From the Canopy to the Caye: Two of Britain's Colonial Ventures in Nineteenth-Century Belize

Chapter · January 2019

DOI: 10.1007/978-3-319-95426-4_7

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Chapter 7
From the Canopy to the Caye: Two of Britain's Colonial Ventures in Nineteenth-Century Belize

Tracie Mayfield and Scott E. Simmons

7.1 Introduction

During the nineteenth century, Mesoamerica was a hotbed of trade and commerce driven principally by extractive industries such as agriculture (principally sugar) and hardwood collection. Such ventures required large injections of capital into the creation and maintenance of productive landscapes as well as for hiring, housing, and feeding the workers who provided on-site labor and management. Along with plantations and mills constructed to harvest and process raw materials, the colonial-industrial complex included economic and trade centers, military installations, distribution networks, and secondary economies geared towards supporting the daily needs of people living and working within localized hubs of resource extraction and mercantilism.

We present here archaeological research focused on two such sites located in what is now Belize (Fig. 7.1). These are Lamanai, an inland sugar plantation and logging enterprise in the northwestern part of the country, and the San Pedro site, located on Ambergris Caye off the north coast of Belize. Both are multicomponent sites with pre-Columbian and historic-period occupations. This chapter centers principally on consumerism and consumption and aims to highlight similarities and differences in consumer and consumptive behaviors between the nineteenth-century

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C. E. Orser Jr. (ed.), *Archaeologies of the British in Latin America*, Contributions To Global Historical Archaeology,
https://doi.org/10.1007/978-3-319-95426-4_7

Fig. 7.1 Yucatán, Bay of Honduras (adapted from Mayfield et al. 2018)

residents of the sites. Our study primarily utilizes artifactual and faunal data collected at Lamanai over the past forty years, along with recent materials excavated at Lamanai in 2014 and the San Pedro site in 2017. The following chapter outlines the historical and archaeological backgrounds of the sites of Lamanai and San Pedro and presents an overview of the study's theoretical and methodological foundations and considerations.

Our study explores archaeological and faunal data at the site level. The choice for site-level analysis, rather than intra-site analyses, was chosen for two reasons. First, very few studies have, historically, focused on British occupations in Mesoamerica. Site-level analyses are key to understanding variability between sites in distinct, yet coterminous, geographic regions and with differential modes and means of resource exploitation and/or function. Second, the industrial revolution and expansive foot-

print of European empires resulted in a large degree of material homogeneity—including, but not limited to, domesticated animals and mass-produced ceramics, metal and glass objects, barreled/canned food products, and medicines. Large data sets (e.g., site level) provide better precision when looking at overarching similarities and differences between landscapes of mercantilism, resource exploitation, and production considering the overall material homogeneity of late colonial-period settlements.

7.2 Historical and Geographic Contexts

7.2.1 San Pedro

The San Pedro site is located on Ambergris Caye, the northernmost offshore barrier island along the coast of Belize (Fig. 7.2). The island is 39 km long and no wider than 4 km at any point, and it lies just west of the barrier reef, the longest continuous coral structure in the Western Hemisphere and the second longest barrier reef in the world (Wallace 1997, p. 73). The windward side of the caye consists of sandy beaches that lie between roughly 1.6 km west of the barrier reef to the south, whereas at the northern end of the island the reef converges with the shoreline at Rocky Point. A large variety of fish and shellfish species native to the barrier reef were exploited by the ancient Maya, and these resources are still sought today. The leeward side of the caye is dominated by white and black mangrove interspersed with shallow lagoons, which provide feeding and calving habitats for West Indian manatee (*Trichechus manatus*) and sea turtle populations, various fish and shellfish species, especially conch (*Strombus gigas*), and spiny lobster (*Panulirus argus*) among others (Wallace 1997, p. 73).

Along with marine and other important natural resources, such as salt, Ambergris Caye has 25 known ancient Maya settlements, and there is undoubtedly more awaiting discovery. Only one of these sites, Marco Gonzalez, shows definitive evidence of occupation from Late Preclassic through Classic and Early Postclassic times, and may have been occupied as early as 300 BCE and as late as Spanish contact (Graham and Pendergast 1989; Graham and Simmons 2012a, b; Graham et al. 2015). Three sites, Marco Gonzalez, Los Renegados, and San Juan, appear to have been occupied into the early part of the Postclassic Period (1000–1500 CE), and San Pedro is the only site on the caye occupied during Postclassic and Spanish Colonial times (Guderjan 1995; Simmons et al. n.d.). At present, it is not known when the first European groups settled on Ambergris Caye, but pirates, privateers, and eventually logwood cutters from Spain and eventually Britain settled some parts of what is now known as Belize at least by the seventeenth century (Bolland 1988).

San Pedro is located roughly 9 km north of the southern tip of Ambergris Caye. The site lies under modern commercial and residential buildings, roads, and most

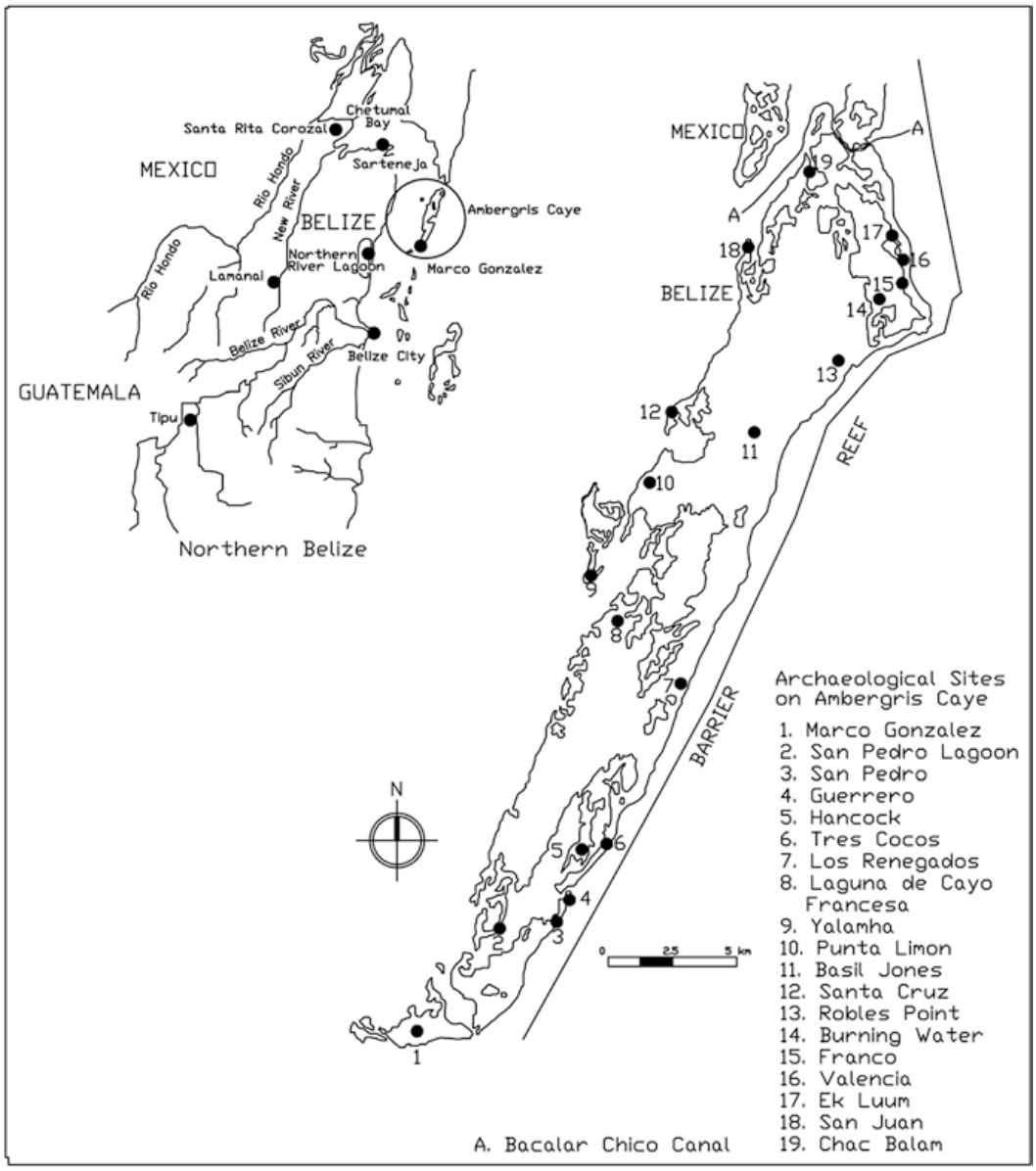

Fig. 7.2 Known archaeological sites on Ambergris Caye, Belize

likely the town square in the heart of the downtown area of San Pedro Town. Midden deposits, human remains, and house floor features associated with the Maya occupation of the site, which extended over roughly a century or slightly more from 1400 CE to Spanish contact in the early 1500s, were identified during salvage excavations by the Royal Ontario Museum in 1990 (Graham and Pendergast 1994). Subsequent investigations in 1993 resulted in the identification of a Late Postclassic-Spanish contact period community made of pole and thatch houses arranged along the windward shore of the caye (Graham and Pendergast 1994). After a 24-year hiatus, fieldwork resumed at the site in 2017, when additional house floors, pit features, and human remains were encountered (Simmons et al. n.d.).

The colonial history of Belize began when the "the coast was discovered by Columbus in 1502, and its early settlement is supposed to have been effected from Jamaica, by adventurers, who were attracted by the fine timber (logwood and mahogany) which grew on the banks of the Hondo and other rivers" (Butter 1879, p. 29). Soon after the European discovery of Belize, Spanish colonists were known, through oral histories, to have been harvesting hard woods on the island (Parham 2017), although there is currently little material evidence of such an occupation—other than a handful of Spanish olive jar sherds. Although the reasons for the lack of Spanish permanence are unknown at this time, rampant piracy along the coast (Spanish, English, and Dutch) may have hampered early attempts at permanent settlement by English colonists (Dobson 1973).

Early occupation of San Pedro Town began with ownership rights of the Island claimed by Von Ohlafen via squatter's rights, around 1850 (Parham 2017). The Caste Wars (1847–1855) hampered development in the mid-nineteenth century, but sustained occupation and steady population growth was resumed after 1855. San Pedro is first mentioned in historical documents in 1850 and after a series of owners/bankruptcies the Blake family purchased the Island in 1869 and started a coconut plantation. The lands were distributed between families who had fled the Caste Wars with the Blakes, which began a period of construction and increased permanent settlement (Parham 2017). Sustained settlement has continued to this day.

7.2.2 Lamanai

Lamanai (or Indian Church as it was known in the nineteenth century) is located in northwestern Belize in the Orange Walk district. It is a thickly forested, subtropical, inland site situated on the northwestern shore of New River Lagoon (Fig. 7.3). Lamanai sits atop shallow limestone soils and is known for its biodiversity. The region hosts more than 150 species of mammals, 540 species of birds, 151 species of amphibians and reptiles, nearly 600 species of freshwater and marine fishes, and 3408 species of vascular plants (Belize Tropical Forest Studies 2012, p. 1).

The Maya had long occupied Lamanai, which was active as a political and economic center from at least the Preclassic (2000 BCE to 250 CE) through the Postclassic (1000–1500 CE) archaeological phases. The Spanish arrived in Central America and Mexico in the early sixteenth century, although it was not until 1544 that the first official mention of Lamanai was recorded in the historical documents (Jones 1989; Graham 2008; Pendergast et al. 2006).

The first Spanish church, constructed just south of the main city center and atop a Maya platform, dates to sometime between 1544 and 1550 (Graham 2008). The local Maya destroyed this structure soon after construction was completed (Simmons et al. 2009, p. 1). A second church was constructed north of the original church in the 1560s, although it is possible that this feature may have been built in the early seventeenth century (Graham 2008). Spanish military control in Belize began to wane in the early seventeenth century due to rebellion and widespread disaffection

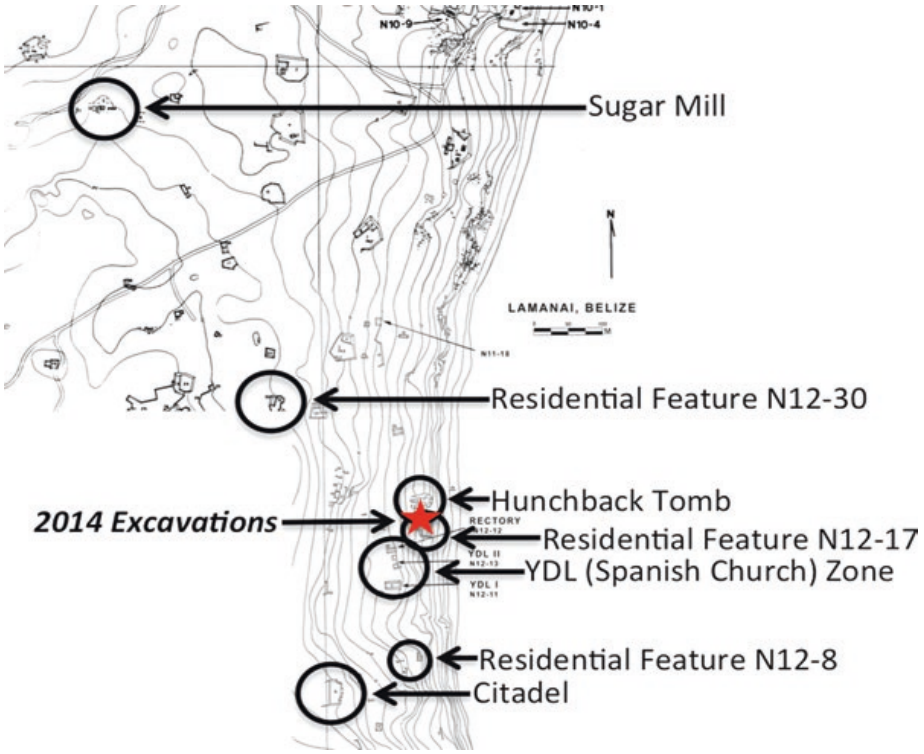

Fig. 7.3 Topological map of Lamanai, Belize with highlighted areas of British occupation (adapted from Mayfield 2015)

generated largely by the Itza of the Peten (Jones 1998). The Spanish largely abandoned inland Belize at this time likely due to administrative difficulties as well as the costs of keeping a military presence in the region.

