CHAPTER SEVEN

Were *Sambaqui* People Buried in the Trash?

Archaeology, Physical Anthropology, and the Evolution of the Interpretation of Brazilian Shell Mounds

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SUMMARY

Human remains have repeatedly been described in the studies of shell mounds (or *sambaquis*) of the Brazilian coast since the first publications in the 19th century. However, they were rarely considered a decisive feature in understanding this type of site. This chapter examines the role of funerary structures in the evolution of archaeological thinking with regard to sambaqui studies in Brazil, exploring the (frequently disparate) relationships between physical anthropology and archaeology. Adequate understanding of the nature of sambaqui funerary contexts requires a complementary approach from both disciplines, rather than one-sided emphasis on particular issues. By studying burials in their archaeological context, amid the fascinating stratigraphy that quite often characterizes sambaquis, it is possible to grasp social constructs such as ritual, gender, and customs, as well as lifestyle and health.

INTRODUCTION

Sambaquis are mounded coastal archaeological structures composed of large quantities of fauna, especially shellfish and fish remains, sometimes reaching monumental dimensions. These sites occur all along the Brazilian coast, although studies have focused mostly on its southeastern portion (Figure 7.1). Radiocarbon dates indicate that the expansion of these coastal mound builders started at least 8,000 years ago, while the most recent sites were active by 1,000 years ago, thus confirming a very well-established cultural tradition (Gaspar 1998; Lima et al. 2004). Sambaquis are usually located near large bodies of brackish water and surrounding landscape, forming into organized settlement systems that include mounds of different dimensions and morphology. Although shells are the most prominent component, assemblages typically include a variety of other faunal remains, lithic and bone tools, and hearths, postmolds, and—notably—a large number of burials (Prous 1991; Gaspar 2000; Lima and Lopez Mazz 2000).

Indeed, since the first archaeological reports, whether from an archaeological or a physical anthropological perspective, burials and/or human bones have been conspicuous in the descriptions of these coastal structures. Curiously enough, burials have rarely been considered as a defining aspect of sambaquis, or as playing a significant role in understanding mound building as a process, or as addressing the mound builders' social organization. Both archaeologists and physical anthropologists who studied sambaquis shared broad evolutionist assumptions and perspectives, characteristic of early Brazilian archaeology, which played an important role in the development of large-scale, macro-regional models of cultural history such as the ones created by PRONAPA (National Program of Archaeological Research) during the 1960s. The goal of this chapter is to show that this neglect has had important implications for interpretative models, perpetuating a skewed perspective of these coastal groups that has endured in Brazilian academia.

With the recent revival of systematic research on sambaquis, it is interesting to examine the perspectives adopted by these two disciplines and to rearticulate their unique and specific points of view, drawing upon current understanding of site formation processes (Klokler 2001, 2008, chap. 11 in this volume), as well as of forms of social organization, in

7.1. Map of Brazil with approximate distribution of sambaquis (organized by Christina Leal Rodrigues) and indication of areas mentioned in the text.

space and time, among these societies. In this chapter, we examine a few notable authors of sambaqui archaeology and physical anthropology, and conclude that the integrative and multidisciplinary approach, as represented by recently conducted research in Brazil, is more appropriate for future research on these coastal populations.

BONES FOR THOUGHT

According to Giralda Seyferth (1985, 81–82), the first anthropological studies in Brazil date from the 1860s and are marked by the influence of French and German authors, especially diffused through publications of the Société d'Anthropologie, along with works by Broca, Topinard, Quatrefages, and Virchow. Today, their line of research would be called Physical or Biological Anthropology, and its main area of interest was craniology, strongly influenced by deterministic racial theories. The premises of social Darwinism and its French counterpart, anthroposociology, were well known and accepted in Brazil, together with Gobineau's Aryan theses, published in 1853, which gained notoriety at the end of the 19th century.

Defined as a branch of natural history that focused on "man" and "human races," anthropology was constructed as a racial typology that sought to discover the permanent characteristics that distinguished biological "types," an approach adopted by many Brazilian scientists (Seyferth 1995, 179). A paraphernalia of measuring tools and indices, with special attention to craniometry, permeate this period. A short manual written by the director of the National Museum (Museu Nacional), Ladislao Netto, emphasized the need to acquire skulls and other human bones to form the collections of the museum. In the instructions about the preparation and shipment of collections, the beginning of the anthropology section refers to "skeletons or isolated bones, only aboriginal, and especially skulls" (Netto 1890, 10). This priority underscores the almost exclusive importance of skulls for that era's approach to anthropology, making clear the lack of attention given to the rest of skeleton, not to mention its archaeological and/or social context. A special room was prepared for the skulls in the Museu Nacional, the Lund Room, as seen in the *Guia da Exposição Anthropológica Brasileira* (*Guide for the Brazilian Anthropological Exhibit*), published in 1882.

Until the first half of the 20th century, the goal of most of the archaeological excavations was to produce skeletons used to establish the human types considered representative of the past. It is in this context that the concepts of the "Lagoa Santa man" and the "Sambaqui man" appeared, so often compared to each other and to Botocudo skulls (Lacerda and Peixoto 1876). Human bones, particularly skulls from sambaquis, were analyzed apart from their original archaeological context. The sambaquis were considered merely as *jazidas* (or mines, a term used widely at the time) from which the bones—the sole focus of anthropological interest—were extracted. In a sense, it was mankind (and not a specific culture) that was considered from the perspective of cultural evolutionism, and this has been a long-lived paradigm in Brazil, still evident in the 1960s (Alvim and Mello Filho 1965, 1967/1968, among others).

