

SAVANNE SUAZEY REVISTED

By

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I dedicate this thesis to my family.

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My reanalysis of the ceramic assemblage excavated by Ripley P. Bullen from the Savanne Suazey type site on Grenada in 1962 has revealed new information about the Suazoid or Suazan Troumassoid series (A.D. 1000-1500). Bullen (1964) based his ceramic typology for the region on the data he obtained from the analysis of the individual sherds in the collection. I found patterning in both technofunctional and decorative vessel characteristics by using a vessel unit methodology to analyze the partially reconstructed vessels of the Savanne Suazey assemblage. Technofunctional characteristics with properties that affect the suitability of particular vessel types and size modes for general functions were identified and compared with experimental data. Decorations often considered diagnostic traits of the Suazoid series were found to be associated with particular vessel forms and sizes. Comparison of my results with the research of other archaeologists seems to demonstrate continuity in technological style with significant variation in decoration distributions and frequencies. The Suazoid

ceramic series may represent prehistoric Amerindian groups that maintained individual identities within an overall culture or interaction sphere.

CHAPTER 1 INTRODUCTION

The Suazoid or Suazan Troumassoid series (A.D. 1000-1500) of the Caribbean Lesser Antilles is a poorly defined ceramic series named after the Savanne Suazey site on Grenada excavated by Ripley P. Bullen in 1962. The identification of Suazoid occupations has been based almost entirely upon ceramic analyses that rely upon decorative characteristics and broad typologies. It has yet to be proven whether the Suazans were related to known ethnic groups such as Arawak and Carib-speaking Amerindian groups. Adequate explanations for questions about the Suazey culture have been hindered by the common opinion that the Suazoid culture, represented by its ceramics, is the pinnacle of the decline of indigenous Caribbean cultures in the Lesser Antilles.

I became interested in studying Suazoid ceramics as a means to investigate prehistoric, cassava-based subsistence economies in the Cirum-Caribbean. I looked through the Caribbean section of the collections stored at the Florida Museum of Natural History (FLMNH) and found many griddle sherds, indirect indicators of cassava processing. I was taking an archaeological ceramics class at the time that focused on the technofunctional analysis of ceramics and discovered the Savanne Suazey assemblage for which no vessel unit of analysis had ever been performed. After a quick perusal of the pertinent literature, what little there was, I became interested in the Suazoid culture for several reasons. The general opinion seemed to be that the relatively simple Suazey ceramics represented a general decline in Lesser Antillean material culture. Ceramics

from earlier time periods in the same region were distinctly more aesthetically pleasing to our modern sensibilities and are generally considered “better” than later Suazey ceramics. I thought what better to use a technofunctional, vessel unit of analysis than on an assemblage that lacked abundant decorative variation.

I addressed one major question about the Savanne Suazey collection; what patterns and characteristics, both technofunctional and decorative, are frequently found associated with the Suazoid ceramics from the Savanne Suazey type site? The secondary focus of my analysis is to compare these patterns with other archaeological assemblages and ethnohistoric accounts. I approach these questions through the analysis of the original type site assemblage of Savanne Suazey stored at the FLMNH in Gainesville, Florida. The utilization of a ceramic vessel unit of analysis, a method never before applied to this particular assemblage, may yield new data regarding the Suazoid culture. My intention is to provide a solid foundation for the comparison of Savanne Suazey ceramics with other archaeological assemblages in an effort to better understand the prehistory of the Caribbean.

The methodology used in this analysis was based upon the belief that archaeological ceramics, the most commonly preserved type of artifacts found in a prehistoric Caribbean context, were once functional and should be analyzed as tools (Braun 1983). Analyses focused upon decorative characteristics are informative but they describe only one characteristic of the artifacts. Decorations are often used to identify and categorize “archaeological cultures” and associate them with ethnic groups, often with the intention of strengthening inferences between archaeological material and ethnohistoric accounts. The archaeological artifact assemblage excavated from the

Savanne Suazey site exhibits few obvious stylistic “markers”; the pottery is generally plain with little decoration. This lack of decoration has made Suazoid ceramics difficult to analyze by either a sherd unit of analysis in which individual sherds are examined or a stylistic analysis in which decoration is emphasized. Certain characteristics, such as “scratching” and finger-indented rims, have been associated with Suazoid ceramics, largely as a result of the Savanne Suazey excavation. I intend to test the current standard by which Suazoid ceramics are identified and provide a useful resource for the study of Caribbean archaeology.

This thesis is organized into six chapters with appropriate maps, charts, and graphs provided throughout the text. Chapter one describes the purpose of my analysis and its value in Caribbean archaeology. Chapters two and three describe the Amerindians of the Caribbean with a focus upon ceramics, the prehistoric Lesser Antilles, and the Suazoid culture. Chapter four describes my analysis and my results. Chapter five deals with the comparison of my results with existing literature, my conclusions, and suggestions for future research.

CHAPTER 2 THE AMERINDIAN CARIBBEAN

An overview of the Amerindian people of the Caribbean is a necessary beginning to my thesis as it serves as the context for my analysis. I refrained from calling this chapter “The History of the Caribbean” because a multidisciplinary approach is necessary to adequately outline such a broad spatial and temporal scale, not just history. In fact, only a relatively small portion of the total scale of indigenous occupation in the Caribbean can be studied through written history. I use the term Amerindian to refer to the people more commonly referred to as “Indians” or “Native Americans”. I will attempt to synthesize the major sources of information regarding the Amerindian Caribbean into a useful framework from which to discuss the archaeological ceramics of the Suazoid people.

A multidisciplinary approach should be used to study the indigenous people of the Caribbean. Archaeology, ethnoarchaeology, ethnohistory, history, and many sub-disciplines such as zooarchaeology and ceramic analysis must be used to address questions about the Amerindian past of the Caribbean. Archaeological analysis plays the most important role in the investigation of Suazoid archaeological materials because they were deposited before European contact and the introduction of written records into the region.

Ceramics are focused upon in prehistoric Caribbean archaeology because they comprise the vast majority of recovered artifacts. Conducting appropriate and comprehensive studies of archaeological ceramics is a fundamental aspect of Caribbean

archaeology for several reasons. Ceramics in general are a particularly important type of artifact because they are commonly preserved in the archaeological record. In fact, traditional Caribbean archaeology could be seen as the study of archaeological ceramics due to biased preservation with over 90% of all West Indian artifacts recovered having been ceramic. However, it must be stressed that this preservation bias has created an atmosphere in which ceramics are generally considered primary diagnostic tools for identifying and classifying prehistoric cultures, a method that undoubtedly overlooks other important factors. Another important aspect of archaeological ceramics is that they are the products of entirely cultural activities, pottery is not found “naturally” but is the direct result of human behavior and decision-making.

Although a considerable amount of effort has been made to associate Suazoid material remains with Amerindian ethnic groups, no definitive association has been made. Information can be obtained from modern groups of people that have genetic and cultural connections with the Amerindian people of the Lesser Antilles known as Island Caribs. The *Garifuna* people of Central America are the ancestors of the Island Caribs of St. Vincent but their culture has changed considerably since their forced removal from the island by the British in 1797 (Cayetano 1993:16). A direct historical approach to Caribbean archaeology is problematic because modern Caribbean people have a relatively weak connection with their predecessors. Once again, multiple lines of inquiry must be combined in an effort to construct the past.

I use terminology familiar to Caribbean archaeologists throughout my thesis in an effort to provide a comparable framework for my research. Much of the terminology and typologies I use have been borrowed from Irving Rouse. Although I believe more

heterogeneity existed in the prehistoric Caribbean than Rouse's typology indicates, his influential work is useful as a framework for comparison of archaeological research.

Rouse uses the suffix –oid to refer to a *series* or culture that share a common ancestor and the suffix –an for local ceramic *styles* that were often named after sites where the artifacts were first found, such as Cedrosan Saladoid (Rouse 1992:175, 183-184). The Suazoid series has been referred to as the Suazan Troumassoid subseries by people who consider the Suazey material as a style within the Troumassoid series (Boomert 2000:245). I refer to the ceramics from the Savanne Suazey site as "Savanne Suazey" specifically because I am not convinced that it represents a "typical" series or style found throughout the Lesser Antilles. I refer to the entire series as "Suazoid."