During the nineteenth century, British colonists (Hyde, Hodge, & Co.) established a sugar plantation at Lamanai, which had long been—and continued to be long after the demise of the sugar venture—an area exploited for logwood and mahogany. The British settlement (approximately 1837–1868) occurred during a time of great political and economic change in Central America. Mexico declared independence from Spain in 1821 and the Central American states claimed independence in 1823 (Naylor 1960, p. 365). The slave trade had been banned by England in 1807, followed by emancipation in 1838, forever changing the makeup of labor relations for industries requiring resource production and extraction, including sugar, cacao, and logwood (Menon 1979; Swayne 1917). Labor groups may have controlled more aspects of their day-to-day lives than their counterparts in other parts of the Americas because of the nature of local industries (mostly extraction-based ventures, which necessitated small, autonomous teams, instead of large, supervised work forces), weak central administrative controls, and a general shortage of labor (Braddick 1866; Butter 1879; *Colburn's United Service Magazine* 1868; Curry 1956; Gibbs 1883; Helms 1983; Naylor 1960; Offen 2000; Rogers 1885; Swayne 1917). These labor issues could have also kept capital and loans from reaching inland settlements such as Lamanai because British merchants and bankers

could have been reluctant to invest in this particular region; unconvinced that this landscape had long-term economic potential (Naylor 1960, p. 366).

While it is likely that the British arrived at Lamanai in the first quarter of the nineteenth century and abandoned the site in the last quarter of the nineteenth century (at least as a plantation, hardwood extraction would have most certainly continued as a profit-making enterprise for the owners), no formal records of British occupation exist until 1837, when "two hundred acres were given to the British under The Indian Church Plantation Grant in order to plant sugar cane and build a sugar mill at the site" (Pendergast 1982, p. 1). Although the land grant was issued in 1837, it is assumed, although not assured, that the British had previous relationships with (or at least knowledge of) the groups operating at Lamanai and in the northwest district of Belize before receiving the plantation grant. While sugar cane may have been planted soon after the initial grant, the mill itself was not in operation until around 1860 and may only have been utilized until the mid-1870s (Pendergast 1982, p. 1). The next major turn of events affecting Lamanai was an ongoing war between the local Icaiche Maya and the British colonists in the Northwest District that occurred between 1867 and 1869 (Braddick 1866; Butter 1879; *Colburn's United Service Magazine* 1868; Gibbs 1883; Grey 1869; MacGowan 1870; Rogers 1885). The last known documented occupants of the British plantation at Lamanai were soldiers stationed at the site in 1868 during the period of clashes with local indigenous populations (*Colburn's United Service Magazine* 1868, p. 212; Grey 1869, p. 253; MacGowan 1870, p. 111).

7.3 Theoretical, Methodological, and Interpretive Foundations

First and foremost, we are interested in elucidating the rhythms (LeFebvre 1992), connectedness (Thompson 1966), and structures of daily life (Braudel 1981) as experienced by individuals and groups in the past. And, when dealing with post-Columbian archaeology in the New World, it is necessary to make interpretations based on different scales of analysis (Bloch 1953; Knapp 1992; Orser 2006, 2008, p. 25), as each site would have necessarily been a local and regional phenomenon driven from above by global markets and industry (Marx 2013 [1867]; Mintz 1985; Orser 1994, 1996, 2006). Objects, built environments, and spatial organization at historical sites are necessarily linked to global, regional, and local contexts, therefore these data must be interpreted as symbols of outright colonial culture, as well as unique, locally constructed phenomena that both shaped and reflected how people lived their lives in the past (Bloch 1953; Bourdieu 1985; Epperson 2001; Mrozowski 1999; Sahlins 1965, 1983, 2010; Sahlins and Service 1960; Wilk and Rathje 1982).

American historical-period archaeology is necessarily "concerned with the history of people and cultures of European origin" (Paynter 2000, p. 169) because the

process of colonialism drove groups and individuals out of Europe to seek their fortunes in the New World (Wolf 1982). However, while these studies track the movement and history of colonial Europeans, these groups were necessarily in contact and conflict with the individuals and groups they encountered, enslaved, or indentured in their attempts to extract resources and profit in the New World. While the goal of European merchants, plantation owners, and material resource extractors was always to facilitate profit, relationships with local individuals and groups needed to further this goal would have varied to a large degree. Fundamental differences existed in the ways in which profit making would have been accomplished due to variability in local economies, availability of labor, and historical makeup of cultural structures.

Even though the vast majority of colonial-period ventures failed (much like modern start-ups), studies of culture contact and colonialism are intrinsically linked to the concepts of status with regard to contact, conflict, cooperation, and capitalist socioeconomics (Comaroff and Comaroff 1991; Little 2007a, b; Mintz and Du Bois 2002; Orser 2006, 2010; Sahlins 1989). European profit and surplus production models centered on creating profound differences between groups providing capital ownership, management, and labor (Mintz 1985; Mrozowski 1999; Shackel 2001; Silliman 2005; Wolf 1982) in order to facilitate control over the means and modes of production within a particular sphere of influence. Colonialism was (at its core) a "power relationship based on exploitation of the colonized by colonizers" (Little 2007a, p. 53), driven by military, social, ideological, and material power through the introduction of new, novel materials and new economic systems.

Knowledge of the growth and movement of global and regional markets over time and how these markets affected regional and local processes and populations should be an integrated effort as each would have shaped and reflected the physical and ideological landscapes at Lamanai and San Pedro (Bloch 1953; Wolf 1982, p. 21). Fisher and Thurston (1999, p. 630) defined landscape as a "broad, inclusive, holistic concept created intentionally to include humans, their anthropogenic ecosystem, and the manner in which these landscapes are conceptualized, experienced, and symbolized." The authors argued that landscape archaeology should take a scalar (e.g., global, regional, and site specific) and multidisciplinary (ecological, geographic, cultural, material, and historical) approach, but added the application of three unifying research themes: (1) the recognition of a dynamic, accretionary, humanly constructed, and maintained environment; (2) the conception of this landscape as a historically constructed and maintained environment; and (3) notion of a recursive link between humans and their landscapes (Fisher and Thurston 1999, p. 630).

Balée (2006, p. 76) argued for "research program[s] concerned with the interactions through time between societies and environments and the consequences of these interactions for understanding the formation of contemporary and past cultures and landscapes." The author argued that culture was literally "inscribed" onto the land creating a material "history of changes" (Balée 2006, p. 77, 81). Balée's model was focused on landscape and environmental changes as text, which could elucidate cultural and historical context based on the intensity and scale of distur-

bance to both virgin and human-created or modified environments, over time. In other words, landscape ecology can give us clues into the active nature of space and the ideologies that created those built environments because "spatiality is the physical side of self-and-other awareness" (Orser 1996, p. 144).

Through the study of objects, materials, and documents used and created in the past, we can, with careful interpretation and consideration, understand the day-to-day lives and decision-making of past peoples. Comaroff and Comaroff (1992, p. 27) argued "if we take culture to be the semantic space, the field of signs and practices, in which human beings construct and represent themselves and others, and hence their societies and histories…it is not merely an abstract order of signs, or relations among signs." Comaroff and Comaroff (1992, p. 27) ultimately called for social scientists to recognize culture and the "stuff" of culture as an "historically situated, historically unfolding ensemble of signifiers-in-action, signifiers at once material and symbolic, social and aesthetic." All culture, should be seen as "symbolic practice" (Comaroff and Comaroff 1992, p. 35) including active, integrated, and ongoing behaviors, which are unique, yet regionally and globally connected. As noted by Comaroff and Comaroff (1992, p. 10), while we cannot escape our own biases, we can "confront the limits of our own epistemology, our own visions of personhood, agency, and history…[which] provides one way of decoding those signs that disguise themselves as universal and natural." The authors posited that research should be "dialogical" (Comaroff and Comaroff 1992, p. 10, 11, 17) and temporally, geographically, and culturally scalar in order to study the interplay of these scales as situated histories.

Archaeological investigations of colonial-period sites create unique opportunities for researchers to look at the ways in which variable groups created and maintained particularized lifeways within a bounded space and with limited types of material culture; limited by ecological and economic factors as well as the overall homogeny and vast diffusion of imported European materials, and animals. Colonial spaces were teeming with the stuff of daily life yet teasing out group identity and unique cultural practice is problematic considering the frequent material uniformity of the archaeological record at colonial-period sites. However, with careful consideration, colonial material culture can elucidate the daily, doxic practices of past peoples (Bourdieu 1977, 1985; Little 2007a, b). Even within a bounded and controlled space—such a plantation or port town presented here—individuals, groups, and discrete households and businesses were using or rejecting available objects differently.

To this end, we have taken a scalar approach in our interpretations of the sites presented here. Lamanai and San Pedro were necessarily part of the colonial-industrial complex and similar imported materials were present at both sites (e.g., ceramics, domestic animals, bottled food, and medicinal products). But, each site was uniquely situated geographically and historically, which produced assemblages with similar materials, yet divergent practices and behaviors, evidenced by the overall types, variation, and frequency of objects and materials. Lamanai and San Pedro, as nineteenth-century living and working spaces, had different requirements and, thus, produced variable contexts.

Colonial landscape practices symbolized the dominant ideology imposed on individuals and groups servicing the colonial economy and thus comprise a valuable data set. Plantation spatial analysis includes not only the organizational aspects of landscape (e.g., what kinds of activities were happening where) but also incorporates the idea that the owners were part of a broader economy with its own cultural ideology regarding what a successful enterprise should look like physically and socially. The ability to wholly transform a natural or native environment (although this was not always the reality of colonial spaces) was a powerful symbol of the right to participate in the colonial economy as well as the right to dominion over both nature and peoples (Delle 1992; Epperson 2001; Wolf 1982). Because colonialism, at its core, was the expansion of European capitalist modes of production, colonial landscapes required spaces designed to facilitate mercantilist and industrialist goals (e.g., agriculture, raw material processing, distribution infrastructure, and consumer interfaces).

Spatial and landscape studies, which focus on the "relationships between people, material culture, and space" (Pauls 2006, p. 66) can give us clues into the active nature of a discrete place, as well as elucidate the ideologies, practice, and lived behaviors that created and maintained built environments (Balée 2006, p. 76; Fisher and Thurston 1999, p. 630; Orser 1996, p. 144). The ways in which colonial spaces and landscapes were organized either facilitated or limited contact between individuals of different classes and ethnic groups because "the tension between inclusion and exclusion, between the need to incorporate the oppressed people within a unified system of control and the need to create distance, difference, and otherness" (Epperson 1999, p. 163) was at the heart of power and control.

Archaeologists consider the archaeological record to be both structural and functional—having been deposited by groups and individuals in the past by necessity and/or choice, and through unconscious action or reaction to the world around them. And, with cautious and systematic investigation, archaeological studies can elucidate very specific details about how people lived and negotiated their daily lives in the past: the tools they used, the food they ate, and the symbols and history that bound them together or signaled difference. For example, if one group ate different foods or used different medicinal remedies than another, why might that be the case?

Although specific events, such as battles, treaty signings, and coronations are important historical phenomena, the data needed to more fully understand the raw, unadulterated experience of past peoples, as agents, actors, and subjects (Trouillot 1995), have much more humble beginnings. Material evidence of day-to-day reality is found within locations of frequently performed, systematic activities, such as kitchens, pathways, trash dumps, and outhouses. People are more likely to act naturally when doing the things they always do, every day, as opposed to something they do once or just a few times and, thus, our approach here is both dialogical (Comaroff and Comaroff 1992) and dialectical (Braudel 1981; Lefebvre 1992), focused largely on consumptive practices and behaviors.

In archaeological studies, foodway and consumption-related data, such as faunal remains and ceramic and glass objects, provide pivotal lines of evidence (see also Mayfield et al. 2018) at colonial-period sites. What people were consuming (e.g.,

eating, drinking, medicating, and smoking) at regional, site, and household levels, as well as how (and with what) they were storing, preparing, and serving food and drink can shed light on the daily life, availability of materials (environmental and socioeconomic landscapes), and broader social ideologies and unique histories of past peoples (Majewski and O'Brien 1987; Sahlins 1983). Mundane and repetitive tasks add to the material record at a high rate, and over time, these types of activities allow for more targeted interpretations of the daily life, practices, performances, and behavior of life in the past.

7.4 Study Data

7.4.1 San Pedro Site

Research History

Thomas Gann was the first to survey Ambergris Caye nearly a century ago (Gann 1926). Roughly, 60 years later Tom Guderjan and the other members of the Ambergris Caye Archaeological Project conducted the first truly comprehensive archaeological survey of the island between 1983 and 1990 (Guderjan 1995). They identified 22 separate sites and two canal complexes, but more recently three additional sites have been documented by Simmons (see Belize Institute of Archaeology site files), bringing the total of known sites on the island to 25, although the actual number of Maya settlements is certainly higher. The great majority of the 25 known sites on the island were occupied most intensively during Late and Terminal Classic times (ca, 700–1000/1100 CE).

