive highland agriculture gave way to extensive, slash and burn horticulture. Communities became smaller and more mobile, economically less differentiated, politically less stratified, and significantly simpler in terms of technology and material culture. For Meggers (1957, 1971; Meggers and Evans 1961), down-river migrations are documented archaeologically by a series of horizon styles in ceramics, that structure the chronology currently employed by archaeologists throughout Amazonia.

Donald Lathrap (1970) presented exactly the opposite interpretation. Influenced by plant geographer Carl Sauer (1952), he argued that the floodplains of the Amazon mainstreams offered rich environments, perfect for initial plant domestication. In Lathrap's model semi-sedentary tropical foragers concentrated beneficial plants around their camps, gradually domesticating them, especially palms and vegetatively reproducing root crops. By 5,000 or 6,000 BP, tropical forest Indians had domesticated numerous plants, developed efficient horticulture, and established village life. They were also growing demographically to fill the most desirable niches – floodplains of larger rivers carrying heavy sediment loads from recently uplifted mountains, especially the Andes. As farming improved, population increased, intensifying competition for floodplains land. Less successful groups were pushed off the most desirable terrain, some into terra firme forests to return to hunting and gathering, and others up lesser tributaries to become more extensive and mobile farmers on the poorer soils. Successive technological breakthroughs promoted demographic surges that pulsed up-stream in migrations from a Central Amazonian heartland, resulting in successive linguistic dispersals – Pre-Mipuran Arawak, Mipuran Arawak, Carib, Tupi, and others. Archaeological documentation is the series of horizon styles in ceramics that structure the chronology currently employed by archaeologists throughout Amazonia (virtually the same evidence used by Meggers). Each linguistic dispersal was associated with one of the great lowland ceramic series such as incised rim or Barrancoid pottery, the polychrome horizon, and the others reported by *HSAA* authors (Navarrete, Neves, Noelli, this volume), from the Caribbean coast to the Parana – of course, with diverse local names.

Continuing Lathrap's scenario, far to the west some of these tropical farmers found themselves in small, deeply entrenched, but rich Andean river tributaries. Diminutive but annually renewed alluvium produced prodigiously. Pushed ever higher by population pressure from down stream, tropical forest cultivators found that at intermediate altitudes their traditional crops were no longer hardy enough for the increasingly cold. Gradually

they replaced them with Andean plants, especially roots like racacha, potato and oca that resemble tropical manioc, arrowroot, and sweet potato in reproductive process and way of planting. Where mountains were low, as in northern Peru-southern Ecuador, and Colombia, lowland farmers leapfrogged the cordilleras to settle in forests to the west, diffusing Amazonian culture still farther. But where the mountains were high, tropical crops were abandoned in favor of hardy, altitude-tolerant cultigens, as the intermountain basins were settled. In Lathrap's model, this is how innovations diffusing from the Central Amazon reached the Andean highlands, as well as the western and northern lowlands of South America, introducing domesticated plants, farming technologies, village life, ceramics, and spiritual ideologies that emphasized jaguars, harpy eagles, and anacondas - the top predators of neotropica.

Meggers imagined a poor and late Amazon receiving people and cultural developments from South America's western and northern highlands. Lathrap imagined a rich and early Amazon, incubating language families, populations and pottery styles, as well as agricultural innovations that diffused west, north and even south into llanos and Chacoan environments.

Modern archaeology confirms neither of these models, at least in the extremes enunciated by the two prophets as they grappled with one another. However, Lathrap's representation of Amazonia as rich, early, and culturally innovative, is receiving significant support from a series of recent archaeological discoveries. For example, Lathrap predicted that the Amazon mainstream would produce South America's earliest pottery, manufactured by its early sedentary horticulturalists. And, indeed, pottery along the Amazon mainstream is now dated a thousand years older than anywhere else on the continent (Oliver, this volume; Roosevelt et al 1991). But apparently, it was not produced by farmers, as Lathrap predicted. Current data imply that by 7000 BP, residents of Amazonia occupied more or less permanent settlements and manufactured pottery, but supported themselves by fishing, shellfish collecting, and gathering plant foods. These riverine shell-mound dwellers appear not to have adopted farming for millennia, perhaps no earlier than about 4000 BP. Apparently, like so many others, Lathrap significantly overestimated the importance of farming in South American cultural evolution, in this case, Amazonian farming.