I have provided a general outline of the Amerindian Caribbean in an effort to provide a framework for the comparison of Savanne Suazey artifacts with other archaeological assemblages. I have concentrated upon what are often considered the "diagnostic" traits and patterns of recognized archaeological ceramic series throughout the Circum-Caribbean because I wanted to compare them with my findings from the Savanne Suazey site analysis.

The Preceramic Age

The first movement or "peopling" of Amerindian peoples into the Caribbean can be traced archaeologically to Central and South America. The Casimiroid, Ortoiroid and Manicuaroid artifact series represent the Preceramic Age in the Caribbean (Petersen et al. 2004:23). The people represented by these series were probably mobile band groups that exploited a diverse range of resources. The Casimiroid people were the first people to cross into the Caribbean from the Yucatán during the Archaic Age that began about 4000 B.C. Casimiroid artifacts, identified by largely by flake-stone tools, were found only on

Cuba and Hispaniola. The Spaniards recorded the presence of aceramic, lithic-using peoples in Western Cuba called *Guanhatabeys*, possibly the descendants of the Casimiroid peoples. Ground-stone technology represents the Ortoiroid peoples (2000-400 B.C.), another aceramic group, that moved into the Caribbean from the Orinoco Delta region of South America (Rouse 1992:62).

The Early Ceramic Age

The peoples who produced the Saladoid and Barrancoid series that represent the early Ceramic Age in the Caribbean and adjacent South American coast are much better understood than the previous migrants into the Caribbean because they produced abundant and well-preserved ceramics. The Barrancoid and Corozal series were restricted to the mainland, although the former series had a significant influence on the Saladoid series. The Saladoid series was the first and most widespread ceramic series to be found in the Caribbean.

The Saladoid series (2000 B.C.-A.D. 600) from South America, named after the Saldero site in Venezuela, is divided into four subseries. The Ronquinan and Sombran subseries have been found only on the South American mainland, the Cedrosan subseries throughout much of the South American coast and Caribbean, and the Huecan on the northern islands of the Lesser Antilles up to Puerto Rico.

The producers of the Ronquinan Saladoid ceramic subseries lived in the Orinoco Valley from between 2140-620 B.C., a group identified primarily by its bell-shaped ceramic vessels, considerable decorative variation, and ceramic griddles (Rouse 1992:75-77). At around 800 B.C., the Barrancoid people from the Orinoco Valley seemed to have pushed the Ronquinan Saladoid people to the South American coast. This forced migration displaced the Ortoiroid people from the Orinoco Delta and Trinidad and seems

to have triggered the enigmatic change from the Ronquinan to the Cedrosan Saladoid subseries by at least 530 B.C. (Rouse 1992:77-78).

Cedrosan Saladoid ceramics (500 B.C.-A.D. 600), named after a site on Trinidad, are "among the finest quality and most elaborately decorated pottery in the Americas" (Keegan 2000:143). Cedrosan Saladoid ceramics are characterized by the development of a varied assemblage of pottery forms decorated with white-on-red, all-red, or polychrome painting, curvilinear and linear incision, and zone-incised crosshatched (zic) incision only found on hemispherical bowls. The painted ware seems to have developed from the previous Ronquinan Saladoid subseries but the less numerous "zic" design appears to have been copied from elsewhere, possibly Amazonia (Rouse 1992:83). The Cedrosan potters began to elaborate their ceramic forms while still in the Guiana region before they migrated into the Caribbean Islands. The Cedrosan Saladoid series has been divided into various phases and styles most of which I will not elaborate upon.

Cedrosan artifacts are considerably varied and distinctive. Ceramic hollow figurines, masks, three-pointed objects, effigy vessels, incense burners, snuff bowls, and griddles were produced in addition to more obvious and numerous utilitarian ware. Non-ceramic artifacts include lapidary, pendants of human teeth, and a variety of wood, shell, and bone objects such as axes, adzes, and celts. Many Cedrosan artifacts are similar to those of the later Taino peoples encountered by Europeans.

Some of the Cedrosan people moved from the Guiana region into the Caribbean, presumably through Trinidad, Tobago, and the Lesser Antilles. Available radiocarbon dates from Cedrosan Saladoid archaeological sites throughout the Caribbean seem to indicate that the Cedrosans may have initially bypassed most of the Windward Islands

and settled the Leeward Islands, U.S. Virgin Islands, and eastern Puerto Rico (Keegan 2000:136-138). However, Cedrosan Saladoid sites have been found on many Windward Islands, including Grenada. The Pearls series on Grenada contained an Early Cedrosan Saladoid component. The subseries has the widest geographical distribution of any in the Caribbean, extending six hundred miles along the northern coast of South America and another thousand miles northward to Hispaniola (Rouse 1992:77).

The Cedrosans seem to have settled near forests and fresh water sources close to the shore (Rouse 1992:79). Settlements were relatively large and occupied for hundreds of years (Watters 1994). The Cedrosan diet seems to have initially been quite diverse until a reduction in terrestrial animals led to the increased exploitation of marine resources through time.

The controversial Huecan Saladoid subseries has been found in the Lesser Antilles, Vieques Island, and eastern Puerto Rico seems to represent a group of people strongly related to the Cedrosan Saladoids yet somewhat different. Rouse (1992) believes the Huecans probably diverged from the Cedrosans in South America and traveled northerly through the Leeward Islands via the western chain of islands, instead of the easterly route probably taken by the “mainstream” relatives (Rouse 1995:85). Huecan ceramic assemblages are not painted and have significant number of curvilinear incised zoning and zoomorphic rim adornos, but otherwise are almost identical to the Cedrosan Saladoid subseries.

The people of the Barranoid series (800 B.C.-A.D. 500-800), also known as the Modeled and Incised tradition in Amazonia, seem to have had a significant effect on the Saladoid series. Developed in around 800 B.C., the Barranoid series replaced the

Ronquinan Saladoid subseries in the Orinoco and catalyzed the development of the Cedrosan Saladoid subseries. In the second phase of the Cedrosan Saladoid subseries (A.D. 300-500) in the Windward Islands, Barrancoid influences become evident in the form of zoned painting, curvilinear incisions, diverse modeled-incised hollow-backed anthropomorphic and zoomorphic adorns, and thicker, softer, and heavier pottery (Petersen et al. 2004:25). Cedrosan pottery has been found at Barrancoid sites in the Orinoco and Barrancoid pottery has been found on Trinidad and Tobago. The Barrancoid series was replaced by the Amazonian Polychrome tradition by A.D. 500-800, possibly by Arauquinoid people pushing into northern South America (Holdren 1998:13). Donald Lathrap (1970) suggested that Maipuran, the Arawakan language branch to which the Island Carib language belongs, might be connected with Barrancoid ceramics from Venezuela. If this is true, Maipuran may have been brought to the Lesser Antilles when Barrancoid influences become evident in Cedrosan Saladoid ceramics around A.D. 500.

The relatively homogenous and widespread Cedrosan Saladoid subseries was eventually replaced by other ceramic series in different regions of the Caribbean. The Ostionoid series (A.D. 600-1500) was developed in Puerto Rico and was spread throughout the Greater Antilles and Leeward Islands while the Troumassoid series (A.D. 600-1000) was developed in the Windward Islands of the Lesser Antilles.

The Late Ceramic Age

The Greater Antilles And Leeward Islands

The Ostionoid series was developed from the earlier Cedrosan Saladoid subseries in the Greater Antilles and the Virgin Islands by around A.D. 600-800 and was spread onto Hispaniola, Jamaica, Haiti, Cuba, and the Bahamas and the Turks and Caicos

Islands in various localized forms. The Ostionoid series is divided into the Ostionan, Meillacan, Elenan, and Chican subseries.

Changes in material culture separate the Ostionoid series from the previous Saladoid series. A supposed decline in aesthetics and craftsmanship of ceramic ware during the Late Ceramic Age began gradually during the Late Cedrosan Saladoid period and led to the abandonment of polychrome painted ware and “zic” ware in preference for monochrome pink, lilac, or red slipping. Vessel forms became simpler and the production of ritual artifacts declined, at least ones that were preserved archaeologically. Both red-slipped and plain ware became thicker and coarser through time (Keegan 2000:148). However, non-ceramic artifacts and features such as zemis and artificial ball-courts were elaborated through the Ostionoid and into the Classic Taino period.

Ostionan diet is marked by an intensification and diversification of horticultural products. The first evidence of corn cultivation has been associated with this time period.