Archaeological investigations in San Pedro resumed in 2017 in response to continued development of the Parham property, located on Barrier Reef Drive directly across from (west of) the San Pedro Town park or town square. In 2017, four excavation units, measuring between 2.5 × 3.5 m^2, were excavated on the grounds of the Parham property, which had changed from operating as a hotel as it had when it was first investigated in the 1990s to a hostel that had been enlarged somewhat since that time. The 2017 project was undertaken as part of an archeological field school made up primarily of University of North Carolina Wilmington students as well as one student from the University of North Carolina Charlotte and another student from North Carolina State University (Simmons et al. n.d.).

Excavations expanded the known size of the site, which spans at least 40 m N–S by 30 m E–W in size, although the presence of modern commercial and residential structures in all directions around the site precludes us from delineating the actual boundaries of the contact period Maya settlement. It is clear, however, that the ancient Maya occupation of San Pedro extends from at least Late Postclassic times up through at least the early part of the Spanish Colonial Period, possibly into the mid-sixteenth century. It is possible that earlier Maya groups, including those abandoning the Marco Gonzalez site to the south, occupied San Pedro in Middle or

perhaps even Early Postclassic times, but we have not been able to confirm this as yet (Graham et al. 2015). Coastal predation on native Maya populations, particularly those within view of Spanish ships lying outside the reef, would have made occupation of the San Pedro site untenable for the Maya within several decades of initial Spanish Contact in Yucatan in 1511 (Chamberlain 1948).

Generally speaking, the stratigraphic deposits found in the upper part of the soil profile were disturbed, with ancient Maya materials intermixed with the later nineteenth-century British material culture. This disturbance was the result of both cultural processes, including construction and excavation activities, and coastal erosion and storm deposition of beach sands over the centuries. Intact Maya occupation surfaces were identified in the southern part of the Parham property, and we aim to investigate these further in 2019. Among the noteworthy finds from the 2017 field season were discrete Maya-era house floors made of compressed marl and sand as well as a single Maya burial, interred face down with its legs bent back over its hips. This is a common burial position for human remains encountered at several sites on Ambergris Caye, including at Marco Gonzalez, Chac Balam, and San Juan, and it has also been recorded at two sites on the mainland—Colha and Barton Ramie (Simmons et al. 2018). Several intact features were also found, including a short segment of what appears to have been a historic-period wall or foundation that may date to the latter half of the nineteenth or early part of the twentieth centuries, as well as compressed gray clayey sand deposits that may represent early historic flooring. In addition, several intact Maya ceramic vessels were recovered in situ.

Artifact Assemblage

The San Pedro site post-Columbian artifact assemblage consists of 4693 objects and dates from approximately 1720 through present day. The mean occupation date is 1893. The bulk of the colonial artifacts were produced (approximately) post-1940 and before 1890, although some ceramic wares (e.g., whiteware) are still produced today, which impacts the tenacity of dating formula outcomes and can skew median occupations later in time than was actually the case. The San Pedro site post-Columbian mean occupation date utilizes known production dates of ceramics, glass, and nails, while the Lamanai mean occupation date was based on ceramic technologies only. Post-Columbian artifacts make up 21% of the total site assemblage (number of individual specimens/NISP = 4693 of 12,690). Use categories (Fig. 7.4) identified during the 2017 field included architecture, construction, foodways, health and hygiene (e.g., medicines and chamber pots), household, and personal (e.g., buttons, smoking pipes, and other items that would be owned or used by a single person). For the purposes of this report, architectural materials are distinct from construction materials. Architectural materials do not contribute to the framework of a structure (e.g., window glass, roofing, and tile). The bulk of materials (65%) are related to foodway activities (e.g., food storage, preparation, and serving vessels; including bottles, cans, and other object forms). Construction (13.7%), household (9.6%), health and hygiene (4.4%), personal (3.2%), and architectural (3.1%)

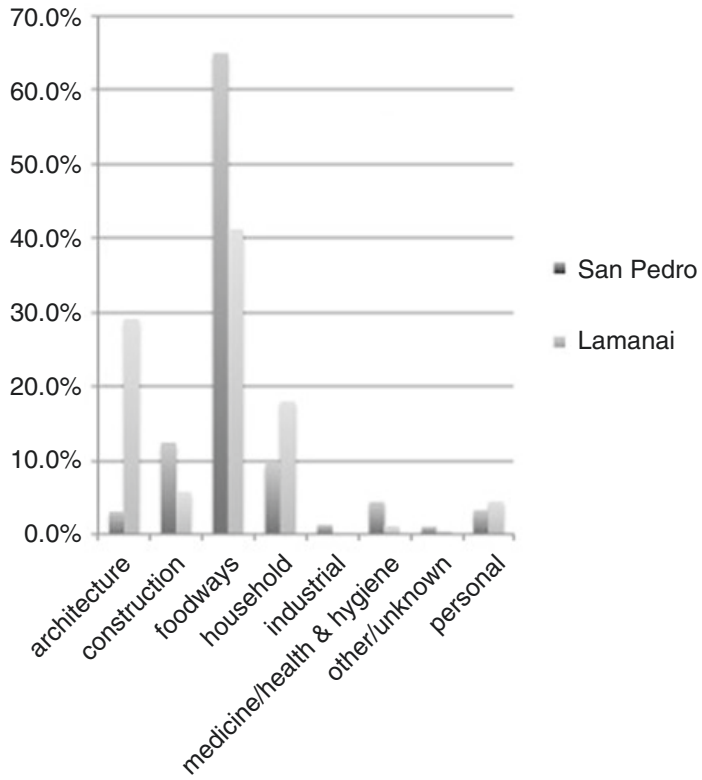

Fig. 7.4 Artifact use categories by site

materials make up the remaining portion of the assemblage. Of note, use category percentages by trench/unit also trended along similar lines.

Ceramic objects made up 31.2% of the total site assemblage (NISP = 1447). Thirteen ceramic ware types were recovered (Fig. 7.5), the bulk of which were whiteware (78.1%), which were manufactured post-1820. Twenty-one unique ceramic object forms were identified. The highest frequency forms (Fig. 7.6) were plates (28.8%), bowls (23.4%), saucers (5.8%), and teacups (5.3%). Interestingly, chamber pot sherds (NISP = 67) made up the fifth most frequent object form (4.6%) in the assemblage. One hundred forty-three smoking pipe fragments were recovered (14.2% of the total ceramic assemblage).

Twenty-two ceramic decoration types (Fig. 7.7) were identified, although that number is higher if each individual pattern is counted (e.g., 13 different transfer-print colors, 12 banded colors/designs, approximately eight painted, under glaze designs, and around 12 sponged/cut-sponged designs). The most frequent decoration types were glazed, transfer print, floral (painted under-glaze), banded, and sponged/cut-sponged; 30.3%, 19.8%, 18.8%, 15.2%, and 8.7%, respectively.

Glass objects made up 43% of the total site assemblage (NISP = 2019). Thirty-six distinct forms were identified (Figs. 7.8 and 7.9). The highest frequency forms were bottles (83.8%), window glass (6.6%), and tumblers (3%). In order to use glass materials to help date the site and individual trenches, mean ceramic dating formulas were applied to glass frequencies and types. Broad production dates were utilized, based on production (handblown versus machine made), and glass color technologies. Mean ceramic dating is not a tested dating protocol for glass but is

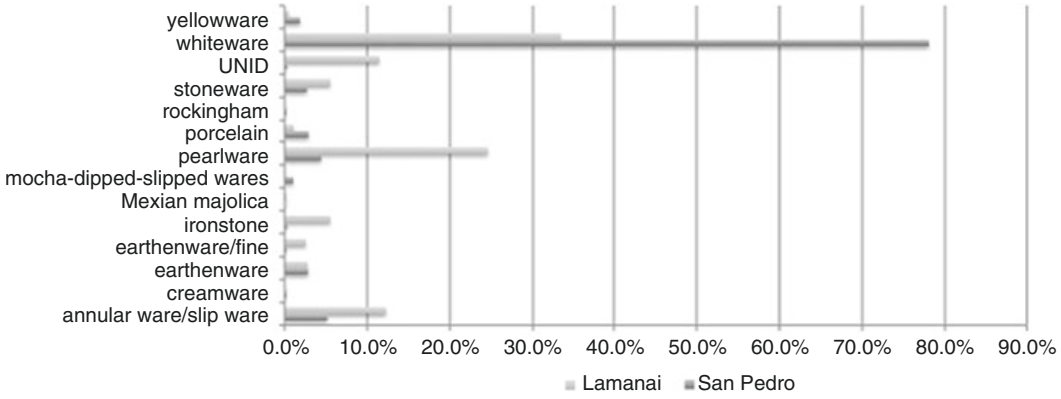

Fig. 7.5 Ceramic ware types by site

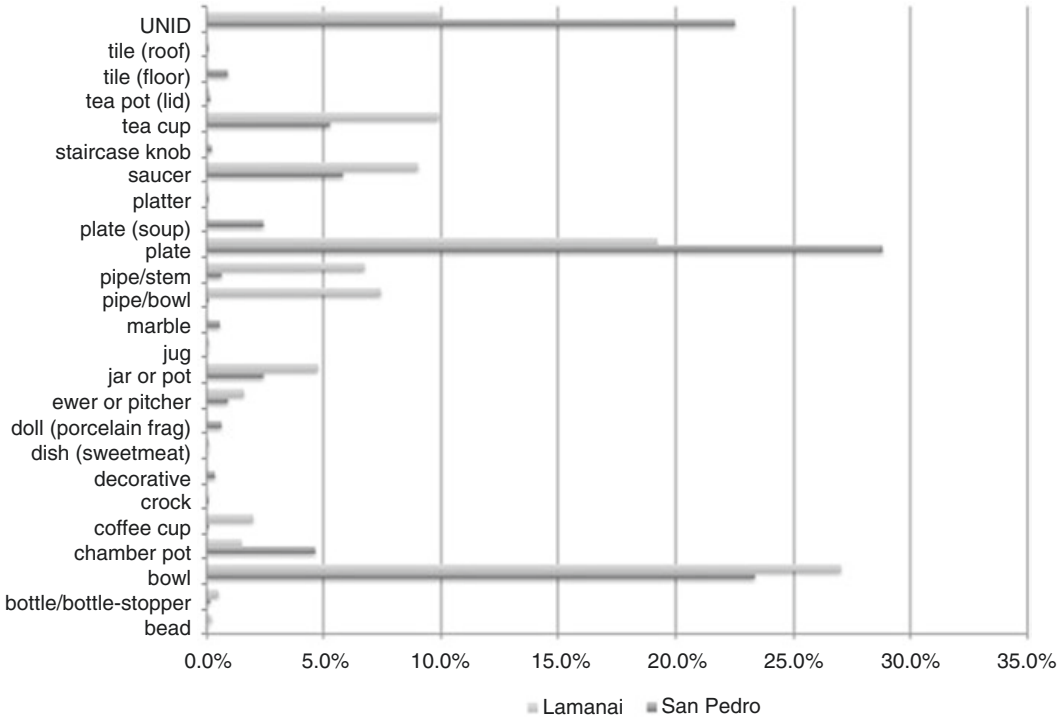

Fig. 7.6 Ceramic forms by site

utilized here in order to explore an additional line of data to bolster or question the ceramic dating timeline. Much like high whiteware percentages within the ceramic assemblage, broad production dates of some glass colors (e.g., clear, amber, and green/1800–2017) likely skew the dates forward in time to some degree. Seventeen distinct bottle types were identified in the assemblage.