Walter Neves (1984a, 1984b), reviewing these positions, proposed that physical anthropology should focus on the study of the biological aspects of society within the context of archaeological studies, unifying the fields' emphasis on the study of human behavior (Neves 1984a, 287). Examples of this new approach would include studies of lifeways, their transformations, and the organization of labor

(Machado 1983; Neves 1984b; Neves, Unger, and Scaramuzza 1984). Later, physical anthropology research focused on detailed studies about diet, stress, diseases, and habits, broadening the knowledge of scientists regarding the ways of life of coastal populations, while at the same time partnering with archaeologists in multidisciplinary projects (Boyadjian, Eggers, and Reinhard 2007; Carvalho 2004; Lessa and Coelho 2010; Souza 1995, 1999, chap. 12 in this volume; Okumura, Boyadjian, and Eggers 2007; Storto, Eggers, and Lahr 1999; Wesolowski 2000, 2007).

Changing theoretical perspectives on skeletal studies beginning in the 1980s did not immediately lead to the investigation of behavioral patterns regarding funerary activities or, more generally, the formation processes involved in sambaqui mound building. As a matter of fact, the relationships between the funerary activities performed on (and into) the mounds and the incremental layering nature of the building processes recorded therein remained elusive for decades.

SAMBAQUIS AND THE INFLUENCE OF EVOLUTIONISM

The presence of human remains called the attention of researchers since the first descriptions of sambaquis, but the role played by this evidence in understanding these sites varied deeply. The end of the 19th century was dominated by debates between researchers defending their natural origin (Ihering 1903; Calixto 1904) and authors who believed they were the result of human action (Lacerda and Peixoto 1876; Wiener 1876). Thus, the presence of human bones was sometimes seen as preserved remains disposed amid natural shell beds and sometimes as clear evidence of the anthropogenic nature of the whole shell structures.

As the idea of the natural formation of sambaquis was gradually dismissed, the debates turned to two dichotomical interpretations of the depositional sequences depicted by the rhythmically banded stratigraphy of the mounds. Some have considered them as food refuse middens, generated by successive camping or settlement episodes. Others have perceived them as intentionally built funerary monuments. These ideas appeared quite simultaneously. Carlos Wiener (1876) was among the first to suggest that some of these mounds would have funerary purposes, while those who considered sambaquis as the result of fortuitous accumulation of food refuse, like Guilherme Capanema (1876), José B. Lacerda and R. Peixoto (1876), Alberto Loefgren (1908), Luis Gualberto (1924), and Antonio T. Guerra (1950), remained more common (for a detailed review, see Gaspar 2000; Lima 1999/2000; and Barbosa-Guimarães 2003).

Typical of the studies developed in the first half of the 20th century is the frequently cited synthesis by Antonio Serrano (1946) that appeared in the well-known *Handbook of South American Indians*. The author writes about the shape, structure, and artifacts that characterize the "cultures and races" that occupied the Brazilian coast, also focusing on the distribution of sites and features, and their relationships with inland cultures. Serrano suggests regional and chronological divisions, linking the coastal "archaic culture" to the "Lagoa Santa man" cultural traits. In formulating the first classification of cultural and chronological variability of coastal sites, it is symptomatic that Serrano does not take into account the presence of human remains. This is the main point of our interest: though generally recognized, the ubiquitous presence of human remains, usually disposed in clearly layer-structured funerary features—quite frequently displaying considerably large areas with dozens of individuals—has never been taken as a reference for understanding the depositional structuring of the mounds and, for that matter, their functional and cultural nature.

After 1950, studies focused on the elaboration of site typologies and their organization in archaeological traditions, assumed to represent distinct cultural entities (Dias 1980). Even though Paulo Duarte (1967) reintroduced the idea of funerary mounding circa 90 years after it was first proposed, suggesting that they were similar to funerary structures frequently mentioned in archaeological literature from Mediterranean and southern Asian areas, burials were but a peripheral concern in archaeological interpretation. They were simply another trace, not an essential feature to be taken into account, and attention was mostly drawn to the abundant, outstanding faunal materials present at the sambaquis, usually taken as food remains (thus indicative of everyday activity), and studied mostly for dietary and economic purposes.

GATHERER-FISHERS OR GATHERERS, THEN FISHERS?