The distribution of the Ostionan Ostionoid subseries seems to indicate that Ostionans people “invaded” Hispaniola and displaced the Casimiroids living there (Rouse 1992:96). Ostionan red-slipped vessels and thin, hard, smooth-surfaced open bowl forms with loop handles are found along proposed migration routes into southern Jamaica and eastern Cuba by A.D. 860 and A.D. 930 respectively (Rouse 1992:95-96).

The Meillacan Ostionoid series seems to have developed in the Cibao Valley on Hispaniola around A.D. 825 or earlier and spread into Cuba and Jamaica by A.D. 880 (Rouse 1992:96-97) Meillacan pottery is similar to Ostionan pottery but painting was replaced by surface roughening and rectilinear designs produced by incision, appliqué, and punctation. This change in pottery decoration may indicate an exchange between

incoming Ostionoids and indigenous Casimiroids. Scant evidence, one partial stone Casimiroid vessel from Haiti and the association of flint blades in Meillac assemblages, may indicate that interaction between the two groups could have facilitated the change in pottery.

The Meillacan Ostionoid people seem to have migrated into the Turks and Caicos Islands and the Bahamas from Hispaniola where they developed the Palmettan Ostionoid series (A.D. 1110-1560) (Keegan 1985:297-299). Palmetto pottery is “thick, crude, and mostly shell-tempered” with little decoration, probably resulting from the poor, local clay sources. Pottery decorations are similar to the Meillacan Ostionoid series.

The Elenan Ostionoid series arose from the Ostionan Ostionoid series in Puerto Rico at around A.D. 600, eventually occupying eastern Puerto Rico until A.D. 1200, the Virgin Island, and the Leeward Islands all the way to Guadeloupe in the Lesser Antilles. Population pressure resulting from an inability to expand westward from eastern Puerto Rico may have caused the Elenans to improve agriculture and develop additional maritime strategies such as deep-sea fishing (Rouse 1992:124). Pottery decoration was limited to crude, rectilinear white-on-red designs on simple pottery forms that later developed into red and smudged designs. Scratched designs and other southern influences can be identified on ceramics in Antigua. Pottery gradually became coarser and thicker with more simplified shapes and less use of paint.

The Chican Ostionoid subseries (A.D. 1200-1400 or later) developed in the Dominican Republic and spread into Haiti, Puerto Rico, St. Croix, and Cuba and influenced pottery styles in the Virgin Islands and the Leeward Islands. Curvilinear, rectilinear, and modeled incised pottery designs and head lugs are common features of

Chican pottery, but not painting other than red-slipped. The Chicans are usually considered either the direct ancestors of the Classic Tainos or the Classic Tainos themselves.

The Lesser Antilles

At around A.D. 500, pottery in the Lesser Antilles began to diverge from the Saladoid series into the Troumassoid series (A.D. 500/600-1000/1500) named after the Troumassée type site on St. Lucia. The Mamoran Troumassoid subseries (A.D. 500/600-1500) developed in the Leeward Islands and the Troumassan Troumassoid (A.D. 500/600-1000) and Suazan Troumassoid (A.D. 1000-1500) in the Windward Islands. Ceramic evidence suggests continuity with the previous Saladoid series and the change in ceramics seems to correlate temporally with the shift from the Saladoid to Ostionoid series in the Greater Antilles. However, some archaeologists believe that the Barrancoid influences evident in the Cedrosan Saladoid ceramics around A.D. 300-500 suggest that a South American people, perhaps Arawakan, induced the ceramic change indirectly through trade (Rouse 1992:85, 127). Troumassoid pottery is considered poorer and plainer than its predecessor with decorations primarily consisting of curvilinear incision lines, lugs, and red, black, and white painting. Footed griddles were developed presumably to allow the baking of cassava bread directly over a fire instead of using ceramic or lithic “dogs” to support the vessel. The use of white paint was eliminated while attachments to ceramic vessels became common. Ceramic spindle whorls most likely used for cotton processing were more commonly produced during the Troumassoid than the earlier Saladoid (Rouse 1992:129). A general shift from wetter areas to more arid ones seems to occur during this time, perhaps to facilitate cotton or salt production (Allaire 1991:8).

The Mamoran Troumassoid subseries represents a gradual simplification of pottery in the Leeward Islands from the previous Cedrosan Saladoid subseries. White-on-red painting persisted in some areas as well as curvilinear incision but linear and zig incision disappeared and handles became vestigial. Legged griddles developed in Antigua and scratched pottery made its first appearance as vessels became thicker and less well finished and less commonly decorated.

The Troumassan Troumassoid subseries is found throughout the southern Lesser Antilles. This subseries is characterized by boat and kidney-shaped, round bottomless, double, and hemispherical and inverted bell-shaped bowls, cylindrical pot stands, jars, effigy bowls, and polychrome painting with curvilinear incisions (Petersen et al. 2004:27). The “Caliviny” or “Calivinoid” pottery defined by Bullen and Bullen (1972) is included under the Troumassan Troumassoid subseries. They believed that the Santa Elena or Elanan Ostionoid subseries influenced the Caliviny style or series and the later Suazoid series (Bullen and Bullen 1975:5-7).

The Suazan Troumassoid subseries, or Suazoid series, is also found throughout the southern Lesser Antilles. Previously considered a separate ceramic series, the Suazan Troumassoid subseries has more recently been considered a style of Troumassoid ceramics particular to the Late Ceramic Age of the southern Lesser Antilles (Boomert 2000:245). Early Suazan Troumassoid ceramics (A.D. 1000-1200) are thick, coarse, and soft with scratched or scraped surface treatments, inward thickened rims, legs, pedestal or annular bases, incisions, red-slipping, modeled-incised zoomorphic head lug adornos, and unrestricted or restricted bowls and jar forms (Petersen et al. 2004:28). Originally named “Micoid” by Marshall McKusick based on his work on St. Lucia in the 1950s, late

Suazan Troumassoid ceramics (A.D. 1200-1500) are found from Tobago to Guadeloupe. Suazan Troumassoid ceramics are often considered the crudest and least finished Amerindian pottery in the Caribbean. Scratched surfaces, finger-indented rims, and legged vessels and griddles are considered typical traits of the subseries with some minority of the pottery decorated with red paint, simple line, circle or scroll incisions on rim or walls, and flat anthropomorphic head adornos (Petersen et al. 2004:29). Further discussion of the Suazoid series or Suazan Troumassoid subseries will be addressed in Chapter 3.

The Ethnohistoric Amerindians and Their Descendants

The Taino

Several Ostionoid series have been associated with the indigenous chiefdoms encountered by the Spaniards in A.D. 1492. The Meillacans are associated with the Western Tainos, the Elenans with the Eastern Tainos, and the Chicans with the Classic Tainos. Few thorough ethnohistoric accounts of the Tainos exist because they did not survive as sociopolitical entities long after their contact with the Spaniards, only until around A.D. 1525.

Ethnohistoric sources describe some aspects of the Taino material culture. These accounts not only provide insight about a virtually extinct ethnic group, they provide information about artifacts manufactured from perishable materials that were not preserved in the archaeological record. With pottery already having been discussed under the Ostionoids, I have focused upon a few categories of Taino material culture that are relevant to my analysis.

Taino subsistence technology reflected the diverse resources they exploited. The importance of cassava cultivation in these subsistence economies is supported by indirect

archaeological evidence in the form of ceramic griddles and ethnohistoric and ethnographic accounts of Circum-Caribbean ethnic groups. According to the Spaniards, the Taino used a relatively simple tool assemblage to cultivate and process cassava, sweet potatoes, maize, squash, beans, arrowroot, peppers, peanuts, tobacco, calabashes, cotton, various fruits, and many other plants (Highfield 1997:162-163; Petersen 1997:128-129). Stone axes were used to clear agricultural areas and a *coa*, or digging stick, was used to plant crops. Slash-and burn horticulture was practiced as well as more sophisticated techniques, such as *conuco* mound farming, terracing, and irrigation. Cassava was processed with a variety of basketry and made into cassava bread on clay griddles supported by round clay cylinders (Olazagasti 1997:131).

Cotton seems to have been of particular importance to the Taino for the manufacture of various products. Cotton was both cultivated and collected from the wild and weaved into items such as hammocks, nets, headbands, skirts, and ornamental bands and belts (Olazagasti 1997:135-137). Cotton may have also been an important trade item (Allaire 1991:8).