Farming on the west coast of South America, especially Ecuador, seems to have been considerably earlier than in the Amazon, where pottery also made a precocious appearance, by about 5500 BP (Chapters 5, 7, and 24, this volume). Colombia has even earlier ceramics, by about 6000 BP, but there seems to be less evidence for the early importance of domesticated plants than in Ecuador (Chapter 5, this volume). Do these tropical lowland ceramic traditions of western and northern South America represent diffusion from the Amazon, as Lathrap suggested? Certainly there was much more interaction between Amazonia and the northwestern lowlands than formerly realized – by 4500 BP, and perhaps even earlier (Salazar, Valdez, Zeidler this volume). Furthermore, northern Peru seems to have been tied into the same sphere of exchange from late Archaic times (Church and von Hagen, Guffroy, this volume). But it seems unlikely that there was only one center of invention and diffusion, as Lathrap imagined, the Central Amazon. Oliver (this volume) suggests that at times, diffusion may have been from the Andes into the Amazon, and at other times the reverse, a compromise interpretation that combines aspects of Meggers' model with Lathrap's.

What the *HSAA* clearly shows is how early and widespread late Pleistocene and Holocene foraging economies were throughout South America, economies that promoted significant sedentism, experimentation with horticulture, and treatments of plants that encouraged domestication. The Lathrap-Meggers controversy is not resolved and continues

to provoke exchanges, sometimes strident and partisan. But as it becomes clear that neither scenario is entirely valid perhaps the most profitable outcome of the 50-year-long squabble is the sophistication of "historical ecology," (Balée 1998; Balée and Erickson 2006; Erickson, this volume), nurtured by the new practitioners of Amazonian prehistory, to replace Meggers' once innovative, but more deterministic, cultural ecology.

Historical ecology is associated with pioneer Carole Crumley (1994), but Amazonian scholars are among its principal advocates, producing insightful investigations of long-term interactions between people and landscapes (Denevan 1966, 1992; Stahl 2002; Balée 1998; Balée and Erickson 2006; Erickson, this volume). A revolutionary new understanding of the neotropical past, as well as human environmental management is emerging, that has broad implications for Amazonia, for anthropological theory, and for modern strategies of sustainable development in a world of overwhelming demographic growth. For example, it is now clear that raised field agriculture and similar earth-moving strategies – not always associated with farming – transformed vast areas of South America (Chapters 13, 15, 16, 17, 19, 22, 46, this volume), turning lands judged "marginal" by modern agronomists into areas that supported dense occupations and complex cultures for centuries. Similarly, Amazonian Dark Earth (ADE) is apparently wholly anthropogenic (Chapters 11, 12, 13, 17, this volume). Very surprisingly for contemporary development theorists, human activities can improve local environments as much as most modern approaches to production seem to exhaust them.

Origin of South American Civilization

Volume 2 of Steward's *Handbook of South American Indians* was devoted to the "Andean Civilizations," particularly the high cultures of the Central Andes. For decades the great question in Central Andean archaeology had been, "Where, when, and how did Andean civilization begin?". When the original *Handbook* was published it had only recently been determined that Chavin was not part of the Tiwanaku spread, but significantly older (Bennett 1946). And Julio C. Tello (1943, 1960) was arguing that the Chavin culture was the "mother culture" of Andean civilization, developed in the Peruvian highlands at the site of Chavin de Huantar (see Burger, this volume). But there were alternative theories. Rafael Larco Hoyle (1939) located the origin on Peru's north coast with the Cupisnique culture, while Arthur Posnansky (1914) placed it at Tiwanaku, in Bolivia. Of course, all these theories assumed a single, precocious origin, and hyperdiffusionism.