Elman R. Service's (1971) famous model of social evolution soon became a reference for Brazilian archaeologists, remaining influential to this day. The lack of easily recognizable features and the rather opaque lithic tools scattered into the layers led to the description of the sambaqui society, rather aprioristically, as bands, implying collecting-based subsistence, nomadic (in fact, highly mobile) lifestyles, and simple social organization. For example, Dorath P. Uchôa (2007 [1973], 190), referring to the sambaquis, affirms that "the absence of economic, political and religious

organization, institutions inherent to other populations, gives to groups of the band level its character of simplicity."[1]

Anamaria Beck (1972a and b) studied the sambaquis of the coast of Santa Catarina, in southern Brazil, with the goal of establishing their "cultural content," following the premises of Service. She organized data obtained from archaeological excavations into the "phase and tradition scheme" broadly adopted by studies made from the 1960s through the 1980s in Brazil (Barreto 2000), proposing not only a chronological sequence but also cultural differences among mound builders, arguing that ceramic-producing groups were the last to colonize the coast, representing the final occupation of the sambaquis. Beck used environmental characteristics, especially the availability of shell resources, to explain the large dimension of the mounds in certain productive (particularly regarding shellfish) *lagunar* spots of the Santa Catarina coast, suggesting that continuous utilization of these abundant resources has led to their depletion. The scarcity of mollusks would have led to the increase of fishing and hunting activities toward the final period of the sambaqui occupational sequence, with corresponding shifts in technology. The introduction of ceramics (supposedly associated with horticulture) is seen as a radical change in the lifeway of these coastal groups (Beck 1972a, 265, 282).This cultural sequence and these interpretations have been reflected elsewhere on the Brazilian coast (see Rauth 1976; Dias 1980; Kneip 1980; Kneip et al. 1991).

There are two fundamental assumptions in this line of interpretation, both of them equivocal. The first is that faunal remains are direct indicators of subsistence activities and/or diet. By assuming that the sambaquis represent daily activity or habitation areas, faunal remains seem to provide a cultural sequence for analyzing economic and dietary shifts. Zooarchaeological studies (Figuti and Klokler 1996; Klokler 2001, 2008; Klokler et al. 2010; Nishida 2007) and more detailed stratigraphic and chronological contextualization (Fish et al. 2000) have demonstrated, however, that piling-up sequences were fast and frequently secondary (Villagrán 2008), and no apparent habitations were present.

The second is the supposed transition from a mollusk-gathering-based subsistence (associated with high mobility and very simple social organization), toward the adoption of a more productive fishing technology, the "gatherers-to-fishers" model (Lima 1991). This evident linear evolutionary perspective did not significantly impact the interpretation of the mound builders' social organization, variously identified as bands or macro-bands (i.e., Machado 2006). The premise that the sambaqui people were small nomadic bands in constant search for mollusks to fulfill their subsistence needs provided basic parameters for calculating population size and interpreting mound formation processes.

One particularly interesting corollary of these assumptions is that sambaqui people simply buried their dead in trash deposits. This unstated assumption precluded the possibility of seeing other ways to interpret the archaeological record, alternative perspectives on interpreting the complex interplay of tiny layering and discrete features typical of the sambaqui stratigraphy. Accustomed to viewing habitation sites as shallow horizontal deposits, this generation of archaeologists was not prepared to observe the complex sequence of layers within sambaqui sites as evidence of building, a mounding-up building process. In such a context, burials are no more exquisite features in the trash, but rather emerge as the very key for understanding mound-building processes and sambaqui construction.

In stark contradiction to understanding these sites as refuse heaps stands Beck's (1972a, 283–84) observation that funerary practices varied considerably among sites in coastal Santa Catarina. While she recognizes the presence of elaborate burials and graves lined with clay, large quantities of adornments and tools, and abundant red ochre, suggesting differential treatment of the dead as a reflection of differential social status, she does not consider the possibility that deposition of the dead could explain the very construction of these mounds.

Nevertheless, Beck (1972a, 286) reintroduced the question of site function: were sambaquis dwelling settlements or simple trash deposits located at some distance from habitation sites? The presence of elaborate burials seemed contrary to the notion that sambaquis were simple garbage heaps (Gaspar 1994/1995).

Current archaeological and ethnographic research on hunter-gatherer societies admits the existence of great variability between groups that defy generalizations regarding their size, degree of mobility, technology, and social organization. T. Douglas Price and James A. Brown (1985) advance the notion that these populations incorporated a wide range of behaviors, overlapping in many aspects with those usually attributed to agricultural societies.

Settlement Systems and Site Function: Habitation or Cemeteries?

The first regional studies of sambaquis were undertaken after 1980, focusing on settlement systems and the site diversity. Cristiana Barreto (1988) described freshwater, riverine sambaquis on the South Atlantic hinterlands,

small mounds composed mostly of land snail shells (*Megalobulimus* sp.), terrestrial fauna, lithic assemblages, and human burials. Some sites yielded several early dates, approaching 11,000 BP (Collet 1976; Collet and Prous 1977; Figuti et al. 2004). Settlement patterns and a few maritime specimens led Barreto (1988) to suggest that the occupation of the hinterland valleys originated on the coast, implying Late Pleistocene origins, probably deriving from early submerged coastal sambaqui occupations (Calippo 2010). This hypothesis has also been considered by several bioarchaeological studies (Filippini and Eggers 2005; Neves 1984a; Neves and Okumura 2005; Neves et al. 2005; Figuti and Plens, chap. 16 in this volume), providing an important example of the benefits of a multidisciplinary approach.