The Tainos used bows, harpoons, atlatls, textile nets, weirs, wooden traps, fishbone fish hooks, stone fishing weights, canoes and a variety of other tools to exploit animal resources such as hutias, iguanas, birds, fish, manatees, shellfish, and turtles (Olazagasti 1997:132-133; Petersen 1997:128). Some animals, such as the *aon* or small barkless dog were at least semi-domesticated (Highfield 1997:163).

The Taino material culture consisted of a wide variety of artifacts and features. Religious items included three-pointed *zemis* made from a variety of materials, idols, snuff powder, and vomiting sticks. Musical instruments included wooden drums, flutes,

maracas, rattlers and drumsticks. Villages were composed of round, wood and fiber structures with artificial earthworks and stone construction that included ball-courts and ceremonial areas. The ballgame seems to have been similar to the one played in Central America. The diverse material culture of the Tainos gives archaeologists some idea of the range of artifacts that may have been used by prehistoric Amerindians and a source from which to infer past human behavior.

The Island Caribs

The term Island Carib refers to the Amerindian groups that lived on the Windward or Eastern Islands of the Lesser Antilles at the time of European contact. The use of a single denomination to refer to an entire region is almost assuredly a simplification of the ethnic situation largely encountered by Europeans. Although Europeans knew of the existence of the Island Caribs as early as Columbus' first voyage in A.D. 1493, it was not until the mid-seventeenth century that French missionaries recorded detailed, first-hand accounts of their culture(s). Based largely upon Taino accounts from Cuba and Hispaniola that were often fanciful and contradictory, the Island Caribs were stereotyped as violent cannibals and savages that mercilessly raided their "peaceful" Taino neighbors. Queen Isabella of Spain authorized the enslavement of Caribs/cannibals in A.D. 1503, a convenient method for procuring slaves (Boucher 1992:16). The Island Caribs fiercely resisted enslavement and European colonization efforts during the sixteenth century.

Dominican Father Raymond Breton provided considerable insight into Island Carib culture on Dominica, including a detailed description of their language in his *Dictionnaire Caraibe-Français* (1665). Breton found that the Island Carib language was linguistically dimorphic with women speaking an Arawakan dialect and men a Cariban one. This

situation is not unique with the Kariña (Carib), Palikur and Lokono (Arawak), and at least one Tupian group exhibiting gender polarity in their languages (Whitehead 2002:54). Subsequent study seems to indicate that the Island Carib language is essentially an Arawakan language of the Lokono linguistic branch found in northern South America (Allaire 1996:43). The Cariban speech of the men, possibly a trade language, was strongly patterned after the Cariban language of the *Galibis* of Guiana with whom the Island Caribs frequently interacted (Allaire 1996:43). According to Breton, both the Island Caribs and mainland Cariban-speaking people referred to themselves as *Kalinago* (male) and *Kalipuna* (female) or the general name of *Kalina*. Breton also mentioned the use of a separate language spoken between the Island Caribs and the *Galibis*, possibly a trade language (Allaire 1977:41). Davis and Goodwin (1990) suggested that the Island Carib words for self-designation could be used to strengthen a mainland Arawakan connection. The debate continues as to the Arawakan or Cariban nature of the Island Carib language.

The origin of the Island Caribs is a controversial issue because it is based upon unreliable ethnohistoric accounts. The earliest and most often cited Island Carib origin tradition is the account recorded by Father Breton on Dominica in A.D. 1635-1636. The Island Caribs of Dominica reported that they descended from people that lived on the closest mainland with which they still maintained relations. Breton (1665) later recorded that the ancestors of the Island Caribs were *Galibis* from South America who left their homeland to conquer the Caribbean Islands. Jean-Baptiste Du Tertre, a priest on Guadeloupe and Martinique in the mid-seventeenth century, published an extensive account of Island Carib origins that was almost totally derived from Breton's reports. Du

Tertre (1671) mentions by name the island people defeated by the invading Caribs, the *Igneri*, and stated that the Caribs had exterminated the *Igneri* men and captured the women who “kept something of their language.” Considering the Carib-Arawak gender division in the Island Carib language, it was commonly assumed that the *Igneri* had been Arawakan, an idea that heavily influenced the archaeology of the Lesser Antilles. Louis Allaire believes there is “no truly acceptable historical evidence” for the Carib migration (Allaire 1980:239). One of the only consistent themes in these traditions is the movement of Caribs from the mainland to the Caribbean Islands. Although the oral traditions of the Island Caribs did not record when the migration or invasion occurred, it has been largely accepted that it happened in the late prehistoric period shortly before the arrival of the Spaniards. This belief is based upon ethnohistoric accounts of the depopulation of Montserrat by Caribs shortly before the arrival of Columbus, the gender-based bilingualism of the Island Carib language, and rumors that Arawak survivors still lived in the interior of Guadeloupe in the seventeenth century.

Ethnohistoric accounts provide useful descriptions of Island Carib material culture. Warfare technology consisted of the longbow and poisoned arrows, blowgun, an enigmatic hot pepper weapon, war club or *boutou*, and canoe (Allaire 1997:183). A red, vegetable pigment called *roucou* was applied to the body in designs for special occasions. Women wore woven garments below the knee in an apparent effort to cause swelling of the calf (Allaire 1996:42, 1997:179). Additional items included calabash containers, small wooden stools, cotton hammocks, and a wide range of basketry, crescent-shaped gold-copper or *guanin* ornaments called *caracoli*, greenstone pendants, and parrot feather

decorations. Island Carib houses were divided into round huts for females built around a larger rectangular mens' house (Allaire 1997:182).

Island Carib settlement and subsistence patterns indicate a broad-based horticultural subsistence economy. Settlements seem to be associated with more humid and fertile areas suitable for the cultivation of their manioc, maize, tobacco, cotton, sweet potatoes, pineapple, papaya, bananas, plantains, beans, and hot peppers in protected gardens (Allaire 1997:182; Petersen 1997:129). The “pepper pot” was a common meal that consisted of pieces of meat and fish stewed in cassava juice and hot peppers. Cassava beer was processed in large ceramic vessels. Exploited animal resources include land crabs, agouti, rice rats, birds, and iguanas, birds, fish, shellfish, manatees, and sea turtles.

Island Carib social and political organization was relatively simple. No chiefs ruled more than one village although war leaders were chosen to organize warriors from various islands and the mainland, usually to raid the Lokono Arawaks or Europeans. Evidence suggests that separate groups of Island Caribs and Galibis “confederated” in an effort to resist European expansion and diseases (Holdren 1998:2).

Island Carib trade has been described in the ethnohistoric records. Inter-island exchange for food resources was a common practice among the Island Caribs (Petersen 1997:129). The use of a trade jargon facilitated the exchange of turtles, salt bricks, pearls, and dried fish between the Island Caribs and *Galibis* (Bouton 1640:23). Allaire notes that the Island Caribs shared Grenada with the *Galibi* and Tobago was supposedly an entirely *Galibi*-inhabited island (Allaire 1977:32-33).

Ethnohistoric accounts of Island Carib pottery have been used to support and criticize arguments regarding ethnicity, origin, and archaeology. Allaire (1977) provided a thorough analysis of the documents relating to Island Carib pottery in his comparison of ethnohistoric accounts and archaeological evidence from Martinique. Descriptions include the indigenous classification of Island Carib pottery into male/ceremonial and female/utilitarian associations (Boomert 1995:25). Distinctive characteristics of Island Carib pottery include the use of very large cassava beer vessels, pointed or rounded vessel bases, smudged surface treatments, and all-over red painting with occasional black designs. Boomert does not agree with Allaire that the Island Carib vessel categories were identical to those of the Carib-speaking mainlanders, although he does agree that surface treatments and decoration are strongly associated (Boomert 1995:26-27). According to Allaire (1977) and Boomert (1995), Island Carib pottery shows no association with Tainos or the late prehistoric Suazoid pottery.