The bulk of the San Pedro post-Columbian assemblage (65%) was related to foodways (distribution, storage, preparation, and serving), which was expected. The large number of chamber pots (NISP = 67/4.6% of the ceramic assemblage) and the wide variety of forms, colors, and designs of both ceramic and glass materials sug-

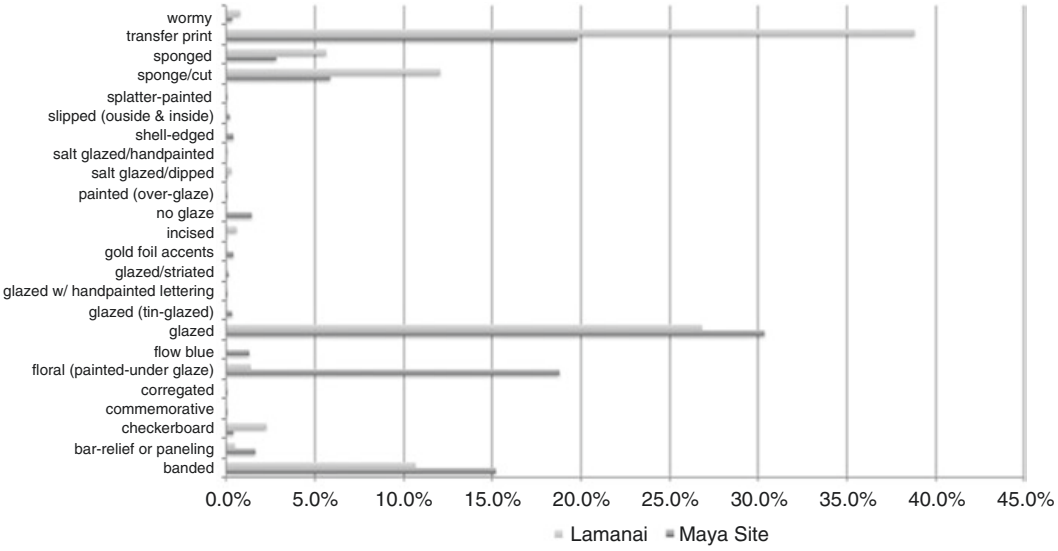

Fig. 7.7 Ceramic decorations by site

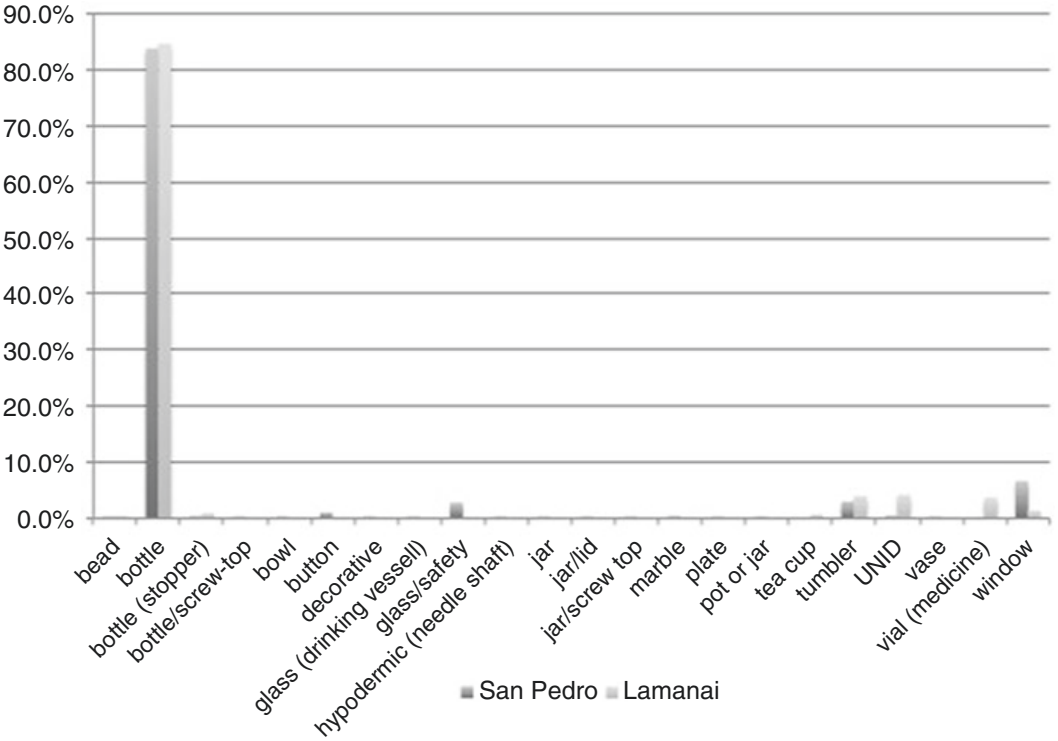

Fig. 7.8 Glass forms by site

gests that not a single-family household but rather a boarding house or communal dump was located on the property in the mid- to late-nineteenth century. This rubbish deposit likely continued to be added to in this manner until present day and, at the time of excavations, the Hostel La Vista and Island Torch restaurant occupied the site. The majority of post-Columbian materials, generally, date between 1830

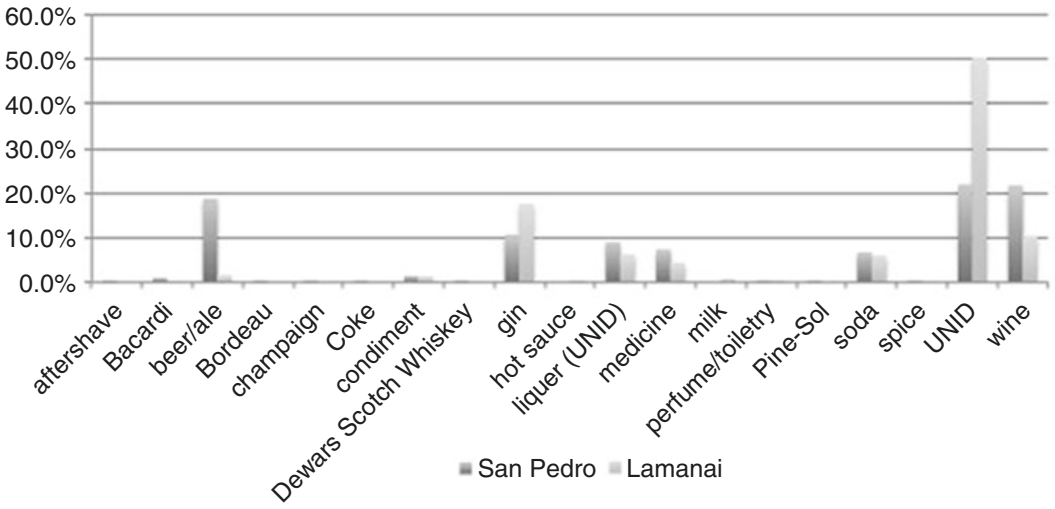

Fig. 7.9 Glass bottle forms by site

and 1900, which roughly coincides with San Pedro Town's initial period of substantial development. Artifact materials, forms, ware types, decoration patterns, colors, and production technologies recovered during the 2017 field season are consistent with contexts dating between 1830 and 1900 and with the late-colonial history of Ambergris Caye. These data along with a high volume and variety of alcohol and soda (e.g., wine, gin, brandy, and whiskey) bottles (Fig. 7.9) and medicines, and a low percentage of construction materials and not architectural objects, suggest that at some point during the second half of the nineteenth century there was a restaurant/boarding house on or near the property and not a single-family home that utilized the space for trash disposal. Alternatively, the space may have served as a general disposal area for multiple dwellings and/or businesses post 1830. Of note, while the artifacts recovered from the southern half of the property (trench 8) were large (over 3 cm), the artifacts recovered from the northern half of the property were much smaller, which suggests different disposal strategies or a secondary disposal location to the north.

Faunal Remains

The San Pedro site excavations (2017) recovered a total of 1926 individual faunal specimens (NISP) (Table 7.1). Vertebrate remains were identified using standard zooarchaeological methods (Reitz and Wing 2008). The majority of lots were not screened, due to high winds and the ease of recovering artifacts and specimens in a sandy matrix. Species identified are summarized in faunal categories based on vertebrate class to facilitate comparisons of relative dietary contribution. A number of primary data classes were recorded, including taxonomic identification, skeletal element, element portion, and fusion. The Number of Identified Specimens (NISP), or bone count, was determined for each taxonomic identification. Specimens that

Table 7.1 Number of individual specimens (NISP) and biomass by site

Common name	Taxon	San Pedro NISP (count) Total #	San Pedro NISP (count) Total %	Lamanai NISP (count) Total #	Lamanai NISP (count) Total %	San Pedro Biomass (kg) Total %	Lamanai Biomass (kg) Total %
Snail/jute	*Pachychilus* sp.	–	–	8	0.4	–	0.0
Reptile	Reptilia (UNID)	2	0.1	1	0.0	0.0	0.0
Sting ray	Rajiformes	1	0.1	2	0.1	0.0	0.0
Bird/medium	Aves (medium)	15	0.8	1	0.0	0.3	0.1
Chicken	*Gallus gallus*	4	0.2	1	0.0	0.1	0.1
Catfish	Siluriformes	–	–	1	0.0	–	0.1
Cat	Felidae	–	–	1	0.0	–	0.3
Crocodile	*Crocodylus* sp.	–	–	6	0.3	–	0.4
Dog	*Canis* sp.	2	0.1	1	0.0	0.7	0.5
Skunk	Mephitidae	–	–	1	0.0	–	0.5
Hawks/eagles/ kites	Accipitridae	–	–	1	0.0	–	0.6
Mammal/UNID	Mammalia UNID	5	0.3	**384**	**17.3**	0.0	0.9
Mammal/small	Mammalia (small)	12	0.6	13	0.6	0.3	1.3
Mammal/ small-medium	Mammalia (small-medium)	64	3.3	25	1.1	2.1	1.3
Fish/bony (UNID)	Osteichthyes (UNID)	**396**	**20.6**	9	0.4	3.5	2.6
Mammal/ medium	Mammalia (medium)	56	2.9	28	1.3	3.0	3.5
Deer	*Odocoileus* sp.	12	0.6	10	0.5	3.9	4.2
Armadillo	Cingulata	–	–	30	1.4	–	5.7
Mammal/large	Mammalia (large)	**224**	**11.6**	40	1.8	**20.1**	**5.9**
Mammal/ medium-large	Mammalia (medium-large)	28	1.5	**54**	**2.4**	2.3	6.2
Cow	*Bos taurus*	93	4.8	16	0.7	**15.5**	**15.6**
Pig/peccary	*Sus scrofa*/*Pecari tajacu*	**153**	**7.9**	50	2.3	**12.3**	**17.3**
Turtle	Testudines	**183**	**9.5**	**1112**	**50.1**	5.3	33.6
Anteater	Pilosa	1	0.1	–	–	0.0	–
Barracuda	Sphyraenidae	89	4.6	–	–	**5.4**	–
Bird/large	Aves (large)	16	0.8	–	–	0.5	–
Bird/ medium-large	Aves (medium-large)	10	0.5	–	–	0.3	–
Bird/small	Aves (small)	5	0.3	–	–	0.1	–
Bird/ small-medium	Aves (small-medium)	10	0.5	–	–	0.3	–
Brocket deer	*Mazama* sp.	1	0.1	–	–	1.2	–
Crab	Pleocyemata	23	1.2	–	–	0.0	–

(continued)

Table 7.1 (continued)

Common name	Taxon	San Pedro NISP (count) Total #	San Pedro NISP (count) Total %	Lamanai NISP (count) Total #	Lamanai NISP (count) Total %	San Pedro Biomass (kg) Total %	Lamanai Biomass (kg) Total %
Drums and Croakers (fish)	Sciaenidae	8	0.4	–	–	1.0	–
Fish/bony (large)	Osteichthyes (large)	19	1.0	–	–	1.7	–
Fish/bony (medium-large)	Osteichthyes (medium-large)	**155**	**8.0**	–	–	2.1	–
Fish/bony (medium)	Osteichthyes (medium)	13	0.7	–	–	0.5	–
Fish/bony (small-medium)	Osteichthyes (small-medium)	82	4.3	–	–	1.4	–
Gibnut (Paca)	*Cuniculus paca*	2	0.1	–	–	0.4	–
Iguana	Iguanidae	16	0.8	–	–	0.3	–
Manatee (W. Indian)	*Trichechus manatus*	10	0.5	–	–	**10.8**	–
Parrotfish	Scaridae	1	0.1	–	–	0.9	–
Rat (New World)	Sigmodontinae	1	0.1	–	–	0.0	–
Reptile/large	Reptilia (large)	1	0.1	–	–	0.1	–
Reptile/small	Reptilia (small)	6	0.3	–	–	0.0	–
Reptile/ small-medium	Reptilia (small-medium)	1	0.1	–	–	0.0	–
Shell/American Auger	Terebridae	12	0.6	–	–	n/a	–
Shell/conch	Strombidae	26	1.3	–	–	n/a	–
Shell/oyster	*Crassostrea* sp.	1	0.1	–	–	0.0	–
Shell/Sunray venus	*Macrocallista nimbosa*	1	0.1	–	–	0.0	–
Shell/UNID	Shell (UNID)	89	4.6	–	–	n/a	–
Shell/Zebra	*Austrocochlea* sp.	2	0.1	–	–	n/a	–
Shell/Zigzag scallop	*Euvola* sp.	1	0.1	–	–	n/a	–
Snake	Serpentes	10	0.5	–	–	0.1	–
Turkey	*Meleagris gallopavo*	64	3.3	–	–	3.4	–
Snail	*Helix* sp.	–	–	**297**	**13.4**	–	n/a
Snail/freshwater	*Pomacea flagellata*	–	–	**130**	**5.9**	–	n/a
Totals		**1926**	**100.0**	**2221**	**100.0**	**100.0**	**100.0**

cross-mended with other specimens in the same minimum analytical unit (lot) were counted as single specimens. No attempt was made to cross-mend specimens from separate lots within individual trenches. All specimens were weighed to provide additional information about the relative abundance of identified taxa. Indicators for sex, age at death, and modifications such as rodent/carnivore gnawed, burned/calcined, cut, hacked, crushed/impacted, twisted, drilled, or worked bone were noted where observed. Forty-six taxonomic identifications were noted in the assemblage. Unidentified fish (*Osteichthyes*), large mammals (Mammalia), turtle (Testudines), medium–large fish (Osteichthyes), and pig/peccary (*Sus scrofa/Pecari tajacu*) were the top five most abundant fauna, representing 57.7% of the total faunal assemblage NISP.

Biomass, an estimate of the amount of meat tissue contributed by different taxa, is used in an attempt to compensate for some of the problems encountered with NISP (see Table 7.1). Large mammals (Mammalia), cow (*Bos taurus*), pig/peccary (*S. scrofa/P. tajacu*), manatee (*T. manatus*), and barracuda (*Sphyraenidae*) represent 64.2% of the total San Pedro biomass. Predictions of biomass are based on the allometric principle that the proportions of body mass, skeletal mass, and skeletal dimensions change with increasing body size. The relationship between body weight and skeletal weight is described by the allometric equation (Simpson et al. 1960): $Y = aXb$. In this equation, X is specimen weight, Y is the biomass, b is the constant of allometry (the slope of the line), and a is the Y intercept for a log plot using the method of least squares regression and the best-fit line (Casteel 1978, pp. 71–77; Reitz and Cordier 1983, pp. 237–252; Reitz et al. 1987, pp. 304–317; Wing and Brown 1979). Values for a and b are derived from calculations based on data from type collections at the Florida Museum of Natural History, University of Florida, and the University of Georgia Museum of Natural History. Allometric formulae for biomass estimates are not currently available for amphibians or lizards so biomass is not estimated for these groups.