Maria Dulce Gaspar's (1991) work in the Lagos region of Rio de Janeiro used resource catchment analysis to explore aspects of territoriality among sambaqui builders and demonstrates the need to examine groups of sites as the basic analytical units for inferring sociological significance (Gaspar 1998). Gaspar (1991, 1994/1995) also focused on an area centered on the very similar sambaquis Ilha da Boa Vista I, II, and III, evincing their contemporaneity and functional equivalence. These mounds exhibit habitation features over a built platform floor, and yet, a number of burials below it, resembling a graveyard. In another study, from available publications and reports, Gaspar (1994/1995) gathered a large amount of data regarding recurrent patterns in sites of the Brazilian coast. This survey enabled the identification of some basic common traits pointing to characteristic social patterns (rules) of the coastal fisher-gatherers. First, recurrent occupations occur along the margins of large bodies of water, usually productive mixohaline environments consisting of lagoons, bays, and islands, with diverse and abundant resources. Second, the typical large shell structures were usually built in a manner that resulted in great visibility across the landscape. Third, the presence of human burials is ubiquitous in these structures.

Extensive site surveys and chronological refinement at the Santa Marta lagoonal region in Santa Catarina demonstrate that the sites clustered in areas where one or more larger sites form the epicenter for groups of smaller sites, sometimes in areas of extensive production and use of stone tools (Assunção 2010; DeBlasis et al. 2007; Peixoto 2008). The presence of site clusters occupied simultaneously suggests higher demographic standards and more complex social organization. Parallel research centered on human remains also questioned the notion that sambaqui groups were small-sized (Souza [chap. 12] and Okumura, and Eggers [chap. 8] in this volume).

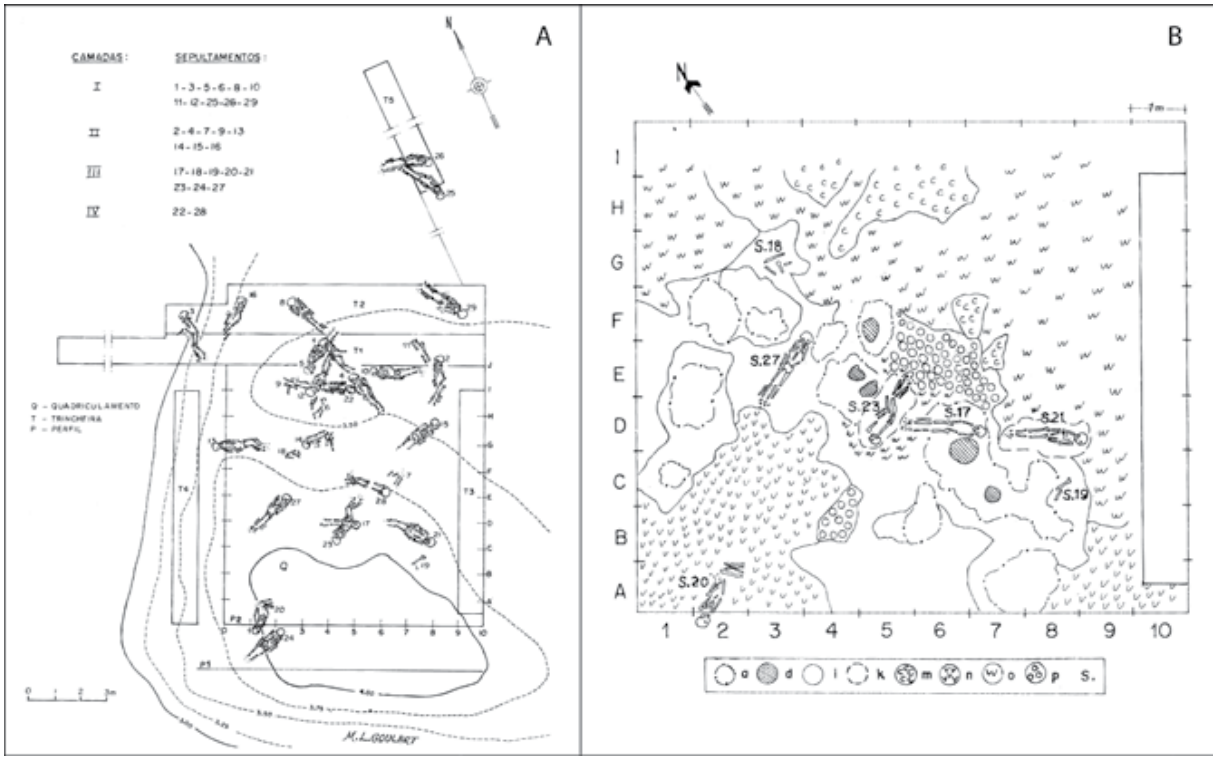
Thus the functional aspects of sambaquis are still under debate, and whether or not they include habitation areas has not yet reached a conclusive level. While some sites have been clearly identified as cemeteries, such as Jabuticabeira II (Fish et al. 2000) and Amourins (Gaspar and Klokler 2011), others might depict a more diversified functional nature (Gaspar 1994/1995). Also, the small shell sites—usually lacking burial features—were surely used for other purposes, perhaps as processing camps or other uses (Belém 2012; Klokler et al. 2010; Peixoto 2008).