As radiocarbon dating was perfected, and diffusionist archaeology was replaced by evolutionary thinking, general concepts of civilization were refined and replaced with very precisely defined stages of cultural evolution. Multiple origins and more or less independent but parallel evolutionary trajectories were assumed for different cultural regions. In the popular evolutionary sequence outlined previously – "hunting and gathering band," "autonomous village society," "rank society," "chiefdom," "archaic state," and "empire" – it was the transformation from chiefdom to archaic state that is considered to initiate civilized life. And indeed, recent (often quite argumentative) archaeological discussions of Andean cultures devoted an enormous amount of attention to the chiefdom-state transition.

Somewhat simplifying the origins of Andean civilization debate, over the past twenty-five years or so, most South American pre-historians have agreed that state government was appearing in the Central Andes during the late Early Intermediate Period (ca. 200 BC – AD 700) and the early Middle Horizon (ca. AD 650 – 1100), at least semi-independently in several locations. The critical time probably began about AD 400–500, and by AD 700–800

institutions of the pristine state were in place in several great centers. Capitals participating in the innovative processes were Huari and Tiahuanaco (Chapter 37, this volume), and since the spectacular discoveries at Sipan, the Moche centers as well, especially the Huaca del Sol/Huaca de la Luna site (see Chapter 36, this volume, for a new perspective on Moche culture)

By AD 400 or so, agriculture and sedentism had been established for several millennia. Technology had improved in every domain, from farming to architecture to metallurgy (South America's bronze age began a century or two later). Population had grown immensely, both in total numbers, and in the percentage concentrated in central settlements; leaders organized huge amounts of labor to build great pyramids and vast irrigation systems; enormous wealth was being created, including products of fine artists and craftsmen; warfare was increasingly important, with a warrior cast clearly represented in a great deal of art; and social inequality, as indicated by mortuary remains, ranged from astonishingly wealthy lords to commoners and perhaps even slaves with nothing. It seemed that all the antecedents were in place for the next step: state government, empires and great cities – Andean civilization.

This simple and convincing scenario, locating the origins of Central Andean civilization in the mid-first millennium AD, is being shaken to its foundations by a new proposition according to which Peru's first cities and state government appeared thousands of years earlier – perhaps as far back as the Late Pre-ceramic, (or Late Archaic), or the Initial Period of pottery respectively (cal. 3000 to 2100 BP, and cal 2100 to 1000 BP, according to Pozorski and Pozorski, Chapter 31). Such an early origin for Andean civilization was first proposed, rather cautiously, by Shelia and Thomas Pozorski (1992, 1994, and this volume), who placed the onset of state government in the Initial Period. More recently, and more boldly, Ruth Shady (1999, 2003, 2004, 2005, 2006) has recognized urbanism, as well as state organization, in the even earlier Late Pre-ceramic Period. Jonathan Haas and Winifred Creamer (2004, 2006) followed with similar claims based on related research. The hearth for this precocious cultural evolution is located on the north-central coast of Peru, from the Huaura Valley north to the Casma Valley, and during the Initial Period, a somewhat larger area, reaching south to the Rimac and Lurin Valleys, and north to the Moche Valley, and possibly farther. In this explanation of civilization, diffusion is again popular, from a single precocious central coastal Peruvian hearth.

Should those social formations receive the label "civilization"? In terms of former thinking, Peru's Late Pre-ceramic represents the transition from hunting and gathering to agriculture – the "Neolithic Revolution" of V. Gordon Childe (1936, 1942), or in terms of the currently popular sequence of stages, change from "hunting and gathering bands," to "autonomous village society" (Flannery 2002). If Shady and the Pozorskis are correct, Peruvian civilization materialized directly out of "hunting and gathering bands," apparently skipping "autonomous village society," "rank society," and "chiefdoms." If such were the case, the popular sequence of evolutionary stages is discredited.

To evaluate Late Pre-ceramic and/or Initial Period origins of state and city we must examine the archaeological record as well as the criteria employed to identify city and state in that record. Of course, we do not want to disqualify a classification on the basis of some technical criteria, such as writing, since nothing would be learned from such an exclusionary exercise. We concur with Drennan (Chapter 21), who in his discussion of Colombian chiefdoms affirms that evolutionary stages should be defined broadly enough for archaeology to learn something from comparative analyses:

> Some argument has focused on whether… societies were chiefdoms or not, but … this depends on taking quite a narrow definition of "chiefdom" as a very specific societal type with a redistributive economy and a particular kind of kinship system… "[C]hiefdom".. [may be] used in a broader sense to refer to any society that encompasses more than a single local community and has some degree of institutionalized social inequality.