The identification of an archaeological complex that represents the ethnic Island Caribs is a major issue in the archaeology of the Lesser Antilles. Initially, the Suazoid series was thought to have represented a Carib invasion and occupation of several islands (Bullen 1964; McKusick 1960). Louis Allaire (1977) has shown that this assumption is probably incorrect. However, Allaire has supported Boomert's belief that the Cayoid series may represent the Island Caribs. Earle Kirby was the first archaeologist to discover the Cayoid series in the early 1970's on St. Vincent, the last recorded holdout of the Island Caribs (Kirby 1975:15, 17-19). Kirby attributed the pottery to "the most important [migrants] in the Antilles", Arawaks that arrived in about A.D. 700 before the Calvinoid and formed the basis for the "Tainan" culture of the Greater Antilles (Kirby

1975:17, 19). Although no Cayo sites have been excavated, Cayo ceramics have since been found on Dominica, Martinique, St. Lucia, the Grenadines, Grenada, and Tobago. Contrary to Kirby's belief that Cayoid ceramics were of prehistoric date, it is believed that the series or complex was of protohistoric date and similar to the Koriabo ceramic complex of the Guianas. Boomert now considers the Cayo complex as "the only protohistoric pottery tradition from the Windward Islands meeting all requirements needed to classify it as the Island Carib ceramic assemblage" (Boomert 1995:28). He believes that the "Savanne Plain" and Peasant Ware" ceramic types identified from St. Vincent by Bullen and Bullen (1972:148) are also Cayo (Boomert 1995:29). Boomert believes that Koriaban pottery-using people from the mainland may have introduced the Cayo ceramic complex into the Windward Islands around A.D. 1250 and gradually replaced the Suazan Troumassoid (Boomert 1986, 1995:29-31). Considering that no Cayo sites have ever been excavated, it would seem that much work is needed to support this argument.

The Black Caribs And *Garinagu*

The modern *Garinagu* of Central America has been shown to have a strong cultural and genetic connection with the Island Caribs. Descendants of shipwrecked African slaves and Island Caribs on St. Vincent, the *Garinagu* are the only group that still maintain a significant number of Island Carib or Black Carib traditions since their forced deportation to Central America by the British in A.D. 1797. Although blood type analyses have indicated only a 25% Island Carib genetic heritage, the traditions of the *Garinagu* indicate a strong cultural continuity with their island ancestors (Cayetano 1993:92). Note that the term Black Carib refers to the ancestors of the *Garinagu* that

lived on St. Vincent before the British deported them to Honduras and other parts of the Caribbean.

The modern *Garifuna* language of the Central American *Garinagu* still displays the dual nature of the Island Carib language. Comparisons between the Island Carib language recorded by Breton and the modern *Garifuna* language revealed a considerable decrease in Cariban elements through time. It has been suggested that the lack of contact with the Carib-speaking South Americans may have diminished the need to maintain the Cariban elements of the *Garifuna* language. The historic Island Caribs may have been a group of people that were becoming more “Carib” through time as part of a larger *Kalina* ethnic unit, a change that was cut short by the arrival of Europeans (Allaire 1977:44).

The *Garinagu* consider cassava an important part of their diet and traditions. Although many components of their island diet changed as a result of their removal, the *Garinagu* diet emphasizes cassava and marine resources much like the Island Caribs (Gonzalez 1988:102). The basic techniques for cultivating and processing cassava have changed relatively little with the exception of grating and baking technological improvements (Gonzalez 1988:107). *Areba* or cassava bread is an important food source and symbol of ethnic solidarity used in rituals (Cayetano 1993:173; Gonzalez 1988:107).

The material culture of the *Garinagu* has changed considerably from their Island Carib ancestors on St. Vincent. Traditional cassava-processing technology such as the wooden and stone-teethed grater and the *reguma*, a long cylindrical basketry used for grated cassava straining, and basketry sifters continue to be used today, although mechanized graters have become common. Although maritime technology has been largely replaced, the occasional dugout canoe can still be seen. Although Island Carib

pottery production has been documented, no evidence for a Black Caribs or *Garinagu* ceramic tradition exists. Clay griddles and other tools were replaced by iron ones from trade with Europeans before the Black Caribs were deported in 1797 and native pottery was most likely replaced with European wares. No archaeological assemblage type has conclusively been associated with either the Black Caribs of St. Vincent or the Central American *Garinagu*.

CHAPTER 3 THE SUAZOIDS

The Suazoid series or Suazan Troumassoid subseries (A.D. 1000-1500) represents an enigmatic group of people or peoples that lived in the Windward Islands of the Lesser Antilles in the late prehistoric and possibly early historic period. Suazoid pottery is recognized for its relatively crude manufacture and its “scratched” surface treatment and finger-indented rims. Other than their distinctive pottery, little is known about the Suazan people(s) that inhabited the Windward Islands from Tobago to Martinique. The series was initially believed to represent the invasion of Island Caribs into the Windward Islands from South America shortly before the arrival of Europeans. This hypothesis has been both challenged and supported through subsequent archaeological investigation.

Previous Archaeological Research

I have organized this chapter in a chronological order by major archaeological excavations involving Suazoid remains. I believe that it is necessary to provide an overview of Suazoid archaeology as context for my analysis. I have placed particular emphasis upon archaeological ceramics and the Savanne Suazey site on Grenada because it is the type site for the Suazoid ceramic series and the focus of my analysis.

McKusick’s Discovery

Marshall B. McKusick first identified the Micoid series, later known as the Suazoid series, in the 1950’s on Dominica and St. Lucia. McKusick (1960) conducted archaeological research on Dominica and St. Lucia in 1956 and 1957 for the purpose of studying Lesser Antillean archaeology. McKusick, a student of Rouse at Yale, hoped to

create a better typology for the Lesser Antilles from ceramic traits and make connections between the archaeological materials and the historic Island Caribs and the modern Creole Caribs. He identified three pottery “styles” named Troumassée (Troumassoid), Choc and Fannis, the latter two styles having been placed under the Micoid series named for the Micoud Beach site on St. Lucia.

The Choc type site is located on a flat field slightly above sea-level on the leeward side of St. Lucia, named after its proximity to the Choc River. Over 5,000 sherds were recovered from a shallow cultural deposit within two excavation areas, although approximately 4,051 plain body sherds were discarded and the remainder organized into 948 "pottery groups" (McKusick 1960:71, 176). Undecorated rims associated with large, wide-mouthed pots made up 80% of the assemblage, the other 20% of the rims represented decorated, shallow, hemispherical bowls. Red-painting was found on 19% of the total rim sherds (McKusick 1960:178). Decorated rims were often (93%) all-red painted, unthickened (52%), and/or incised (39%) (McKusick 1960:72). One finger-indented rim sherd was recovered 30 yards from one of the excavation areas in a test square (McKusick 1960:72). McKusick described the Choc pottery style as coarse and simple with a grit tempering, evidence of coiling, and occasional (around 6%) all-over red painting on smoothed, inward-thickened rims often associated with incision with dots (McKusick 1960:72). The 560 undecorated, coarse or brushed rims represented 60% of the total analyzed sherd groups. Seventeen lugs and handles and 42 (4% of total sherd groups) legs on unpainted bowls and tripodal griddles were recovered (McKusick 1960:73, 176). McKusick believed that the Choc style represented an intrusion from

another island because no evidence of local development was discovered, only the completely-Choc type site (McKusick 1960:116).

The Fannis ceramic style, named after a local St. Lucian man in the town of Micoud, is very similar to the Choc style with an increase in coarseness, unevenness, thickness, and weight as well as the frequency of legged vessels present. McKusick described the pottery as the “heaviest and crudest found in the Antilles” (McKusick 1960:117). Definition of the Fannis style was based on the assemblage recovered from Excavation Four at Micoud Beach, a 50 x 5 feet trench dug into a shallow archaeological deposit located in a disturbed sand dune near a historic cemetery on the windward side of St. Lucia (McKusick 1960:74-75, 88). Locals had confirmed that the sandy, near-sea level area has suffered from considerable erosion. Approximately 1,400 plain body sherds were discarded in the field and a sample of 449 rims, attachments, and miscellaneous ceramic artifacts were analyzed (McKusick 1960:90). Sherds were large and 21 partial pots, six almost complete pots, and one nearly complete griddle were recovered. Vessel types included; griddles (20%), containers (78%), and miscellaneous clay artifacts (2%) (McKusick 1960:119). Fannis paste was grit tempered and black. (McKusick 1960:117) Wall thickness ranged from 1/4" to 1" (6-25 mm) thick (McKusick 1960: 117). Red painting was found on 20% of the total analyzed rims (McKusick 1960:176). The Fannis style seemed to show considerable continuity with the Choc style with the exceptions of crude spouts, elbow-shaped legs, legged ring stands, globular pots, and finger-notched rims (McKusick 1960:116-117). Sixty-seven ceramic legs represented 15% of the total sherd sample (McKusick 1960:118). Finger-notching, absent at Choc, occurred on 35-40% of the Fannis rim sherds (McKusick 1960:118, 178).