Lina M. Kneip (1974), Kneip and Lilia M. C. Machado (1993), Eliana T. Carvalho (1984), and others contributed with detailed descriptions of burials and associated materials by means of meticulous, horizontal excavations influenced by the French-styled "paleoethnographic" approach (Duday 2006; Leroi-Gourhan 1981; Pallestrini and Morais 1980). Added to the deep-rooted idea that sambaquis represent dwelling areas, burials and their goods were usually seen as part of an occupational floor (Kneip and Machado 1993). Illustrations that accompany some publications (Figures 7.2A and B) make it clear how the horizontal approach privileges the idea of "single-plane" occupational floors rather than three-dimensional features that characterize the funerary structures in sambaquis. The focus on dwelling (horizontal) structures has been transferred to the burial features, thus missing the "architectural," vertical constructive features of sambaquis that, ultimately, allow the perception of essential characteristics of the funerary rituals therein recorded, and make it possible to link these funerary practices to other aspects of the lives of sambaqui mound builders.

While, at several sites, mound building related to burial ceremonies has become evident, the idea that sambaquis are habitation sites should not be discarded too easily. Kneip and Machado (1993), Carvalho (1984), Gaspar (1998), and Márcia Barbosa (1999) consider sets of postholes as indicators of huts and habitation areas. Postholes were also used as evidence of living areas in the southern coast (Hurt and Blasi 1960; Rauth 1968). Dark compacted layers were also considered indicative of living floors, and the co-occurrence of postholes and occupation floors reinforced the hypothesis that some sambaquis, or at least some areas within them, served as habitations.

MATERIAL REMAINS

Research focused on lithic, bone, and shell tool assemblages almost always treated these remains separately, as isolated phenomena (e.g., Rohr 1977), without interest in their possible relations with social organization of the



7.2. Representations of skeletons recovered in several sambaquis. (A) Kneip and Machado (1993, 43). (B) Kneip and colleagues (1991, 41). Notice how the drawings privilege a horizontal perspective of the remains.

groups that produced, used, and disposed of the artifacts. Faunal remains recovered from different layers were analyzed for their connection with technology and diet, without any concern about the depositional history and the events that formed the sites. In most publications, lists of identified species were added as appendices, without discussion of their depositional context and contextual significance. Former analyses of faunal remains by Maria Margarida Gomes Correia and colleagues (1984), Caio Garcia (1970, 1972), and Kneip and colleagues (1975) discussed aspects of the diet and changes in subsistence, following the paradigms of that period. Garcia (1970) suggested that the sambaqui builders were sedentary, but his subsequent research did not elaborate on this observation. Until the late 1980s, zooarchaeological research was characterized by a certain naiveté, not only in terms of simply equating faunal remains to food refuse, but also in relation to field methods that primarily relied upon selective sampling. Levy Figuti's (1989, 1992, 1995) work introduced systematic sampling procedures and detailed analysis of the matrix. He has demonstrated that fishing has always been the principal, reliable food procurement activity for coastal groups, instead of shellfish gathering, which was confirmed in further studies (Figuti and Klokler 1996; Klokler 2001; De Masi 1999), thus breaking down the deep-rooted notion that the sambaqui archaeological record would display an evolution from shellfish gathering toward a full fishing economy and subsistence.

Changes in the perception of the mound structuring were also on the way. More attentive stratigraphic studies led by Gaspar (1991) and Marisa C. Afonso and DeBlasis (1994) proposed not only that these sites were intentionally built, but that their construction was organized by a set of rules. Gaspar (1994/1995) argues that sambaquis are both sacred and mundane locations, where daily and ritual activities are performed, calling attention to the possibility of identifying and studying traces of ritual behavior. Archaeologists started to change their focus to the behavior behind the construction of sambaquis. Sites that were previously considered trash mounds are now recognized as resulting from specific and coordinated building episodes (Afonso and DeBlasis 1994; Figuti and Klokler 1996;

Klokler 2001). Daniela Klokler (2001) focused on formation processes from a zooarchaeological perspective to comprehend gathering, processing, use, and deposition of faunal remains that compose the complex sambaqui stratigraphy. At the sambaqui Espinheiros II, Figuti and Klokler (1996) describe two distinct phases in the site construction. In its initial stage, building was accomplished through fast depositional episodes of massive quantities of clams, abundantly available in the nearby bay. The scarcity of tools and lack of features attest that the site was initially built as a platform. In its second building stage, the site has clear evidence of funerary practices and other activities.

Studies of human burials focusing on mortuary rituals or attitudes toward the dead are rare, not only in Brazilian archaeology (Roksandic 2002; Roksandic and Jackes, chap. 9 of this volume); attention is usually focused upon the analysis of skeletal remains. Since archaeologists primarily characterized sambaquis as trash mounds with burials interspersed within the refuse, little attention was paid to the structural context of funerary depositional sequences. Mortuary activities were recognized only in the immediate vicinity of human remains. Contextual aspects such as the covering of graves and assorted paraphernalia (tomb structures, fences, celebratory fires, etc.) were not recorded.