All skeletal portions were represented within the total assemblage (Fig. 7.10). Vertebra/rib/vertebral column (45.7%), general element (UNID) (16.6%), and general element (quarter) (13%) made up the majority of the assemblage. The high percentage of vertebra/rib/vertebral column elements is expected in an island setting where marine fauna are regularly exploited for consumption. Marine resources are caught and (usually) cooked whole, and to this end, complete specimens are deposited into the archaeological record. Mammals, on the other hand, are frequently butchered before reaching cooking, eating, and disposal sites, which results in the absence or paucity of certain body sections (e.g., feet and head). General elements combined were the second most abundant skeletal portion (34.3%) after vertebra/rib/axial column (45.7%), which suggests specific foodway activities and behaviors, such as cooking whole and/or chopping up whole animals before or after cooking, were being performed routinely and frequently at the site. Such practices frequently render the remains unidentifiable as specific bone or specific portions of bone due to heating, butchery, and pre-/post-cooking processing activities. The high percentage of certain skeletal portions was affected by the high percentage of fish specimens, because fish (as opposed to cows or pigs) are more easily cooked whole,

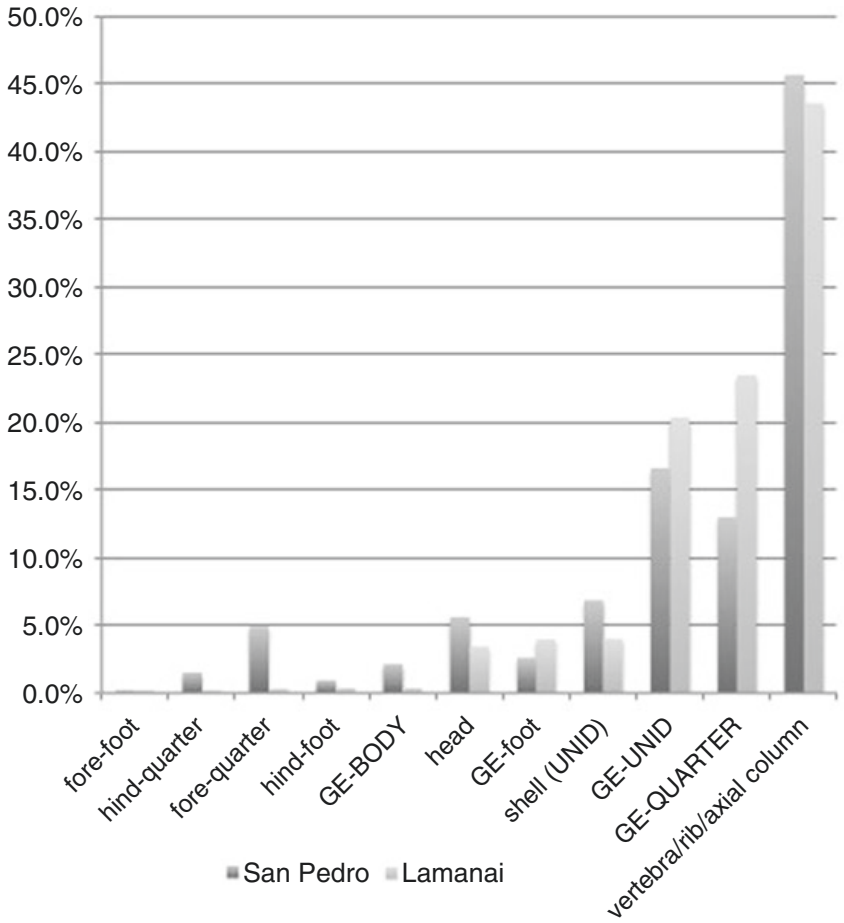

Fig. 7.10 Skeletal portion percentages by site

many times after removing the head. For example, although only 5.6% of the faunal assemblage was from head portions but, if just pig/peccary specimens are analyzed, 27.5% of the remains were head elements and cow head elements only made up 5.4% of the cow specimen assemblage. This suggests that while pigs may have been raised and butchered on the island, cows were likely butchered elsewhere and brought to the island preprocessed (21.5% NISP = general element/quarter, as compared with 4.9% of the total faunal assemblage).

The assemblage contained 22 (NISP) burned or calcined elements [1.1% of the combined assemblage NISP]. Burns may also occur if specimens are burned intentionally or unintentionally after discard. Burning at extreme temperatures can cause calcification and is usually indicated by blue-gray discoloration. The small percentage of burned or calcined specimens suggests that meat foods were frequently prepared via boiling (e.g., soups and stews), instead of roasting, which would result in a higher percentage of burned or calcined remains.

Sixty-three (NISP) specimens have evidence of butchery, processing, and preparation (e.g., cut and hack marks; local impact/crushing; abrading/grinding/polishing; and twisting), which represents 1.1% of the total assemblage. Modifications

can indicate butchering methods as well as site formation processes. Cuts are small incisions across the surface of specimens. These marks were probably made by knives or cleavers as meat was removed before or after cooking. Cuts may also be left on specimens if attempts are made to disarticulate the carcass at joints. Some marks that appear to be made by human tools may actually be abrasions inflicted after the specimens were discarded but distinguishing this source of small cuts requires access to higher-powered magnification (Shipman and Rose 1983). Cut marks on deer elements, particularly on astragali and proximal phalanges, may also originate from skinning activities (Pavao-Zuckerman 2007). Hack marks are evidence that some larger instrument was used. Presumably, a cleaver, hatchet, or axe would have been employed as the carcass was being dismembered rather than after the meat was cooked. Similarly, percussion marks or evidence of local impact/crushing or twisting would suggest that the bone was cracked open to expose the marrow cavity, either for the extraction of the marrow itself or for grease rendering (Outram 2001). Worked specimens show evidence of human modification for reasons likely unrelated to butchery (e.g., carved, drilled, or polished specimens). Gnawing by rodents and carnivores indicate that specimens were not immediately buried after disposal. While burial would not guarantee an absence of gnawing, exposure of specimens for any length of time might result in gnawing. Rodents include such animals as squirrels, mice, and rats. Much like the small number of burned or calcined specimens, the low percentage of processing marks suggests the preparation methods that utilized whole animals, rendering butchery unnecessary, at least for the most part. Of the San Pedro modified bone assemblage, most were twisted (NISP = 24), hacked (NISP = 15), or chopped (NISP = 10). Twisting mainly occurs during eating when bones are twisted and broken to get at the marrow (e.g., small mammals and birds). The complete absence of rodent gnawing points to systematic food disposal that included quick burial of meat food remains.

The final attribute category applied in this analysis is domestic versus wild fauna. Wild specimens make up 67.4% of the total identified faunal assemblage and domestic specimens account for 16.5%. A large wild fauna percentage is expected from an island or coastal site, due to much of the meat food being harvested from abundant marine environments, a trend that continues to this day.

7.4.2 Lamanai

Research History

Lamanai data presented here were gathered from two studies undertaken in 2009 and 2014. In 2009, the total assemblage of previously excavated, nineteenth-century artifacts associated with the British sugar plantation settlement at the site (1837–1868) was analyzed (Mayfield 2009). The collection was made up of (1) samples of British and modern overburden recovered during previous field seasons focused on

Maya and Spanish contexts spanning approximately 30 years of archaeological excavations and (2) excavations centered on the British Sugar Mill (Pendergast 1981) and the Spanish Church Zone (Simmons 2007). The Spanish churches are included here because these structures were repurposed and heavily used by the British colonists during the nineteenth century. The 2009 study was designed to (1) capture the recovered, but largely undocumented material dataset, in order to (2) establish relative dates for discrete features and/or activity areas, (3) elucidate social and technical convergence or connectedness between and among households within the plantation household, and (4) utilize those data to establish a focused and nuanced problem orientation to be implemented during future archaeological investigations at the site.

The 2014 field season excavations were located approximately 100 m north of the Spanish Church Zone (YDL I, YDL II, and the Rectory), roughly 20 m east of the current access road, and about 20 m from the western shore of the New River Lagoon. The particular location, originally identified and superficially mapped during previous survey by David Pendergast and Claude Bélanger in the 1970s and 1980s, was chosen because it contained a known, nineteenth-century artifact scatter on the surface of and surrounding a large, earth- and rubble-filled platform structure. The excavation areas were immediately south of the Hunchback Tomb area that had been preliminarily identified as a probable residential midden without any known associated structures.

Placement of individual excavation units, here referred to as "lots," was selected ad hoc, based on surface features (e.g., visible walls, and surface depressions or rises) and to follow features exposed during the ongoing excavations (e.g., floor, ash pits, and faunal concentrations). Additionally, lots were placed in some locations to establish inside versus outside of walls and features.

Artifact Assemblage

The Lamanai, post-Columbian artifact assemblage consists of 4765 (NISP) objects and dates from approximately 1775 through present day. The mean occupation date was 1854, based on ceramic dates of production. Use categories (see Fig. 7.4) included, architecture, construction, foodways, health and hygiene (e.g., medicines and chamber pots), household, and personal (e.g., buttons, smoking pipes, and other items that would be owned or used by a single person). The bulk of materials (41.2%) are related to foodway activities (e.g., food storage, preparation, and serving vessels, including bottles, cans, and other object forms). Architecture (29.1%), household (17.9%), construction (5.7%), and personal (4.4%) objects and materials make up the remaining assemblage. Use category percentages by activity area also trended along similar lines.

Ceramic objects made up 21.2% of the total site assemblage (NISP = 1010). Eleven ceramic ware types were recovered (see Fig. 7.5), the bulk of which were whiteware (33.5%), pearlware (24.7%), and annular ware/slip ware (12.3%). Fifteen

unique ceramic object forms were identified (see Fig. 7.6). The highest frequency forms were bowls (27%%), plates (19.2%), teacups (9.9%), and saucers (9%). Very few smoking pipe fragments were recovered (NISP = 10, 0.7% of the total ceramic assemblage). Although kaolin smoking pipes are useful dating objects, the formulas for pipe dating, based on bore hole size, become unreliable post-1800 (Deetz 1996; Noël Hume 2001), and all but one (NISP = 10), were manufactured post-1800. Twelve decoration types (see Fig. 7.7) were identified, although that number is higher if each individual pattern is counted (e.g., eight different transfer-print colors, eight banded colors/designs, approximately four painted, under glaze designs, and around six sponged/cut-sponged designs). The most frequent types were transfer-printed, glazed, sponge/cut sponge, banded, and sponged; 38.8%, 26.8%, 12.1%, 10.7%, and 5.6%, respectively.

Glass objects made up 9% of the total site assemblage (NISP = 429). Eighteen distinct forms were identified (see Figs. 7.8 and 7.9). The highest frequency forms were bottles (84.6%), tumblers (4%), mid-twentieth-century medicine vials (3.7%), and window glass (1.4%). In order to use glass materials to help date the site and individual trenches, mean ceramic dating formulas were applied to glass frequencies and types. Much like high whiteware percentages within the ceramics assemblage, broad production dates of some glass colors (e.g., clear, amber, and green, 1800–2017) likely skew the dates forward in time to some degree. Eleven distinct bottle types were present in the assemblage.

Similar to the pattern seen at the San Pedro site, the bulk of the Lamanai assemblage (41.2%) was related to foodways. The large percentage of foodway materials, along with higher percentages of architecture (29.1%) and household (17.9%) in comparison to what was seen at the San Pedro site (3.1% and 9.6%, respectively), was expected, as nineteenth-century Lamanai was a working plantation, where people both lived and worked. Artifact materials, forms, ware types, decoration patterns, colors, and production technologies recovered at Lamanai are consistent with contexts dating between 1820 and 1890 and with the known late-colonial history of the site.

Faunal Remains

The Lamanai faunal assemblage contains a total of 2221 individual faunal specimens (NISP) (see Table 7.1). Twenty-six taxonomic identifications were noted in the assemblage. Turtle (Testudines), unidentified mammal (Mammalia), snail/land (*Helix* sp.), snail/freshwater (*Pomacea flagellata*), and medium–large mammal (Mammalia) were the top five most abundant fauna, representing 89% (NISP) of the total faunal assemblage. Of note, the soil at Lamanai is extremely acidic, which has affected the faunal record to some degree. The site is located on a large lagoon, so the absence of fish remains is likely due to poor preservation and not that local populations were not consuming fish. Alternatively, because of the size difference between the Lamanai site and the San Pedro site (around 81 ha/less than 1 ha), we

may not have located the bulk of Lamanai food disposal sites, which could be obfuscating the actual percentages of meat food species in nineteenth-century diets. The small percentage of cow and pig/peccary remains (0.7%, 2.3% NISP)—similar to San Pedro where cow and pig elements represent 4.8% and 7.9% of the total faunal assemblage—ubiquitous at most late-colonial sites is curious, although unidentified mammal (variable sizes and unidentified) makes up 24.5% (NISP) of the total faunal assemblage, which when combined with acidic soil conditions may make up for some of the expected, yet unidentified specific domesticate taxa.

Interestingly, turtle (Testudines), pig/peccary (*S. scrofa/P. tajacu*), cow (*B. taurus*), unidentified medium–large mammal (Mammalia), and unidentified large mammal (Mammalia) represent 78.6% of the total Lamanai faunal biomass. While the NISP for domesticates was lower than expected, domesticate biomass was more representative of meat foods expected at late colonial-period sites.