Even though it turned out that the Creole Caribs did not originate on St. Lucia, McKusick used their modern pottery with “finger-notched” rims as evidence for the continuation of the Fannis style into the present (McKusick 1960:35-36). The author suggests an Eastern Venezuelan/Island Carib origin for the Micoid series based upon the seemingly intrusive nature of the Fannis style and Island Carib accounts of their origins in Surinam (McKusick 1960:154-158).

The Bullens and the Suazey Series

The Suazey series was named after Ripley and Adelaide Bullens' excavation of the Savanne Suazey type site on Grenada. (Figure 3-1, #3) Although McKusick had already identified the series on St. Lucia, he had failed to follow up on his research and we now refer to the Micoid series as the Suazoid (Allaire 1977:1). An amateur archaeologist on Grenada named Alister Hughes appealed to Clifford Evans of the United States National Museum for help in salvaging the Savanne Suazey site from construction. Evans contacted Ripley P. Bullen at the then Florida State Museum in Gainesville, a grant was obtained from the American Philosophical Society, and excavations were begun on Grenada in 1962. The Bullens' stratigraphically tested five sites and conducted several surface collections in which over 32,000 ceramic sherds were collected. Bullen (1964) primarily used paste characteristics to create several series of ceramics that including Pearls, Simon, Saline, Airport, Caliviny, Westerhall, and Suazey (Suazoid). Bullen (1965:237) later condensed his typology to the Pearls-Simon-Saline, Caliviny, and the prehistoric and historic Suazey series.

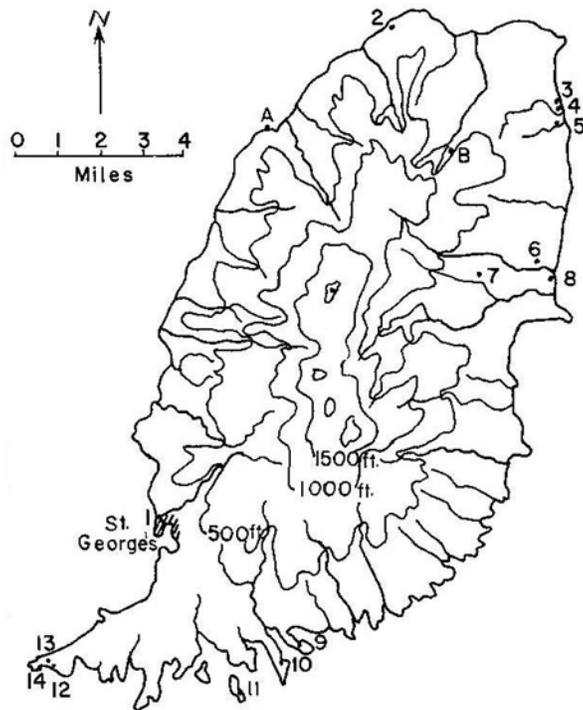


Figure 3-1. Archaeological sites on Grenada.

The Savanne Suazey site is situated on the northeast shore on the Atlantic side of Grenada (Figure 3-1 #3). Bullen identified a northern area about 40 feet above sea level separated from the ocean by a nearly vertical cliff and a southern area about 10-15 feet above sea level situated near the water. The northern and southern areas were separated by a low, grassy valley about 200 yards wide that yielded no evidence of archaeological deposits. Both the northern and southern areas suffered considerably from erosion that exposed the rock shelf beneath the clayey soil and an abundance of ceramic sherds. The lower rock shelf around the southern area contains many tidepools with abundant crabs, small fish, and whelks and the sandy beaches on either sides are the nesting areas for green and leatherback turtles (Holdren 1997:206). The River Sallee lies nearby to the south with mangroves at its mouth.

The Bullens excavated two test units in the northern area. Test A was a 5x16 feet unit and test B a 5x8 feet unit not mapped out by Bullen (1964). Both tests yielded 905 sherds at depths from between four and nine inches, indicating a relatively shallow occupation. An additional 107 sherds were collected from the eroded cliff edge. 83% of the recovered sherds were of the Suazey series, 11.6% of the Caliviny, 4.3% of the Simon, and a few Westerhall and non-designated series (Bullen 1964:7). Red-painted sherds of all types represented less than 5% of the total sherd sample, griddles represented under 12% (Bullen 1964:7). Total decoration, including painting, scratching, finger-indentation, and incision, represented under 14% of the total number of sherds from the northern area. Only two sherds were finger-indented. Bullen speculated that the sherd distribution indicated a shift from Caliviny to the Suazey series (Bullen 1964:7). The artifacts included a fragment of cut bone, a possible loom weight made of pecked rock, and a complete ceramic vessel with two “pipe stems” that most likely was a snuff bowl. Bullen noted that this complete “nostril bowl” was similar to ones found in Puerto Rico and the Dominican Republic (Bullen and Bullen 1972:29).

The Bullens excavated four, five-foot wide trenches in the southern area of the Savanne Suazey site. (Figure 3-2) Trenches A-C were excavated on the western side of a path that divided the southern area, trench D was placed on the eroded eastern point. Trench D yielded a “thicker and richer” archaeological deposit than the other trenches but I was unable to locate these artifacts, including a crescent-shaped ground stone. 1,937 sherds were recovered from all trenches with 1,231 sherds from trenches A-C, and 789 sherds from trench D. Bullen reported that 86.5% of the sherds were Suazey, 11.9%

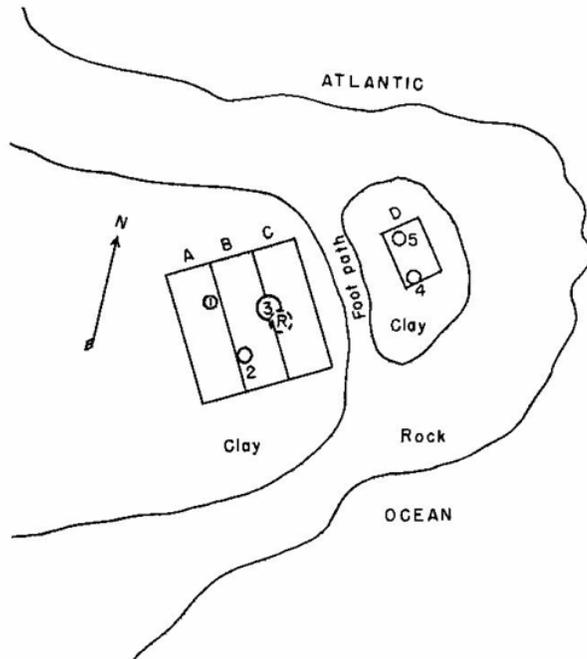


Figure 3-2. Southern area of the Savanne Suazey site.

as Caliviny, and the remaining 0.6% to the Simon and Pearls series (Bullen 1964:11-12).

Decorations were found on almost 15% of the total sherds. Red-painted sherds represented around 4% of the total sample and griddles represented almost 14% (Bullen 1964:12). The thirty-one finger-indented sherds represented less than 2% of the total.

The slightly higher percentage of Suazey sherds from the southern area was interpreted by Bullen to represent a more recent occupation than the northern area (Bullen 1964:11).

Distinctive artifacts include a ceramic agouti attachment from trench C, a crescent-shaped artifact of ground stone from trench D, a fragment of a stone celt from trench B, three “smoothing stones” from trenches A and B, numerous iron fragments from the upper level of trench A, three Spanish olive jar sherds, and many Savanne plain sherds (Bullen 1964:11). The presence of iron fragments, historic olive jar sherds, and Savanne plain sherds led Bullen to believe that the site was occupied by Amerindian people during the historic period. However, it must be noted that these artifacts were recovered from the

top six inches of the stratigraphy where a disturbance of the site would be most likely (Allaire 1977:359-361). Also, Bullen did not have radiocarbon dates run on any material recovered from the Savanne Suazey site until ten years after excavations were completed on one *Strombus gigas* shell that dated to 550 +/- 110 years b.p. (Bullen and Bullen 1972:153).