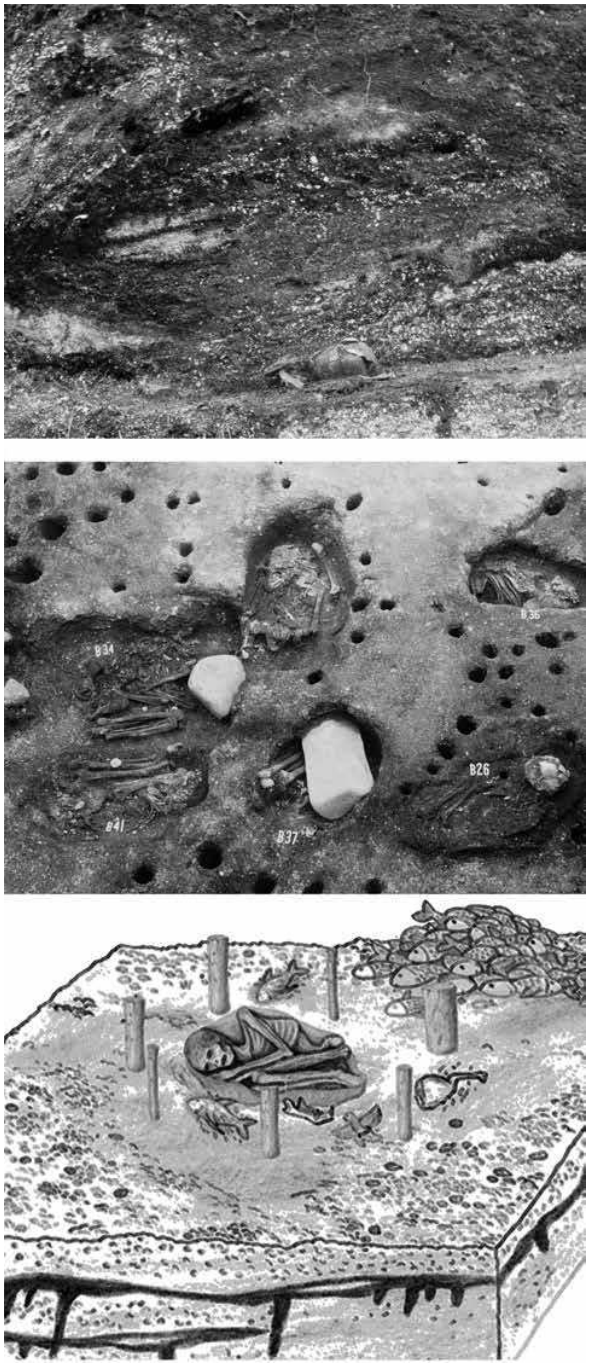
Grave shape and grave goods were privileged elements used to characterize burials. Grave inclusions such as lithics, bone tools, and adornments were quantified, but usually no special attention was paid to unmodified animal bones or shell remains encountered within these deposits, unless the bones came from unusual, highly visible, or rare species such as whales, dolphins, and turtles. The significance of faunal remains in funerary rituals was rarely mentioned, despite their (sometimes spectacular) association with burials. Indeed, since many elements associated with funerary rituals, such as mollusk valves and animal bones, were similar to the abundant materials scattered all around the mound, it is not easy to perceive all of the paraphernalia associated with funerary rituals (Klokler 2008). Archaeologists did not investigate the associations of faunal remains with funerary contexts, even though commensalism related with death is a recurring custom among many peoples of South America (Vilaça 1996)[2] and elsewhere.

The First Unequivocal Sambaqui Cemetery: Jabuticabeira II

The Santa Marta lagoonal area in southern Santa Catarina contains more than 80 shell-mound sites, one of which, Jabuticabeira II, has been subjected to in-depth analysis. It is an average-sized sambaqui (400 meters long by 250 meters wide, with a maximum height of 8 meters). Shell mining left large vertical walls, allowing the examination of its stratigraphy all through the mound, in central and peripheral areas as well. Approximately 373 meters of profiles uncovered a complex series of deposits in a recurrent pattern of thick, shell-dominated layers and thin, dark, organic-rich lenses. Large quantities of postholes originate from these dark lenses, initially understood as habitation floors, interspersed within thick deposits composed mainly of shells. However, the absence of a pattern in the distribution of the posts coherent with what would be expected in a hut floor, as well as the scarcity of tools and the large number of burials in these lenses, showed that this first assumption was mistaken. Excavation of one of these dark lenses confirmed that they were funerary areas, with no indication of activities related to daily life. Three hundred and eighty-four postholes clearly surrounding graves or groups of graves were identified during the excavation of a single layer. Systematic studies of the profiles across the mound demonstrated that such a pattern can be generalized to the sambaqui as a whole (Bendazzoli 2007; Fish et al. 2000; Gaspar and Klokler 2004; Klokler 2008; Nishida 2007).

Jabuticabeira II was constructed through episodic events of collective internments (Klokler 2001). Several intercalated lenses of shell, fishbone, sand, and charcoal frequently cover the deceased and its accompaniments, either individual interments or clusters of burials disposed over a larger burial ground. This depositional behavior, repeated through time by means of recurrent revisiting of the burial areas, has a mounding-up incremental effect that, ultimately, displays up to two meters of successive layering over a unique burial. The concomitant or subsequent presence of a number of burial structures like this at the same place explains the overall mound-building process resulting in a present-day sambaqui. Massive shell layers were used to close specific graves and whole funerary areas where remains of ritual feasts were deposited. Over these built platforms, new funerary areas were opened, in a continuous and incremental process that, ultimately, has provided many a mound with rather monumental dimensions. Sambaqui builders were in no way burying their people in the trash. Rather, they were *building upon* them with carefully selected materials, full of significance.