All skeletal portions, except the forefoot, were represented within the total assemblage (see Fig. 7.10). Vertebra/rib/vertebral column (43.6%), general element-quarter (23.5%), and general element-unidentified (20.4%) made up the majority of the assemblage. The high percentage of vertebra/rib/vertebral column elements is expected in a forest setting where there is an abundance of small mammals regularly exploited for consumption. Small mammals, similar to fish, are caught and (usually) cooked whole after removing certain body sections (e.g., head and feet). General elements combined were the second most abundant skeletal portion (48.2%) followed by vertebra/rib/axial column (43.6%), which suggests, similar to the San Pedro site, specific foodway activities and behaviors.

The assemblage contained 58 (NISP) burned or calcined elements; this comprises 2.6% of the combined assemblage. Like the San Pedro site, the small percentage of burned or calcined specimens suggests that meat foods were frequently prepared via boiling (e.g., soups and stews), instead of roasting, which would result in a higher percentage of burned or calcined remains.

Fifty-eight (NISP) specimens have evidence of butchery, processing, and preparation (e.g., cut and hack marks; local impact/crushing; abrading/grinding/polishing; and twisting), which represents 2.6% of the total assemblage. In line with modification percentages at the San Pedro site and much like the small number of burned or calcined specimens, the low percentage of processing marks suggests preparation methods that utilized whole animals, rendering butchery unnecessary, at least for the most part. Of the total modified bone assemblage, most were cut (NISP = 4), copper-stained (NISP = 3), or hacked (NISP = 2). Copper staining occurs when copper materials are deposited along with faunal specimens. Over time, the green coloration produced by weathering copper is transferred to osseous remains.

Lastly, wild specimens make up 73.7% of the total identified faunal assemblage and domestic specimens account for 8.5%. A large wild fauna percentage is expected from a forested site such as Lamanai. It must be noted here that salted pork may have contributed to consumptive biomass after colonial contact, but those taxa do not leave a significant trace in the faunal record. A large number of metal barrel

straps were recovered during the 2017 excavations, but the contents of those wooden barrels are currently unknown. Although few studies have focused on the foodway preferences and technologies of nineteenth-century Belize, a recent study of faunal and food remains (Thornton and Ng-Cackler 2014) elucidated variable wild versus domesticate food strategies between socioeconomic and ethnic groups at Holotunich during the nineteenth century. The authors note that whereas both Maya and post-emancipated labor groups preferred or supplemented their protein intake from wild sources, documentary evidence suggests that hardwood extraction teams, in particular, consumed salted pork and other prepackaged food items that would have left very little skeletal evidence (Mayfield et al. 2018) and similar patterns were also noted at Lamanai within nineteenth-century contexts (Mayfield 2015).

7.5 Data Analysis and Discussion

During the nineteenth century, the communities of San Pedro and Lamanai were similar to one another in many respects. The Maya, then Spanish and British colonists, and ultimately Belize nationals and international tourists, have long used both sites as centers for resource extraction and trade. Both sites continue to be vibrant centers of activity to this day. San Pedro is a thriving tourist town and Lamanai is a national monument, visited daily by Belizeans and international tourists alike. Lamanai and San Pedro are each located on bodies of water, which has no doubt been a factor in their ongoing success when other landlocked towns were abandoned. Water movement (e.g., flooding) has impacted the archaeological record at both sites, resulting in environmentally mixed contexts and levels at the San Pedro site and, to a lesser extent, at Lamanai. Ocean and riverine transportation was then and is now quicker and safer than overland routes, making San Pedro and Lamanai important trading and information hubs. Both sites were part of the global colonial-industrial complex and connected to American-Caribbean trade and extraction, as well as active participants in the Mesoamerican "world system," in particular.

At both Lamanai and San Pedro, as is standard at most colonial-period, archaeological sites where people both lived and worked, the most prevalent objects recovered during archaeological excavations were materials related to consumptive behaviors and practices (e.g., eating, drinking, smoking, and medicating). The types, forms, and aesthetic attributes, along with relative frequencies of those objects, are a window into the day-to-day activities and experiences of the nineteenth-century inhabitants of the two sites.

Along with conterminous occupation dates—colonial-period mean occupation dates for the San Pedro and Lamanai are 1893 and 1854, respectively—the total site assemblages contained similar materials, wares, forms, and decoration styles due to the proliferation of industrially produced goods circulating en masse globally during the nineteenth century. The majority of object and material use categories at both sites was foodways (San Pedro 65%/Lamanai 41.2%) (see Fig. 7.4). The dif-

ference in overall percentages of foodways materials between the sites is likely due to discrete disposal strategies. The Lamanai assemblage does not contain many materials from middens or trash pits, which would likely increase the percentage of foodway materials in the overall collection. Personal items at both sites made up less than 5% of the total assemblages, suggesting temporary, seasonal, or transient living conditions, which coincides with the known histories/landscape use of the nineteenth-century occupations.

Similarly, ceramics made up 30.8% (San Pedro) and 21.2% (Lamanai) of the total artifact assemblages (see Figs. 7.5 and 7.6). Very few ceramic imported cooking and storing vessels and a paucity of porcelain, sometimes indicative of higher status residents, were recovered at either site; less than 5% and less than 3% of the total ceramics assemblages, respectively. Course earthenware vessels made up 2.8% and yellowware less than 2% of the ceramic assemblages at both sites. Cooking and storing vessels would have been heavy, expensive to transport, and easily broken due to frequent use, which suggests that these wares were being procured from local, Maya sources as compared to serving vessels (e.g., plates, bowls, and teacups/saucers) purchased on the global market. Additionally, cooking and storage vessels do not have the same socioeconomic or aesthetic requirements, as do serving vessels, which are part of public, sociocultural display behaviors. At both sites, the majority of ceramic forms were plates and bowls and the most common ceramic decorations were glazed/white and transfer prints.

In-line with use categories trends and ceramic wares, forms, and decorations, glass objects were similar in form, function, and design at both sites (see Figs. 7.5, 7.6, and 7.7). Bottles made up 83.8% and 84.6% of the total glass assemblages, respectively (see Figs. 7.8 and 7.9).

Nineteenth-century residents of both sites were utilizing wild and domestic meat food sources (see Table 7.1), frequently in soups or stews, as evidenced by a large variety of skeletal portions (see Fig. 7.10), a small number of burned or calcined elements, and a paucity of bone modifications were usually present if there is systematic butchering or rendering. Along with wild fauna, chicken, beef, and bottled, canned, or barreled products such as soda water, salted pork, and potted meat, the residents of nineteenth-century Lamanai and San Pedro were also active consumers of tobacco and bottled alcoholic beverages. In addition, the monies paid to the individuals and groups were used to purchase bottled medicines, health and hygiene products (e.g., chamber pots), and wearable objects such as buttons and boot heels.

While there are many similarities between the sites of San Pedro and Lamanai, there are also key differences, the most obvious being environment and use, or purpose. Lamanai (an inland forest site situated on a major river) was a sugar plantation and hardwood extraction resource and, while San Pedro Town (a reef protected, island, port location) was a coconut plantation for a period of time, and it has been a port of trade for the majority of its human settlement. A notable difference between the sites is the lack of Spanish artifacts and materials at San Pedro. The Spanish presence at Lamanai left features (still standing) and artifactual remains, but only a handful of Spanish objects have been recovered at the San Pedro site (Pendergast and Graham 1991; Simmons, et al. n.d.).

Although nineteenth-century residents at both sites were consuming wild and domestic meat foods with similar preparation, there was a great deal more variety present in the San Pedro site assemblage (46 distinct taxa, as compared to 26 at Lamanai) (see Table 7.1). As noted earlier, the recovery of more disposal sites at Lamanai along with the likely presence of salted pork may change this interpretation, but a lack of material variety at Lamanai, generally, suggests that the trend extends to animal taxa variety as well.

As for use categories (see Fig. 7.4), the Lamanai assemblage had more household (17.9%) and architectural (29.1%) materials than the San Pedro site, which had 9.6% and 3.1%, respectively. This is likely due to landscape use at both sites. Lamanai has extant archaeological features and clear evidence of long-term habitation/commitment to build infrastructure, although few trash pits or middens have been identified. The San Pedro site contained one feature, a tabby wall, but multiple trash pits/disposal events.

The most obvious difference between the site assemblages is the variety of ceramics and glass (forms and decoration) at the San Pedro site compared to Lamanai (see Figs. 7.5, 7.6, 7.7, 7.8, and 7.9). Although both site assemblages contained similar ceramic and glass objects (e.g., technologies, forms, and decorations), the Lamanai collection had a large percentage of pearlwares—24.7% of the total ceramic assemblage—compared to 4.4% at San Pedro. The high percentage of pearlwares is consistent with the earlier mean occupation date at Lamanai. Pearlwares were produced earlier than whitewares, which make up 78.1% of the total San Pedro ceramic assemblage and 33.5% of the Lamanai ceramic assemblage. The San Pedro site contained thirteen ceramic ware types, 21 ceramic forms, approximately 67 distinct ceramic decoration patterns, and 36 glass forms, compared with 11 ceramic wear types, 18 ceramic forms, around 38 ceramic decoration patterns, and 18 glass forms at Lamanai. Overall, the San Pedro site contained a much higher percentage of glass objects: 43% of the total assemblage as compared to 9% at Lamanai. Interestingly, of the bottle types at San Pedro, 60.5% originally contained alcohol (see Fig. 7.9) as compared to 36.1% at Lamanai. San Pedro had a high number of chamber pots and smoking pipes (NISP = 67, 143), compared with Lamanai (NISP = 3/10). San Pedro also had a larger number of medicine bottles (7.5% of the total glass assemblage/NISP) than Lamanai (4.4% of the total glass assemblage/NISP).

7.6 Comparative Sites

Few archaeological studies address the creation of market economies in colonial settings, but a Sri Lankan study by Shanmugaratnam (1981) looks at the effects of colonial plantation intrusion on modes of production formerly centered on use-value dominated exchanges and simple, often household level, reproduction as the principle means of production. Shanmugaratnam (1981, p. 79) ultimately concludes that "the forces unleashed by the land market and the plantation economy

contributed to the disintegration of the peasantry without integrating it into the labor market that was emerging from the new economy… the plantation economy did not by any means create a free labor market." Much like the Sri Lankan peasant experience, the intrusion of a plantation economy into the Belize interior does not seem to have created a robust market economy, at least for those living and working at Lamanai during the nineteenth century, but it also may not have destroyed the local subsistence economy like it did in Sri Lanka.

Xuxub was a nineteenth-century sugar plantation in eastern Yucatán and similar to Lamanai, the owners employed immigrant labor (Mathews and Gust 2017; Sullivan 2006). Although an impressive variety of personal and luxury goods were recovered at the site supervisor's house, labor habitation and production activity areas produced less variation (Mathews and Gust 2017, pp. 152–156), although imported goods were recovered at the site. In this case, the authors suggested the lack of material variability, yet presence of imported goods, was due to plantation owners or other merchants buying cheap or old stock (possibly by the crate) to sell to inland, plantation laborers, who did not have ready access to free markets. If this were the case at Lamanai, it could explain the high frequency of pearlwares (produced earlier than whitewares), compared to the San Pedro site.

Although the site of Augusta, Roatán Island, Honduras, is situated in a comparable natural environment to the San Pedro site, archaeological excavations produced very little artifactual variation (Mihok 2013, this volume; Mihok and Wells 2013), similar to Lamanai. The authors posit the paucity of material variation, in this case, was due to a lack of habitational separation between Miskitu indigenous groups and European colonists (Mihok and Wells 2013, pp. 117–118). Generally, inhabitants of nineteenth-century Augusta were in similar economic positions (e.g., what they could afford), but additionally, the study revealed that the Miskitu continued to utilize indigenous technologies to a large degree, which would further restrict the types and amounts of European imported objects and materials present within the site's nineteenth-century context. This suggests that location was not the only impediment to material variation. Economic status and indigenous adoption of new technologies would have also affected the context to a large degree.

7.7 Final Thoughts

Until very recently, archaeological studies in Latin America have focused mainly on Pre-Columbian periods and the early Spanish colonial period. Only a few are centered on the historical archaeology of eighteenth- and nineteenth-century settlements (e.g., Alexander 1999; Andrews 1981; Palka 1998, 2005; Yaeger et al. 2004). The bulk of colonial-era archaeological studies in Latin America have focused on Spanish contexts and have centered on extraction-related industries such as logwood (Offen 2000), sugar (Green 1984; Pendergast 1982), cacao (Gasco 1996), and citrus (Moberg 1992, 1990); Spanish missions (Graham 1998, 2006, 2011); African

and indigenous slave populations (Cheek 1997; Helms 1983; Samford 1996; Singleton 2001, 1995); and interaction between the Spanish and indigenous peoples (Alexander 1997, 2003, 2005, 2006; Fournier-Garcia 1990; Gasco 1996, 2005; Graham and Pendergast 1989; Helms 1983; Masson 1999, 2003; Menon 1979; Moberg 1990, 1992; Olien 1988; Palka 1998, 2005; Pendergast 1986, 1988, 1991, 1993; Pendergast et al. 2006; Rodriguez-Alegria et al. 2003). One reason for the paucity of British-centered historical archaeology, as compared to other foci may be the elusive and/or transient nature of British-colonial activities during the late-eighteenth and early nineteenth centuries. During this time, much of the British colonial trade and extractive operations in Latin America were illicit and no doubt designed to leave little trace (e.g., logwood extraction and privateering), and perhaps abandoned and moved quickly. Plantations were established and changed hands frequently, leading to sporadically settled labor and supervisory habitational structures/activity areas. British settlements were often transient, seasonal, or temporary, creating problematic targets for archaeologists.