However, Makowski (Chapter 32) worries that Shady's use of the concept "urban" to classify Late Pre-ceramic settlements may be so broad and inclusive that the category is rendered meaningless. Nothing can be learned comparing cultural phenomena that are essentially different.

Pozorski and Pozorski (Chapter 31) state that what compels them to classify Moxeque, Huaca de los Reyes, and other Initial Period monumental centers as state capitals is the immense amount of labor employed in their construction, that involved vast volumes of construction in single building epochs; the planning required, with key principles followed for centuries, even in different sites; repetition of the same architectural module(s) as though emblematic of authority; different architectural forms for special functions (temple, storage, elite residence/palace); economic symbiosis between coastal and valley settlements; and several large centers integrated into the same political unit. Shady (2006 and personal communications), who has excavated tirelessly for a decade at the Supe Valley site of Caral adds important complementary features for the antecedent Late Preceramic Period. She describes a Supe Valley-wide settlement hierarchy of 18 sites with size modes at 55-80 ha, 30-45 ha, 15-25 ha, 5-10 ha, as well as smaller sites. Spatial distribution includes coastal and inland sites, the latter located to maximize valley-bottom irrigation, in settlement enclaves or clusters, with formal routes for communication between them. Caral itself sprawls over 66 ha, with 7 great mounds around a vast open space. Residential architecture is limited to a modest sector to the northwest of the great plaza, organized into hamlet-like, multi-family units, that may have housed as many as 5,000 persons (Shady, personal communication). Additionally, most pyramids have a building compound behind them, which seems to be elite quarters for people in charge of the mound.

Shady interprets Caral's spatial organization as indicative of division into two moieties, with a great temple/sunken court complex in each half. She argues that net bags containing construction fill, as well as the diversity of foods affirm tribute collection, and even some degree of occupational specialization. Buildings, orientations, drainage features, and other aspects of the built environment suggest the existence of architects, astronomers, and mathematicians, as well as workers and construction overseers. However, the greatest domain of specialization was probably in religion, with priests and other ritual specialists providing a rich ceremonial life within the "city".

As Makowski (Chapter 32) points out, there have been several approaches to urbanism and state government among archaeologists. One emphasizes the consolidation of administrative institutions into a hierarchical political organization that worked itself out in the spatial order of settlements surrounding the primary capital, and defining its territory. A set of secondary administrative centers with lesser officials was located around the capital, each of them circled by tertiary towns, until the smallest settlements, with no administrative functions were distributed between the lowest order villages where officials were in residence. Sharp distinction was drawn between ceremonial centers that were not top administrative nodes, and authentic state capitals, and even ceremonial centers with sizable resident populations that had very few if any regional administrative functions.

The Supe Valley has a Late Pre-ceramic settlement hierarchy that might correlate with administrative structure, but it is not rank ordered as one would expect of an administra-

tive state, with one capital, surrounded by a countryside characterized by a larger number of secondary administrative centers, etc. In fact, the Supe Valley had three first-order settlements, in the 55-80 ha size range. Either the valley was divided among three polities, each with its primary administrative capital, or the organization was not like that known to theorists of the administrative state and their planned urban capitals. The latter may be an evolutionary possibility at the limits of ethnographic and archaeological analogy: it is quite reasonable to think that forms of society existed in the past that did not survive into ethnographic times. This is a domain in which field data-generated model-building archaeological theory must begin to flourish.

A second vision of urbanism understands the city as functionally differentiated internally, "a permanent dwelling site of managers, merchants, craftsmen, and the military" (Makowski, Chapter 32, this volume). Although one can infer that immense monuments imply architects, masons, overseers, and workers, as well as priests, accountants, tribute collectors and other specialists, there is little direct evidence at Caral for occupational, or even status, difference, such as in mortuary treatment. There is no evidence for a military specialization, or even for organized conflict. Technology is little differentiated, with no significant wealth, and only a modest amount of trade beyond the immediate valley. Householders could have produced all the material culture excavated to date.