Isotopic analysis demonstrated that mollusks seem not to have been intensively consumed, suggesting that they were used mainly during mound-building episodes (Klokler 2008). Choice of clam shells (*Anomalocardia*



7.3. View of a profile with burial mound, close-up of a funerary area, and 3D representation of burial in Jabuticabeira II (drawing by Henrique Vences).

brasiliana) is believed to be related to their thickness, bulkiness, and color (Klokler 2008). The first two characteristics ensured the rapid elevation of a structure, while the last emphasized a distinction between interment and covering deposits (Figure 7.3). Gaspar (2004, 166) suggests that shell valves were also preferred for construction due to an interest in the preservation of the bones. Integrating information from the field excavations, ethnography, and physical anthropology allowed the reconstruction of a whole set of activities involved in the performance of the funerary rites, from the burying ceremonies to the recurrent (and incremental) instances of depositional episodes related to the memorialization of the dead that, ultimately, contributes to mound building (Klokler, Gaspar, and DeBlasis 2009; Klokler, chap. 11 in this volume). Okumura and Eggers (chap. 8 in this volume) offer a complementary interpretation of this same site based on a bioanthropological perspective.

Gaspar (1994/1995) has already claimed burials to be a defining feature of sambaquis, while attentive examination of the literature shows that dark lenses are common in sambaquis with human burials (Prous 1991; Schmitz and Bitencourt 1996; Wiener 1876). Association of dark layers with substantial numbers of human burials, animal bone caches or burials, large quantities of fish remains, and hearths show that similar activities to those at Jabuticabeira II can be postulated for other shell sites (Klokler 2008). The burial of several people in the same place seems to be associated with a strong affirmation of territorial rights and group affiliation (Parker Pearson 1999). The message would be continually reinforced and become more visually evident through repeated building activities that expanded the site horizontally and vertically (Fish et al. 2000; Klokler 2008, chap. 11 in this volume).

The multidisciplinary studies at Jabuticabeira II and other sites of the region have placed the ceremonial activities toward the dead as the principal rationale behind mound-building processes. These highly visible structures, built to honor the dead, represent territorial markers full of symbolic value and domesticate the lagoonal landscape where several communities of fisher-gatherers pursued their living (DeBlasis et al. 2007; Klokler 2008). Instead of elusive and casual features, the burials in the mounds became direct archaeological evidence of a sedentary society, with dense demography (Okumura and Eggers 2005; Storto, Eggers, and Lahr 1999), displaying many traces of economic intensification, including evidence for use of plant resources and for food consumption, among others (Bianchini, Scheel-Ybert, and Gaspar 2007; Scheel-Ybert et

al. 2009; Scheel-Ybert, chap. 22 in this volume). All of these aspects are indicative of a society largely different from the nomadic bands of mollusk gatherers portrayed in earlier research. Changes in this early portrayal were severely hindered by—among other things—the lack of effective integration between archaeologists and physical anthropologists, thus delaying the attainment of a comprehensive picture of these coastal societies.

SAMBAQUI BUILDERS: A NEW PARADIGM

Recent studies performed in lowland riverine shell sites of the Ribeira river valley confirm statements made for coastal sambaquis that the building processes were directly related to funerary activities, as no evidence of habitation areas inside or near the mounds could be identified. At these small mounds, crosscut profiles show a recurrent stratigraphic succession of layers with plenty of food remains (mostly terrestrial game) containing dozens of ceremonially disposed burials. Like their coastal counterparts, these riverine mound shell clusters (composed mostly of terrestrial gastropods) over burials do not seem to represent an important dietary component (Constantino 2009; Plens 2007), but, rather, offerings embodied with symbolic meaning disposed over the burial ground. Also similar to coastal shell mounds, some of these small freshwater mounds appear to have been regularly (re) visited for many millennia, with an overall chronology spanning from the Pleistocene/Holocene transition to the arrival of ceramic groups into the area, around a thousand years ago (Figuti et al. 2004; Figuti and Plens, chap. 16 in this volume; Plens 2007).

Funerary ritual was an extremely important social form of expression for sambaqui mound builders, and participation in the festivities was vital for the enhancement of community cohesion and social solidarity in a situation where signals of incipient inequality seem to be evident (Klokler 2008, chap. 11 in this volume). The excavation of some funerary areas and careful analysis of context have shown the deposition of animal remains (fish, bird, and mammal bones) as offerings within and close to graves (Klokler 2008). An indisputable example of animal offerings is the presence of articulated partial fish skeletons and fish bones inside thick lucine (*Lucina pectinata*) clams, associated with burials in the Amourins site (Rio de Janeiro State). Differences regarding the types and quantities of animals might be indicating some differentiation between individuals in Jabuticabeira II (Klokler 2008). Some groups might have symbolic connections with specific groups of animals, such as fish and birds in Jabuticabeira II.