With regard to post-Columbian archaeology in the New World, it is necessary to make interpretations based on different scales of analysis, as each site would have necessarily been a local and regional phenomenon driven from above by global markets and industry. Objects, materials, built environments, and spatial organization at post-contact sites are necessarily linked to global, regional, and local communities of practice, therefore these data must be interpreted as symbols of outright colonial culture, as well as unique, locally constructed phenomena that both shaped and reflected how people lived their lives in the past.

Although connected to extraction and mercantile institutions in the broader West Indies, nineteenth-century political, cultural, and economic organization in Belize—then British Honduras and earlier, the Bay of Honduras—was distinct. The land and its people were notoriously difficult for both Spanish and British colonists to administer (Graham 2011), in large part due to geographic obstacles, such as the difficulties of maintaining overland transportation infrastructures in a humid tropical environment. Additionally, the region was populated by powerful, locally embedded indigenous communities (the Icaiche and Santa Cruz Maya) whose members demanded large payments of cash and arms from colonial landholders (Rogers 1885, pp. 201–212) under the continual and real threat of attack. Belize was also a colonially contested region since the early 1500s.

Efforts by European colonists to consolidate indigenous peoples into administrative and productive centers such as missions and plantations had been largely unsuccessful. Additionally, many British colonists who had once enjoyed relative autonomy from homeland governmental oversight as buccaneers and merchants of illicit trade in Central America had to now contend with the more bureaucratic and structured nature of sanctioned—and thus monitored and taxed—enterprises. Although it is likely that many, if not most of the nineteenth-century, land-holding colonists had been active in the region since the eighteenth century, the colonial estate holders in Belize were relative latecomers to the New World plantation and extraction enterprise theatre, compared with industrialists elsewhere in the Americas.

Adding to the relative disorganization of nineteenth-century colonialism in Belize were severe labor shortages driven primarily by the abolition of slavery in 1838, and oscillating power dialectics among indigenous factions, labor groups, and Europeans.

Although additional research is needed before more fine-grained reasons for the differences between the sites of San Pedro and Lamanai can be made, evidence to date suggests that residents of San Pedro had more alcohol and tobacco, more access to imported medicines, more meat-food variety, and more private, indoor space than those at Lamanai during the nineteenth century. As mentioned earlier, San Pedro may have housed a boarding house/restaurant or been a disposal area for multiple residences or businesses. Additionally, San Pedro was (and is) a port of trade with ready access to a variety of imported goods, and is much more densely populated than Lamanai, so there are—to put it delicately—fewer outdoor, private spaces to do one's "business," necessitating a larger number of chamber pots available for residents to use.

It is also necessary to comment here on the robustness of space and the effect natural environments and sociocultural memory have on the utility of landscapes and patterns of human behavior. Both Lamanai and San Pedro have been known hubs of activity and places of trade (materials and information) for thousands of years and continue to be so today. When taking a long view (historical scale), the natural environment dictated the kinds (e.g., agricultural and mercantile) and frequency of interactions between groups and the variety of materials available (local and imported) to residents. Additionally, the availability of consumer or trade goods largely relies on the number of individuals or groups that control the means of distribution, which in theory, would be a smaller number of individuals at inland sites. Thus, a few individuals are able control supply (and prices) due to the limited and/or difficult modes of distribution for heavily forested, overland routes and relative ease of controlling riverine movement, compared to an entire coastline.

Lastly, the size and usability of habitable space at Lamanai and San Pedro affected the types of activities taking place and population densities. Even though the current material assemblages are of similar size, the San Pedro site is small, situated on possibly less than 1 ha, whereas Lamanai has at least 81 ha of usable space. Additionally, the discrete natural environments play a role in archaeological visibility. It is much more difficult to identify viable excavation sites in hundreds of acres of dense forest, although LiDAR is rapidly changing this situation.

In closing, the key differences between these contexts are natural environment, material and faunal variety, use of space, and population density. Material and faunal variation may be due to the accessibility of San Pedro as compared to Lamanai, although riverine travel was (and continues to be) common, so the lack of variation at Lamanai may ultimately be due to different drivers, such as economics. Can people afford to buy imported objects? Were individuals purchasing items for themselves or were landowners or hotel owners buying materials for laborers or guests?—and land use (e.g., plantation and extraction site vs. a port of trade). Clearly, additional data are needed before more precise interpretations can be made, but site-level analyses have elucidated clear behavioral variability during the nineteenth century between Lamanai and San Pedro.

References

Alexander, R. T. (1997). Settlement patterns of the late colonial period in Yaxcaba Parish, Yucatan, Mexico: Implications for the distribution of land and population before the Caste War. In J. Gasco, G. C. Smith, & P. Fournier-Garcia (Eds.), *Approaches to the historical archaeology of Mexico, Central and South America* (pp. 449–470). Los Angeles: Institute of Archaeology, University of California, Los Angeles.

Alexander, R. T. (1999). Mesoamerican house lots and archaeological site structure: Problems of inference in Yaxcaba, Yucatan, Mexico, 1750-1847. In P. M. Allison (Ed.), *The archaeology of household activities* (pp. 78–100). London: Routledge.

Alexander, R. T. (2003). Haciendas and agrarian change in rural Mesoamerica. *Ethnohistory, 50*, 3–14.

Alexander, R. T. (2005). Isla Cilvituk and the difficulties of Spanish colonization in southwestern Campeche. In S. Kepecs & R. Alexander (Eds.), *The postclassic to Spanish-era transition in Mesoamerica* (pp. 161–181). Albuquerque, NM: University of New Mexico Press.

Alexander, R. T. (2006). Maya settlement shifts and agrarian ecology in Yucatan, 1800-2000. *Journal of Anthropological Research, 62*, 449–470.

Andrews, A. P. (1981). Historical archaeology in Yucatan: A preliminary framework. *Historical Archaeology, 15*(1), 1–18.

Balée, W. (2006). The research program of historical ecology. *Annual Review of Anthropology, 35*, 75–98.

Belize Tropical Forest Studies. (2012). *Belize geographic and environmental information*. Electronic document. Retrieved February 2017, from http://www.biodiversity.bz

Bloch, M. (1941). *The historian's craft: Reflections on the nature and uses of history and the techniques and methods of those who write it* (P. Putnam, Trans.). New York: Alfred A. Knopf.

Bolland, O. N. (1988). *Colonialism and resistance in belize*. Benque Viejo del Carmen, Belize: Cubola Press.

Bourdieu, P. (1977). *Outline of a theory of practice* (R. Nice, Trans.). Cambridge: Cambridge University Press.

Bourdieu, P. (1985). The social space and the genesis of groups. *Theory and Society, 14*, 723–744.

Braddick, G. (1866). British Honduras. In E. Stock (Ed.), *Primitive Church Magazine*. Vol. XXIII-New Series. London: Paternoster-Row. Retrieved March 2014, from https://books.google.com/books?id=d3sBAAAAQAAJ

Braudel, F. (1981). *The structures of everyday life, 15th–18th century, vol. I: The limits of the possible* (S. Reynolds, Trans.). New York: Harper and Row.

Butter, A. (1879). British Honduras. *The colonial office list* (Vol. 18, pp. 29–31). Retrieved March 2014, from https://books.google.com/books?isbn=1104174731

Casteel, R. W. (1978). Faunal assemblages and the "Wiegemethode" or weight method. *Journal of Field Archaeology, 5*(1), 71–77.

Chamberlain, R. S. (1948). *The conquest and colonization of Yucatan, 1517-1550*. Washington, DC: Carnegie Institution of Washington.

Colburn's United Service Magazine. (1868). Our latest "little war"; or, campaigning in Honduras. *Colburn's United Service Magazine Part III* (pp. 212–218). Retrieved March 2014, from https://books.google.com/books?id=TNgRAAAAYAAJ

Cheek, C. D. (1997). Setting a British table: Black Carib archaeology on the Caribbean coast of Honduras. In J. Gasco, G. C. Smith, & P. Fournier-Garcia (Eds.), *Approaches to the historical archaeology of Mexico, Central and South America* (pp. 101–109). Los Angeles: The Institute of Archaeology University of California, Los Angeles.

Comaroff, J., & Comaroff, J. (1991). *Of revelation and revolution: Christianity, colonialism, and consciousness in South Africa, volume 1*. Chicago: University of Chicago Press.

Comaroff, J., & Comaroff, J. (1992). *Ethnography and the historical imagination: Part I*. Boulder, CO: Worldview Press.

Curry, H. F., Jr. (1956). British Honduras: From public meeting to Crown Colony. *The Americas, 13*(1), 31–42.

Deetz, J. (1996). *In small things forgotten: An archaeology of early American life*. New York: Anchor Books.

Delle, J. A. (1992). *An archaeology of social space*. New York: Plenum.

Dobson, N. (1973). *A history of Belize*. London: Longman Caribbean.

Epperson, T. W. (1999). Constructing difference: The social and spatial order of the Chesapeake plantation. In T. A. Singleton (Ed.), *"I, Too, Am America": Archaeological studies of African-American Life* (pp. 159–172). Charlottesville, VA: University Press of Virginia.

Epperson, T. W. (2001). A separate house for the Christian slaves, one for the Negro slaves: The archaeology of race and identity in late seventeenth-century Virginia. In C. E. Orser Jr. (Ed.), *Race and the archaeology of identity* (pp. 54–70). Salt Lake City, UT: University of Utah Press.

Fisher, C. T., & Thurston, T. L. (1999). Dynamic landscapes and socio-political process: The topography of anthropogenic environments in global perspective. *Antiquity, 73*(281), 630–633.

Fournier-Garcia, P. (1990). *Evidencias arqueologicas de la importación de cerámica en Mexico, con base en los materiales del Ex-Convento de San Jerónimo*. Córdoba, Mexico: Instituto Nacional de Antropología e Historia.

Gann, T. W. (1926). *Ancient cities and modern tribes: Exploration and adventure in Maya lands*. London: Duckworth.

Gasco, J. (1996). Cacao and economic inequality in colonial Soconusco, Chiapas, Mexico. *Journal of Anthropological Research, 52*, 385–409.

Gasco, J. (2005). The consequences of Spanish colonial rule for the indigenous peoples of Chiapas, Mexico. In S. Kepecs & R. Alexander (Eds.), *The postclassic to Spanish-era transition in Mesoamerica* (pp. 77–96). Albuquerque, NM: University of New Mexico Press.

Gibbs, A. R. (1883). *British Honduras: An historical and descriptive account of the colony from its settlement, 1670*. London: Sampson Low, Marston, Searle, and Rivington.

Grey, E. (1869). Honduras. In C. B. Adderley (Ed.), *The colonial policy of Lord J. Russels administration* (pp. 247–254). Retrieved March 2014, from http://books.google.com/

Guderjan, T. H. (1995). Settlement patterns and survey data. In T. H. Guderjan & J. F. Garber (Eds.), *Maya maritime trade, settlement, and population on Ambergris Caye, Belize* (pp. 9–30). Lancaster, CA: Labyrinthos Press.

Graham, E. (1998). Mission archaeology. *Annual Review of Anthropology, 27*, 25–62.

Graham, E. (2006). An ethnicity to know. In F. Sachse (Ed.), *Maya ethnicity: The construction of ethnic identity from Preclassic to modern times* (pp. 109–124). Markt Schwaben: Verlag Anton Saurwein.

Graham, E. (2008). *Lamanai historic monuments conservation project: Recording and consolidation of new church architectural features at Lamanai, Belize*. Belize City, Belize: FAMSI.

Graham, E. (2011). *Maya Christians and their churches in sixteenth-century Belize*. Gainesville, FL: University Press of Florida.

Graham, E., & Pendergast, D. M. (1989). Excavations at the Marco Gonzalez site, Ambergris Cay, Belize, 1986. *Journal of Field Archaeology, 16*, 1–16.

Graham, E., & Pendergast, D. M. (1994). The sands of time: San Pedro, Ambergris Caye, Belize, 1993. *Royal Ontario Museum Archaeological Newsletter, 52*, 1–4.

Graham, E., & Simmons, S. E. (2012a). *Report on the 2010 Excavations at Marco Gonzalez, Ambergris Caye*. Belmopan, Belize: Belize Institute of Archaeology, National Institute of Culture and History.

Graham, E., & Simmons, S. E. (2012b). Recent Investigations on Ambergris Caye, Belize. *Archaeology International, 15*, 24–28.

Graham, E., McPhail, R., Turner, S., Crowther, J., Stegemann, J., Arroyo-Kalin, M., et al. (2015). The Marco Gonzalez Maya site, Ambergris Caye, Belize: Assessing the impact of human activities by examining diachronic processes at the local scale. *Quaternary International, 437*, 115–142. https://doi.org/10.1016/j.quaint.2015.08.079.