Makowski (Chapter 32) offers a third image of the city, Marxist, in which social class, property, and the apparatus of state oppression are most diagnostic. But if status differences can hardly be detected at Caral – except perhaps for housing (with that behind pyramid compounds belonging to elites, and the northwest collection of hamlets belonging to the rest of the inhabitants) then an oppressive state supporting the interests of the wealthy class seems unlikely.

In summary, Caral of the Late Pre-ceramic, and Moxeque, Sechin Alto, Huaca de los Reyes, etc. of the Initial Period are not irrefutable examples of urbanism or state government. On the other hand, they are astonishingly great centers, that required so much labor, organization of labor, planning of the monuments, etc. that they must not be discounted as states either. Of course, each had a thousand years or so for construction, so perhaps such immense centers express long-term accumulation in a context of very little social and cosmological change. Pozorski and Pozorski (this volume) note that pyramid centers of the north-central and north coast were built in massive construction phases, while those of the central coast were built in many, modest additions. However, as a close reading of Burger's (this volume) discussion of Chavin shows, such inferences may be more in the eye of the beholder, and mind of the archaeologist, than in the archaeological record.

The issue of the origins of Central Andean civilization have not been resolved, but the colossal centers of Peru's Late Pre-ceramic and Initial Period show that the currently popular stages of unilinear evolution do not adequately represent the range of evolutionary trajectories that characterize South America's past. Indeed, discussion of the paradoxical cases of pre-Hispanic urbanism on the continent should also examine the Sierra Nevada de Santa Marta ruins (Oyuela-Caycedo, this volume). There is much yet to be learned about the processes of civilization, and classification alone resolves nothing. What is needed is field work, especially large excavations and thorough analyses, coupled with open-minded theory-building, unfettered by assumptions about cultural diffusion, environmental limitations, ideal culture types, and unilinear evolution. Indeed, it may be that paradoxical complexity in early prehistoric South America – Caral, Moxeque, the cerritos de indios, Marajoara, and Ciudad Perdida – are not as contrary as we imagine. Rather, it may be that anthropological ethnography, upon which cultural evolution is founded, is bereft of

descriptions of middle range societies that constructed impressive monuments. But archaeology has numerous examples, from Stonehenge and Avebery, to the Maltese temples, and even the Hopewell Earthworks and Cahokia's Monks Mound. Peru's very early, complex societies demand much more archaeological analysis and description, involving accurate internal chronology, before they will be adequately understood.

Heritage, Preservation, Ethics, and the Practice of Archaeology in South America

Just as the chapters in the *HSAA* and the spaces they describe are heavily influenced by the modern nations into which South America (and the rest of the world) is divided, so the ethics and practice of archaeology, as well as patrimonial preservation and issues of heritage are shaped by nations. Sadly, neither the colonial empires nor South America's republican states have been particularly good stewards of archaeological patrimony or of indigenous cultural heritage. Indeed, the goals of nationalism may often conflict with preservation and heritage development.

Virtually every author discussing the practice of archaeology in South America (in this volume) speaks of the racism, discrimination against Indians, and minimization of indigenous cultural heritage that has characterized most of the history of the post-conquest New World. Plundering temples and looting graves was considered the right of the European conquerors, and in spite of laws protecting cultural patrimony throughout modern South America, pillaging continues wherever valuable artifacts may be found. Collectors of art and artifacts establish private museums and receive acclaim as philanthropists and patriots.

Change is in progress throughout South America, but not without pain and resistance. At present, there seems to be one primary direction, nationalism that seeks to merge indigenous and Hispanic identities into one, new, national being. As Cristóbal Gnecco (Chapter 56) points out, this identity admits little dissent—Afro-South Americans, persons with an indigenous identity, women, and others. But more and more the archaeological past is considered vital in the construction of national identity in South American countries. In some nations, such as Brazil, at least as described by Bastos and Funari (Chapter 58), the process and result to date seem enlightened and directed toward success. They may serve as examples for other nations.