Adelaide K. Bullen analyzed the five burials that were uncovered in the southern area, one in trench A, one in trench B, one in between trenches B and C, and two in trench D. All of the poorly-preserved human remains were flexed and interred in pits dug into the sterile clay. Three stone beads were found in the “neck region” of two individuals (Bullen 1964:14-15). The presence of dental caries or cavities led the Bullens to believe that the consumption of sugar cane during the historic period may have caused the tooth decay (Bullen 1964:16-17).

The zooarchaeological remains from the site were analyzed by Elizabeth S. Wing of the then Florida State Museum, now the Florida Museum of Natural History. Eight agouti (*Dasyprocta aguti*), four opossum (*didelphis marsupialis*), one dog (*Canis familiaris*), one porcupine fish (*Diodontidae*), and 40 green turtles (*Cheloniidae*) were identified (Bullen 1964:10). A few fragments of *Strombus gigas* shells were also recovered. However, Bullen did not record the excavation techniques used to excavate the Savanne Suazey site. It is possible that smaller animal bones and artifacts such as stone grater chips were sifted through a screen too large to extract small material remains, if in fact a screen was used at all.

Bullen believed that the Suazey or Suazoid ceramic series consists of the “worst” pottery present in the Lesser Antilles (Bullen 1964:50). Bullen organized his ceramic

assemblages into series based primarily upon paste characteristics followed by decorations (Bullen 1964:37). Typical features cited by Bullen include a “contorted, not very compact, and not especially well fired” paste, very thick walls constructed by the coiling method, and an “extremely poor” surface finish of the “sloppy, easily made, artistically destitute Suazey ceramics” (Bullen 1964:51, 56). Grit tempering was clearly evident with vessel wall thickness ranged from 4-18 mm with an 8-12 mm average (Bullen 1964:51). Bullen organized his Suazey series into plain, finger indented, scratched, rim modified, and griddle vessel types (Bullen 1964:51-52). The rim modified category included what was later referred to as a “double horned handle” design similar to ones found on Puerto Rico and the Virgin Islands (Bullen and Bullen 1972:30). Although Bullen did not perform a vessel-unit analysis, he inferred vessel forms from individual sherds and he would later state that restored vessels were useful in refining the ceramic typology of the Lesser Antilles (Bullen 1964:51; Bullen and Bullen 1972:129).

Scratched sherds and finger-indented rims were of particular interest to Bullen as diagnostic traits of the Suazey series, although neither characteristic is commonly found. Scratching was defined by Bullen as “coarse striations or brush marks applied, in general, parallel to rims” as part of a finishing process often applied over scraping marks (Bullen 1964:51). Finger-indentation is exhibited by a “row of large, shallow indentions along the lips” probably made by fingers (Bullen 1964:51).

Bullen believed that scratching, finger-indentation, and several other characteristics of Suazey artifacts and sites indicated an association with the Island Caribs. Bullen was well aware that McKusick (1960) had associated both of these characteristics with the Choc and Fannis styles respectively and indirectly with the Island Caribs (Bullen

1964:56). The increase in scratched pottery through time was considered part of a gradual change from the Caliviny series to the Suazey series as invading “prehistoric Caribs” slowly took over the island (Bullen 1964:64). Having associated finger-indented rims with the upper levels of the southern area and the historic artifacts he had excavated, Bullen suggested that invading “historic Caribs” brought finger-indented pottery-using female Caribs to Grenada (Bullen 1964:12-13, 56-58). At the time, he was not aware that historic documents indicate that men made the pottery in Island Carib society. The crescent-shaped ground stone artifact from trench D was also cited as evidence of Carib occupation because Island Carib ornaments similar in description called *caracoli* were described by Europeans. Bullen also cites the historic records of the British and English of the early and mid 1600’s that record the presence of Caribs specifically in the Savanne Suazey area. Bullen believed the known distribution of Suazey ceramics in the 1960’s that included St. Lucia, St. Maartin, Grenada, and Antigua correlated well with the historically known distribution of Island Caribs (Bullen 1964:62). No South American source of scratched or finger-indented pottery has been found.

The Pearls series is the earliest ceramic series represented on Grenada. It is characterized by a fine-grained, well-mixed, compact paste that is well-fired, an excellent surface treatment that hides coiling and scrape marks, and handles, lugs, adornos, zone incised crosshatching, incision, and red, white, and black painting (Bullen 1964:39-44). Bullen believed that pre-Arawaks made Pearls pottery but today it is included in the Saladoid ceramic series.

Bullen believed that the Caliviny series represented a ceramic tradition that was probably brought to Grenada by the Arawaks (Bullen 1964:55). Named after the site on

Caliviny Island off the southern end of Grenada, Caliviny pottery was characterized by a well mixed paste, coiling manufacture, fairly thick walls, frequent red painting, infrequent red and black painting, and burnishing that covered up a “shoddy” surface treatment (Bullen 1964:48-49). Bullen associated Caliviny sherds with the lower levels of the Savanne Suazey site, although his tables indicate that this type was located more frequently at the surface and upper levels with the exception of trench D (Bullen 1964:7, 12). Even though he never discovered a “pure” Caliviny site, Bullen believed that the Caliviny series was so radically different from either the previous Pearls series (pre-Arawaks) or the following Suazey series (Caribs) that it probably represented Arawaks that arrived around A.D. 700 (Bullen 1964:62). However, Bullen suggested an alternative hypothesis in which a change in climate forced the largely agricultural Pearls people to exploit more marine resources and adopt the Caliviny ceramic series (Bullen 1964:54). The Bullens refined their ideas about the Caliviny series in subsequent publications.

The Bullens continued their research started on Grenada by conducting excavations on nearby St. Vincent and the Grenadines. Beginning in 1969, the Bullens excavated and collected from at least 19 major sites in an effort to support the typology they presented in 1964. St. Vincent seemed a likely place to find Suazey/Carib sites because the island is thought to have been the last refuge of the Island Caribs. The Grenadines form a 60-mile bridge of islands between Grenada and St. Vincent and are therefore another likely source of Suazey/Carib sites.

The Bullens’ recovered a variety of artifacts from St. Vincent and the Grenadines. Artifacts included adornos, spindle whorls, coral “manioc shredders”, *Livinia pica*

pottery scrapers, jasper chips, *Strombus gigas* tools, one large stone flake, petroglyphs, metates, and ceramics from the Saladoid, Caliviny, and Suazey series.

The Bullens collected many Suazey and Caliviny sherds from their excavations. Suazey and Caliviny sherds were often found intermixed and several assemblages, such those recovered from the Fitz-Hughs and Mt. Pleasant sites on St. Vincent, consisted entirely of these two ceramic series. The Bullens offered two general explanations for the close association of Caliviny and Suazey sherds.

The Bullens suggested that the Caliviny series might actually represent a better-made “ceremonial component” of the Suazey series and not a completely separate people (Bullen and Bullen 1972:142). They refer to this single series as the Suazey-Caliviny ceramic complex (Bullen and Bullen 1972:63).

Although the Bullens offer the idea that Caliviny sherds may actually be a component of the Suazey series, they support the belief that it actually represents an earlier and separate Arawakan people. Based largely on the belief that Caliviny sherds were generally found lower in the stratigraphy, the Bullens restated the idea that the Caliviny series was produced by an Arawakan people that are represented in Suazey/Carib pottery through holdovers in ceremonial ware (Bullen and Bullen 1972:142, 162-163).

Similarities between Caliviny ware and Ostionoid pottery from Puerto Rico also seemed to support an Arawakan connection. The Bullens believed that the smooth, plain or red-painted, burnished Caliviny pottery with distinct rims could be traced back to Puerto Rico (Bullen and Bullen 1972:161; Bullen and Bullen 1975:5). The Bullens offered three possible reasons for the “Ostionoid-Caliviny” ceramic traits; 1) a northern,

Ostionoid influence from the Greater Antilles, a hypothesis they firmly supported, 2) a southern, Ostionoid influence from the Orinoco region, and 3) a local development from a Saladoid-Barrancoid tradition independent of either northern or southern influences, an explanation they believed to be the least likely (Bullen and Bullen 1972:163-164).