Episodic feasting celebrations were carried out along generations of communities living in integrated regional networks; in fact, some shell mounds have been uninterruptedly built upon for thousands of years, showing that the sambaquis imparted a deep symbolic significance, far beyond the memories of a few generations. The resources used for mound building and the manner of capture demonstrate that feasting events had prominent cooperative characteristics instead of indicating competitiveness between groups. Evidence of large mortuary feasts indicates that these communal gatherings worked to preserve cooperative solidarity among communities (Klokler 2001, 2008, chap. 11 in this volume).

The last 20 years of archaeological research have demonstrated that the fisher-gatherer groups that built the sambaquis are characterized by territorial stability and broad circulation of people along the coast, based both on archaeological (Gaspar 1991; Prous 1991) and bioanthropological premises (Neves and Okumura 2005; Okumura and Eggers 2005; Okumura, chap. 13 in this volume). Their social network involved a significant number of people, given the large number of burials and sites, and evidence of contemporaneous groups of sambaquis (DeBlasis et al. 2007; Gaspar 2000). Subsistence seems to be diversified; fishing had a central place, but there was also hunting and gathering of mollusks and plant foods (Figuti 1995, 1993; Klokler 2001, 2008; Nishida 2007; Scheel-Ybert et al. 2003). Economic intensification in lagoonal environments (probably including plant management) was efficient enough to generate surpluses (Tenório 1991) that were shared during funerary rituals (Fish et al. 2000; Gaspar 2004; Klokler 2001, 2008; Nishida 2007; Scheel-Ybert et al. 2003).

Sambaqui societies from the southern Brazilian shores had a rich and elaborate symbolic world, permeated in the mounds themselves by the funerary rituals that mobilized these fisher-gatherers for the construction of social, impressive, often quite monumental structures. The very mound building associated with the funerary ritual suggests, besides intense feasting, preoccupation with the preservation of human remains (Fish et al. 2000; Gaspar 2004; Klokler 2008, chap. 11 in this volume; Okumura and Eggers, chap. 8 in this volume). Lithic sculptures (zooliths), occasionally found within elaborate burials, display refined aesthetic sense in depicting a variety of different species of fish, bird, and mammals (Prous 1991). Long and permanent occupation places and coeval chronology provide strong evidence for sedentism and control over a

broad and integrated (mostly aquatic) territory, a perception enhanced by the mounds' visibility across the coastal plains (Andreas Kneip 2004). Moreover, the circum-lagoonal settlement distribution indicates an integrated, face-to-face social network, facilitated by canoe-based communication across the lagoon, allowing for not just economic intensification, but also for intense social circulation and mobilization of large amounts of resources for feasting and other purposes (DeBlasis et al. 2007; Gaspar 2000; Klokler 2008, 2001; Souza, chap. 12 in this volume; Scheel-Ybert et al. 2009; Wesolowski 2007).

BUILDING A BETTER APPROACH

To conclude this chapter, a few considerations are in order. A paradigm shift in sambaqui research is represented by the adoption of the premise that funerary rituals stand at the very heart of the symbolic life of these coastal groups, and were, therefore, also central to the construction of the mounds. Currently, researchers have all but abandoned studies about environmental changes based on shell-mound location or layer composition. The visual impact of huge accumulations of mollusk remains, which once led to inferences about diet based on quantifications of shell and fish bones, now guide interpretations about the symbolic realm of these coastal societies. Although not all mounds are associated with funerary events, these last are no doubt the raison d'être of most of them, particularly the larger, more obtrusive and monumental mounds.

If in the past human skeletons were the major/only source of information about burial behavior, health, demography, and so forth, they are at present studied as part of funerary features that include multiple sets of behaviors/activities, including the preparation of the ground, treatment and deposition of the bodies, provision of grave offerings, performance of celebratory events honoring the dead, and closure of burial pits and funerary areas. Contrary to the traditional "horizontal plan approach," privileging a flat reading of the events, modern studies focus on the complex arrangement of mounding-up elements emanating from the burial ceremony and how the afterlife occupied an important place in sambaqui people's daily concerns.

From this perspective, the articulation of the often-so-distinctive approaches of archaeology and physical anthropology is, simply put, essential to achieve a full understanding of these populations' ways of life, establishing research proposals that unify settlement patterns with paleodemography studies, as well as behavior toward the dead with paleopathology and gender, among other questions. It is only through the integration of multiple approaches that a full picture of these fascinating, complex coastal Archaic societies will emerge.

ACKNOWLEDGMENTS

We would like to extend our thanks to Christina Leal Rodrigues and Henrique Vences for helping us with the illustrations, the reviewers for their comments and suggestions, and Mirjana Roksandic and all coeditors for the invitation to join the book. Funding for our research came from CNPq (grant 151457/2009-3), CAPES (process 1501-02-0), NSF (doctoral dissertation improvement grant), FAPESP (grants 97/04094-5 and 04/11038-0), and FAPERJ (project Sambaquis médios, grandes e monumentais: estudo sobre as dimensões dos sítios arqueológicos e seu significado social—Pronex- Edital FAPERJ N.º 17/2009).

NOTES

1. It is important to note that this perspective has been attributed not only to prehistoric groups, but also to contemporary Brazilian native societies, seen as people without religion, justice, or state (Fausto 2000, 10).

2. It is important to note lack of academic and intellectual connection between archaeology and sociocultural anthropology in Brazil, especially ethnography, which hindered the studies of both disciplines by that time.</notetxt>