Not surprisingly, in many cases the past that is claimed for national identity is sanitized and romanticized to European standards, as the narrative Benavides (Chapter 53) and Scarborough (Chapter 55) describe for Ecuador's Cochasquí and Bolivia's Tiwanaku, respectively. Although the chapters in Part X of this volume are written by national scholars, the *HSAA* lacks voices of indigenous leaders, who are also appropriating archaeology for their ends. How is the material heritage of prehistory deployed when creole Europeans are not the primary consumers? Is the past still subjected to Eurocentric ideas of what is good and bad? Are dissident voices silenced?

After many generations of marginalization, South American archaeology appears to be making more and greater contributions to national image and identity construction. It seems to provide one means of mediating cultural and racial disparities. Successes are significant, and apparently growing. But tragically, success in protecting South America's archaeological patrimony is less triumphant. Looters, who may be better financed and work much faster than professional archaeologists, often make the finest, most exceptional, and impressive archaeological discoveries. Examples include the Peruvian site of Loma Negra, in Piura, where an undetermined number of richly furnished graves were looted in the early 1960s. Subsequent studies by archaeologists led to the definition of the

Vicús ceramic style. In Colombia's Cauca Valley, the Malagana site was looted in 1992, with an estimated 200 kg of gold artifacts taken, surely the grandest haul since the original conquistadores. Spectacular Pucara Provincial weavings, some of the technically and iconographically finest in the Central Andes, are sometimes mistakenly called "Early Tiwanaku" (see for example the "Gateway Tunic" in Young-Sánchez 2004: fig. 2.26a). Unfortunately, they are without archaeological contexts, existing only in private collections, none having been discovered by archaeologists.

Occasionally, archaeologists manage to wrest a great discovery from the grave robbers before it is too late. The Paracas cemeteries were first excavated by looters, but appropriated by Julio C. Tello and his museum staff. More recently, the fabulous Sipán site was also excavated first by looters, who removed a royal burial before archaeologists managed to intercede (see Chapter 36, this volume). Indeed, in more cases than we will ever know, the finest tombs, ceramics, sculptures, and other artifacts are discovered by looters and sold to collectors. Trafficking in antiquities pays handsomely, and entire archaeological cultures are known only from plundered remains. Marketing by eBay®, and similar web-based sales means that even minor objects can be advertised broadly to get the best price. Archaeological sites and museums are robbed of prize pieces, sometimes at gunpoint. Looters are armed and dangerous.

At least as devastating as looting and antiquities trafficking, cultural resources are destroyed by development, whether urban expansion, flooding behind dams, highway construction, irrigation programs, or other earth-moving operations. In spite of conservation laws, vast quantities of archaeological remains are destroyed annually. It is our impression that in Peru, which we know best, more archaeological sites have been destroyed since World War II than in the first 400 years following the Spanish Conquest. And destruction is accelerating, whether caused by outright looting, economic development (e.g., agricultural expansion, irrigation projects) or population resettlement. Heavy machinery is the most common means, leveling sites in a matter of hours. In too many cases, national governments turn a blind eye to the destruction, apparently in the name of progress. And as Higueras (Chapter 54, this volume) points out, planning for heritage has not been a priority. Often, archaeological patrimony is not even considered a resource, unless it is already drawing tourist dollars.

It may be beyond the capacity of some South American nations to defend archaeological patrimony more effectively than they have, but it is tragic that international cooperation and multinational programs are not more common, as in Egypt when the Aswan Dam was in construction. In some cases, international cooperation has scored astonishing successes. In a $1,400,000 sting, FBI agents in Philadelphia seized the spectacular gold back flap from Sipan's royal grave, excavated by robbers and traffickers. When archaeologists at the University of Pennsylvania Museum identified the piece and confirmed that it had been exported after a USA-Peru bi-national agreement, the artifact was confiscated, and returned to Peruvian authorities. But successful international collaboration is not the rule. Until the mid twentieth century, most international archaeologists working in South America were agents of museums that were actively collecting antiquities, with the result that suspicion and xenophobia are deeply seated, as evidenced by the current controversy between Peru and Yale University over the repatriation of the collections excavated almost a century ago by Hiram Bingham at Machu Picchu. Professional archaeologists the world over hope that struggles over antiquities, that hark back to the era of European imperialism, will be quickly resolved by the repatriation of the artifacts (see Lubow 2007) or cooperative agreements that benefit the country of origin as well as the current curators.