Green, W. A. (1984). The perils of comparative history: Belize and the British sugar colonies after slavery. *Comparative Studies in Society and History, 26*, 112–119.
Helms, M. W. (1983). Miskito slaving and culture contact: Ethnicity and opportunity in an expanding population. *Journal of Anthropological Research, 39*, 179–197.
Jones, G. D. (1989). *Maya resistance to Spanish rule*. Albuquerque, NM: University of New Mexico Press.
Jones, G. D. (1998). *The conquest of the last Maya kingdom*. Stanford, CA: Stanford University Press.
Knapp, A. B. (Ed.). (1992). *Archaeology, annales, and ethnohistory*. New York: Cambridge University Press.
LeFebvre, H. (1992). *Elements of rhythmanalysis: An introduction to the understanding of rhythms* (E. Kofman, E. Lebas, & I. Forster, Trans.). New York: Continuum.
Little, B. J. (2007a). *Historical archaeology: Why the past matters*. Walnut Creek, CA: Left Coast Press.
Little, B. J. (2007b). Topical convergence: Historical archaeologists and historians on common ground. *Historical Archaeology, 41*(2), 10–20.
MacGowan, A. (1870). Chinese Christians at Honduras. In J. Doolittle (Ed.), *The Chinese recorder and missionary journal* (Vol. 3, pp. 110–111). Retrieved March 2014, from http://books.google.com
Majewski, T., & O'Brien, M. J. (1987). The use and misuse of nineteenth-century English and American ceramics in archaeological analysis. In M. B. Schiffer (Ed.), *Advances in archaeological method and theory* (Vol. 11, pp. 97–209). San Diego, CA: Academic Press.
Marx, K. (2013 [1867]). In S. More, & E. Aveling (Eds.), *Capital*. London: Wordsworth Classics of World Literature.
Masson, M. A. (2003). Laguna de On and Caye Coco: Postclassic political and economic scales of integration at two island communities in northern Belize. In G. Iannone & S. V. Connell (Eds.), *The Social implications of ancient Maya rural complexity* (pp. 119–130). Los Angeles, CA: Cotsen Institute of Archaeology.
Mathews, J., & Gust, J. (2017). Cosmopolitan living? Examining the sugar and rum industry of the Costa Escondida, Quintana Roo, Mexico. In J. P. Mathews & T. H. Guderjan (Eds.), *The value of things* (pp. 144–162). Tucson, AZ: University of Arizona Press.
Mayfield, T. (2009). *Ceramics, landscape, and colonialism: Archaeological analysis of the British settlement at Lamanai, Belize*. Master's thesis, Illinois State University Normal.
Mayfield, T. (2015). *Historical-archaeological analysis of the nineteenth-century British plantation settlement at Lamanai, Belize (1837-1868)*. Doctoral dissertation, University of Arizona, Tucson.
Mayfield, T., Graham, E., & Pendergast, D. (2018). Cane and consumerism: Nineteenth-century sugar-growing at Lamanai, Belize. In R. Alexander (Ed.), *Technology and Tradition After the Spanish Invasion*. Albuquerque, NM: University of New Mexico Press.
Menon, P. K. (1979). The Anglo-Guatemalan territorial dispute over the Colony of Belize (British Honduras). *Journal of Latin American Studies, 11*(2), 343–371.
Mihok, L. D. (2013). *Unearthing Augusta: Landscapes of Royalization on Roatan Island, Honduras*. Doctoral dissertation, Doctoral program in Anthropology, The University of South Florida.
Mihok, L. D., & Wells, E. C. (2013). Miskitu labor and English royalization at Augusta, Roatan Island, Honduras. *International Journal of Historical Archaeology, 18*, 100–121.
Mintz, S. W. (1985). *Sweetness and power*. New York: Penguin.
Mintz, S. W., & Du Bois, C. M. (2002). The anthropology of food and eating. *Annual Review of Anthropology, 31*, 99–119.
Moberg, M. (1990). Class resistance and class hegemony: From conflict to co-optation in the citrus industry of Belize. *Ethnology, 29*, 189–207.
Moberg, M. (1992). Continuity under colonial rule: The Alcalde System and the Garifuna in Belize, 1858-1969. *Ethnohistory, 39*(1), 19.

Mrozowski, S. A. (1999). Colonization and the commodification of nature. *International Journal of Historical Archaeology, 3*, 153–166.
Naylor, R. A. (1960). The British role in Central America prior to the Clayton-Bulwer Treaty of 1850. *The Hispanic American Historical Review, 40*, 361–382.
Noël Hume, I. (2001). *A guide to the artifacts of colonial America*. Philadelphia, PA: University of Pennsylvania Press.
Offen, K. H. (2000). British logwood extraction from the Mosquita: The origin of a myth. *Hispanic American Historical Review, 80*, 113–135.
Olien, M. D. (1988). After the Indian slave trade: Cross-cultural trade in the western Caribbean Rimland, 1816-1820. *Journal of Anthropological Research, 44*, 41–66.
Orser, C. E., Jr. (1994). Toward a global historical archaeology: An example from Brazil. *Historical Archaeology, 28*(1), 5–22.
Orser, C. E., Jr. (1996). Beneath the material surface of things: Commodities, artifacts, and slave plantations. In R. W. Preucel & I. Hodder (Eds.), *Contemporary archaeology in theory: A reader* (pp. 89–104). Oxford: Blackwell.
Orser, C. E., Jr. (2006). Symbolic violence and landscape pedagogy: An illustration from the Irish countryside. *Historical Archaeology, 40*(2), 28–44.
Orser, C. E., Jr. (2008). The global and the local in modern-world archaeology. In S. Gelichi & M. Librenti (Eds.), *Constructing post medieval archaeology in Italy: A new agenda* (pp. 25–44). Florence, Italy: Edizioni All'insegna de Giglio.
Orser, C. E., Jr. (2010). Twenty-first-century historical archaeology. *Journal of Archaeological Research, 18*, 111–150.
Outram, A. K. (2001). A new approach to identifying bone marrow and grease exploitation: Why the "indeterminate" fragments should not be ignored. *Journal of Archaeological Science, 28*, 401–410.
Palka, J. (1998). Lacandon Maya culture change and survival in the lowland frontier of the expanding Guatemalan and Mexican republics. In J. Cusick (Ed.), *Studies in culture contact* (pp. 457–475). Carbondale, IL: Southern Illinois University.
Palka, J. (2005). *Unconquered Lacandon Maya: Ethnohistory and archaeology of indigenous culture change*. Gainesville, FL: University Press of Florida.
Parham, G. (2017). *Ambergris Caye, Belize history*. Electronic document. Retrieved December 2017, from https://ambergriscaye.com/pages/mayan/amberhistorygeorge.html
Pauls, E. (2006). The place of space: Architecture, landscape, and social life. In M. Hall & S. W. Silliman (Eds.), *Historical archaeology* (p. 84). Boston, MA: Wiley-Blackwell.
Pavao-Zuckerman, B. (2007). Deerskins and domesticates: Creek subsistence and economic strategies in the historic period. *American Antiquity, 72*, 5–33.
Paynter, R. (2000). Historical archaeology and the Post-Columbian world of North America. *Journal of Archaeological Research, 8*, 169–217.
Pendergast, D. M. (1981). Lamanai, Belize: Summary of excavation results, 1974-1980. *Journal of Field Archaeology, 8*, 29–53.
Pendergast, D. M. (1982). The nineteenth century sugar mill at Indian Church, Belize. *Journal of Field Archaeology, 8*, 1–5.
Pendergast, D. M. (1986). Under Spanish rule: The final chapter in Lamanai's Maya history. *Belcast Journal of Belizean Affairs, 3*(1-2), 1–7.
Pendergast, D. M. (1988). The historical content of oral tradition: A case from Belize. *Journal of American Folklore, 101*, 321–324.
Pendergast, D. M. (1991). The southern Maya lowlands contact experience: The view from Lamanai, Belize. In D. H. Thomas (Ed.), *The Spanish borderlands in Pan-American perspective* (pp. 336–354). Washington, DC: Smithsonian Institution Press.
Pendergast, D. M. (1993). Worlds in collision: The Maya-Spanish encounter in sixteenth and seventeenth century Belize. In W. Bray (Ed.), *The meeting of two worlds: Europe and the Americas 1492–1650* (pp. 105–143). Oxford: Oxford University Press.

Pendergast, D. M., & Graham, E. (1991). The town beneath the town: 1991 excavations at San Pedro, Ambergris Caye, Belize. *Royal Ontario Museum Archaeological Newsletter, Series II, 45*, 8–14.

Pendergast, D., Graham, E., & Simmons, S. (2006). *Ancient Maya city of Lamanai, Belize Site history: Introduction*. Electronic document. Retrieved March 2014, from http://www.beyond-touring.com/Lamanai/lamanai_intro.htm

Reitz, E. J., & Cordier, D. (1983). Use of allometry in zooarchaeological analysis. In J. Clutton-Brock & C. Grigson (Eds.), *Animals and archaeology: 2. Shell middens, fishes, and birds* (pp. 237–252). Oxford: British Archaeological Reports.

Reitz, E. J., Quitmyer, I. R., Hale, H. S., Scudder, S. J., & Wing, E. S. (1987). Application of allometry to zooarchaeology. *American Antiquity, 52*, 304–317.

Reitz, E. J., & Wing, E. S. (2008). *Cambridge manuals in archaeology: Zooarchaeology*. New York: Cambridge University Press.

Rodriguez-Alegria, E., Neff, H., & Glascock, M. D. (2003). Indigenous ware or Spanish import? The Case of Indigena ware and approaches to power in Colonial Mexico. *Latin American Antiquity, 14*, 67–81.

Rogers, E. (1885). British Honduras: Its resources and developments. *Journal of the Manchester Geographical Society, 1*, 197–227. Retrieved March 2014, from https://books.google.com/books?id=pzQFAAAAQAAJ

Sahlins, M. D. (1965). On the ideology and composition of descent groups. *Royal Anthropological Institute of Great Britain and Ireland, 65*, 104–107.

Sahlins, M. D. (1983). Other times, other customs: The anthropology of history. *American Anthropologist, 85*, 517–544.

Sahlins, M. D. (1989). The cosmologies of capitalism: The trans-pacific sector of "The World System". *Proceedings of the British Academy, 79*, 1–51.

Sahlins, M. D. (2010). *Historical metaphors and mythical realities: Structure in the early history of the Sandwich Islands Kingdom*. Ann Arbor, MI: University of Michigan Press.

Sahlins, M. D., & E. R. Service. (1960). *Evolution and culture*. Ann Arbor, MI: University of Michigan Press.

Samford, P. (1996). Archaeology of African-American slavery and material culture. *William and Mary Quarterly, 53*, 87–114.

Shackel, P. A. (2001). Public memory and the search for power in American historical archaeology. *American Anthropologist, 103*, 655–670.

Shanmugaratnam, N. (1981). Impact of plantation economy and colonial policy on Sri Lanka peasantry. *Economic and Political Weekly, 16*, 69–80.

Shipman, P., & Rose, J. (1983). Early hominid hunting, butchering, and carcass-processing behaviors: Approaches to the fossil record. *Journal of Anthropological Archaeology, 2*(1), 57–98.

Silliman, S. (2005). Culture contact or colonialism? Challenges in the archaeology of Native North America. *American Antiquity, 70*, 55–74.

Simmons, S. E. (2007). In S. E. Simmons (Ed.), *Preliminary report of the 2007 field season at Lamanai, Belize: The Lamanai archaeological project*, submitted by the University of North Carolina Wilmington, University College London and the Lamanai Archaeological Project to the Belize Institute of Archaeology.

Simmons, S. E., Graham, E., & Pendergast, D. M. (2009). The context and significance of copper artifacts in Postclassic and Early Historic Lamanai, Belize. *Journal of Field Archaeology, 34*(1), 57–75.

Simmons, S. E., Mayfield, T., Aimers, J. J., & Stemp, W. J. (2018). The Maya of Ambergris Caye and their neighbors. In *Research reports in Belizean archaeology 2017*. Belmopan, Belize: Institute of Archaeology.

Simmons, S. E., Mayfield, T., Aimers, J. J., & Stemp, W. J. (n.d.). *Preliminary report of the 2017 archaeological investigations of the San Pedro site, Ambergris Caye, Belize*. Belmopan, Belize: Belize Institute of Archaeology.

Simpson, G. G., Roe, A., & Lewontin, R. C. (1960). *Quantitative zoology*. New York: Harcourt, Brace, and Company.

Singleton, T. A. (1995). The archaeology of slavery in North America. *Annual Review of Anthropology, 24*, 119–140.

Singleton, T. A. (2001). Slavery and spatial dialectics on Cuban coffee plantations. *World Archaeology, 33*, 98–114.

Sullivan, P. (2006). *Xuxub must die: The lost histories of a murder on the Yucatan*. Pittsburg, CA: University of Pittsburg Press.

Swayne, E. (1917). British Honduras. *Geographical Journal, 50*(3), 161–175.

Thompson, E. P. (1966). *The making of the English working class*. London/New York: Pantheon Books, Random House, Inc./Alfred A. Knope, Inc..

Thornton, E. K., & Ng-Cackler, O. (2014). Late nineteenth and early twentieth-century animal use by San Pedro Maya and British populations and Holotunich, Belize. In C. Götz & K. F. Emery (Eds.), *The Archaeology of Mesoamerican Animals* (pp. 351–380). Bristol, CT: Lockwood Press.

Trouillot, M.-R. (1995). *Silencing the past: Power and the production of history*. Boston, MA: Beacon.

Wing, E. S., & Brown, A. (1979). *Paleonutrition: Method and theory in prehistoric foodways*. New York: Academic Press.

Wolf, E. R. (1982). *Europe and the people without history*. Berkeley, CA: University of California Press.

Wallace, D. R. (1997). Central American landscapes. In A. G. Coates (Ed.), *Central America: A natural and cultural history* (pp. 72–96). New Haven, CT: Yale University Press.

Wilk, R. R., & Rathje, W. J. (1982). Household archaeology. *American Behavioral Scientist, 25*, 617–639.

Yaeger, J., Church, M. C., Dorman, J., & Leventhal, R. M. (2004). *The political situation and socio-economical conditions of the San Pedro Maya in British Honduras, 1855–1936*. Foundation for the Advancement of Mesoamerican Studies, Crystal River, Florida. Electronic document. Retrieved March 2014, from http://www.famsi.org/reports/03101/41yaeger/41yaeger.pdf