It is most unfortunate that various South American cultural or archaeological institutions are more likely to treat visiting archaeologists as predators who must be constrained than as allies in the war against looters and developers – a war the archaeologists are losing. But these attitudes will change – and must change – because, over the past century, the goals and ethics of archaeologists have changed. The Society of American Archaeology [Note 3], to which international, as well as most national archaeologist working in South America, belong, has promulgated a strong and binding set of ethics, plus a Register of Professional Archaeologists [Note 4] with an even more stringent code of conduct, and within which grievances may be adjudicated. Exceptional cases to the contrary notwithstanding, the increasing number of bi-national and international collaborative symposia at the SAA meetings concerning both prehistoric problems and contemporary issues and a host of socially engaged archaeology publications clearly indicate that we have entered a new and more responsible era. Hopefully, there is a future for archaeological patrimony, but only *if* archaeologists and heritage institutions—national and international—put aside differences and cooperate to protect and preserve.

IN CONCLUSION

The *Handbook of South American Archaeology* provides a new, continental collection of current archaeological information. Hopefully it will promote more continentally framed thinking and teaching about the past. We also hope that the *HSAA* helps readers to appreciate the growing importance of archaeology for identity formation in post-colonial nations, bridging the racial and ethnic gaps that characterize most New World countries. Neither the colonial empires nor modern South American nations have good track records in the preservation of archaeological patrimony. While this is changing, if the archaeological record is to be adequately protected from looters and developers, a new level of vigilance and prevention is required. This is going to require international cooperation, and international archaeologists stand ready to work together with South American nationals and institutions to achieve the goal. But they must be invited.

Heritage development—the most effective preservation strategy—requires long-term plans and regional perspectives, which have not been achieved by the modern countries of South America. But as Higueras (Chapter 54, this volume) shows, elsewhere in the world success in heritage programs has usually involved many agencies, private and public, national and international. UNESCO and similar world-wide organizations have been the inspiration behind many successful heritage programs, not just in South America. Again, greater cooperation and more insightful planning, at levels from local to international are required. In the meantime, archaeologists are losing the battle against looters and developers. The prehistoric cultural resources of South America are being destroyed at an ever-increasing rate.

Decades of recent archaeological research all across South America, including some in places extremely remote by modern standards, have produced an immense quantity of new information about continental prehistory. The South American past is full of surprises. Many problems that dominated the research arena a few decades ago now seem passé. The Clovis Barrier has been shattered, and archaeologists are gaining a pretty good idea of when South America, the last continental land mass to be inhabited, was first peopled. The role of Amazonia, and the Lathrap-Meggers controversy, is superseded by historical ecology that has cast out deterministic environmental limitations and demonstrated how

societal complexity develops without a village farming stage. Humans domesticated local environments, not species of plants and animals.

The appearance of early and precocious political organization and monumental settlements on the north central coast of Peru brings surprising new understandings – and confusions – to the study of South American civilization. Monumental mounds of equal antiquity in Brazil and Uruguay confound traditional ideas about cultural development – as do Chinchorro mummies and Sambaqui shell mounds. These and many other new South American understandings challenge archaeology. Currently popular cultural evolutionism, that defines social evolution as transformational change from one stage of complexity to the next—and limits development to idealized stages in an idealized sequence: "hunting and gathering band," "autonomous village society," "rank society," "chiefdom," "archaic state," and "empire"—fails to recognize the variability and complexity apparent in South America's past. While cultural evolution is the master theory of anthropological archaeology, it requires significant new theorizing. South Americanists will contribute to this theory development, and to corresponding field-based knowledge, as they have in the past. The legacy of the *Handbook of South American Indians*, and its editor, Julian H. Steward, is a great responsibility.

NOTES

1. Navarrete (Chapter 23, this volume) continues to include Venezuelan Taima Taima as a Pleistocene site, although some evaluators question it.
2. See also http://www.sfu.museum/journey/05p_secondary/transcripts/fladmark.php
3. See http://www.saa.org/publications/saabulletin/14-3/saa9.html
4. See http://www.rpanet.org/

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