The Bullens supported their claim that Caribs from Guiana introduced the Suazey series with several lines of evidence. They believed finger indented and punctuated ceramic lips from Suriname seen in 1966 provided a connection between South America and the Suazey series (Bullen and Bullen 1972:167). Based upon the Guiana origin oral traditions of some Island Caribs, connections between the Suazey series and the Island Caribs were investigated. The Bullens believed that Suazey pottery was found on high, windward coastal locations where Island Caribs had historically lived (Bullen and Bullen 1972:166). A radiocarbon date of approximately A.D. 1580 was obtained from the Caliviny-Suazey component of the Indian Bay site on St. Vincent that seems to indicate occupation into the historic period (Bullen and Bullen 1972:73). Proof of a historic occupation would support the connection between Suazey ceramics and the Island Carib ethnic group known to have occupied the Lesser Antilles during the early historic period.

Louis Allaire on Martinique

Not everyone agreed with the interpretations the Bullens had offered regarding Suazoid artifacts. William G. Haag (1965) was the first to publicly suggest that “little if any of the archaeological remains found in the Lesser Antilles may be attributed to the Caribs” and that crudely made pottery in the Lesser Antilles seems to be a “direct deterioration” of Arawak pottery. However, no serious challenge to the Bullens’ interpretation of Suazoid remains existed until the work of Louis Allaire on Martinique in 1977.

Louis Allaire set out to study the “Carib problem” of associating prehistoric archaeological remains with the historic Island Carib ethnic group. (Allaire 1977:5) He questioned the use of Island Carib historical accounts of their migration from the Guianas, the accepted migration models out of the tropical forests of South America, and the validity of associating prehistoric people with a historic or ethnographic ethnic group (Allaire 1977:6). A student of Rouse at Yale University, Allaire adopted many of his advisor’s research strategies and terminology. Both archaeologists believed that because different units are being analyzed, a prehistoric series versus a historic ethnic group, comparisons must be made only after separate investigations of archaeological and ethnohistoric evidence were completed.

Allaire analyzed the numerous European accounts regarding the Island Caribs of the Lesser Antilles. I will not attempt to discuss in detail Allaire’s exhaustive analysis of the ethnohistorical Island Carib accounts except to highlight information that may be useful in my own analysis of the Savanne Suazey site.

Allaire used ethnohistoric documentation of pottery to establish a basis for comparison between the prehistoric archaeological assemblages and the material culture of the Island Caribs (Allaire 1977:45). Although ethnohistoric accounts vary and often conflict, certain consistencies led Allaire to conclude that Island Carib or *Kalina* pottery is distinctly different than the Suazoid ceramic series (Allaire 1977:68, 355-357).

Allaire recovered over 15,000 sherds from four archaeological sites on Martinique excavated from 1971-1974 and, for perhaps the first time in Caribbean archaeology, used a vessel-unit analysis to study the functional characteristics of the pottery recovered (Allaire 1977:130). Only larger sherds and rims greater than five centimeters in length

were analyzed (Allaire 1977:130). Allaire organized each pottery characteristic into modes such as shape, surface finish, and decoration.

Allaire devotes a considerable part of his dissertation to the study of griddles. Griddles exhibit the general characteristics of having an abundantly tempered paste, smooth baking surface, and a rough exterior surface finish (Allaire 1977:234). Six griddle modes were classified according to rim shape. Griddle legs were found at all sites except one, the L'Espérance site (Allaire 1977:248). Allaire compared the ratios of pots to griddles for each site and level excavated and found that there seems to have been a trend toward a higher pot to griddle ratio later in the sequence (Allaire 1977:250-252).

Of the three post-Saladoid ceramic complexes developed by Allaire, the Macabou complex displays the most similarities with McKusick's Fannis style and Bullen's Suazey series (Allaire 1977:326-327). The other two complexes, L'Espérance and Paquemar, belong to the Troumassoid series defined by McKusick (Allaire 1977:30). Contrary to Bullen (1964), Allaire believed the Macabou complex or Suazoid should include "Caliviny" ware and archaeological assemblages and sites lacking finger-indented rims. Allaire proposed that the "Caliviny" intrusion was actually a type of pottery decoration within the Suazoid series, an idea Bullen (1972) had offered as a possibility.

Allaire believed that the Macabou site on Martinique, specifically the Macabou III level, represented what Bullen called the Suazey ceramic series. The Macabou site is located on the southern point of Paquemar Bay on Martinique, an arid area between the sea and marshes (Allaire 1977:114-115). Finger indented rims are found only at the A-Tout-Risque site (33.3% of decoration modes) and the Macabou III level of the Macabou

site (23%), the type sites for the Macabou complex. (Allaire 1977:190) Charcoal from the stratigraphically intact Macabou III level was radiocarbon dated to around A.D. 600, but it seems that the small sample size probably led to an erroneous date (Allaire 1977:319-320). A total of 87 ceramic vessels were analyzed from the Macabou III level; 35 plain vessels, 38 decorated vessels, and 14 griddles (Allaire 1977:251).

Thirty-five plain, undecorated vessels from the Macabou III level were analyzed (Allaire 1977:215-218). Temper included both fine sand and crushed shell (Allaire 1977:215). Large and medium “tronconical” vessels make up 80% of the total assemblage (Allaire 1977:215). Vessel forms derived from rim profiles consist of small cups (13%), kettles or serving dishes (34%), and large cooking or brewing vessels (53%). Orifice diameters range between 18 and 40 cm (mean 31.8 cm) and wall thicknesses from 3 to 19 mm (11.2 mm) (Allaire 1977:215). Predominant characteristics include excurved rims, rounded lips (60%), and a smoothed interior. A finely scratched surface treatment was found on 40% of the non-griddle vessels, the highest percentage for any of the excavations (Allaire 1977:215, 218). Only two ceramic legs were found (Allaire 1977:262).

Thirty-eight decorated vessels from the Macabou III level were analyzed and placed into seven classes (Allaire 1977:172-177). Decorated vessels seem to have been a finer, more varied Plain Ware with red painting (46.1%), linear painting (2.5%), areal painting (10.2%), incision (10.2%), modified rims (7.6%), and finger indentation (23%) (Allaire 1977: 173, 190). Decoration modes were exclusive of each other (Allaire 1977:189). Red-painting was found on 18 of 73 (25%) total non-griddle vessels and 21% of the total analyzed vessels. Finger-indentation was found on nine vessels, 12% of the

total non-griddle vessels or 10% of the entire assemblage. At Macabou, finger-indentation seems to have been abandoned before the contact period (Allaire 1977:362).

Allaire concluded that the Suazoid ceramic series was not made by the Island Caribs. The overall “devolution” of pottery in the Windward Islands, culminating in the Suazoid series, is not the product of invading Caribs but the end result of a long trend dating back to the Troumassoid (Allaire 1977:333-334; 1980:241-242; 1996:44). This in situ development is shown archaeologically without dependence upon the often contradictory oral traditions of the Island Caribs. No Suazoid ceramics have been discovered in South America, the supposed origin of the Island Caribs. Non-pottery Suazoid artifacts display few similarities with known Island Carib artifacts (Allaire 1977:361). Allaire did not find a strong correlation between Suazoid sites and historic Island Carib occupations, unlike Bullen (Allaire 1977:357-359; Bullen 1964:62). However, Allaire suggested that a limited, stylistic Greater Antillean influence is evident in certain Suazoid artifacts probably associated with ideology and ceremony (Allaire 1977:343; 1996: 44). Allaire questioned the comparison of “folk” pottery produced by people of African and Carib Indian descent with the Island Carib material culture (Allaire 1977:361-363).

Allaire (1991) has stated that Suazoid sites should be studied within an Amazonian ecological perspective. Considering the environmental similarities between the Caribbean Islands and lowland South America, comparable subsistence strategies within the two regions, and a distant Amazonian origin, Allaire believes that a study of the Suazoids must address issues of Amazonian adaptation (Allaire 1991:463-465). Although protein availability is a common source of discussion in Amazonian

archaeology, Allaire suggests that meat acquisition was not a problem for the Suazoids who occupied sites rich in marine resources (Allaire 1991:465). He instead focuses upon the agricultural potential of Suazoid sites.

Allaire uses his knowledge of Martinique to describe an example of an Amazonian adaptation to an arid region of a Caribbean Island. Allaire addresses the apparent shift in settlement patterns from fertile, coastal northeastern Saladoid sites to barren, coastal southeastern Troumassoid and Suazoid sites on Martinique (Allaire 1977:346-347). The shallow, clayey, marginally fertile soils at several Suazoid sites are inadequate for the cultivation of many food crops, except cassava (Allaire 1991:467-468). The arid regions may have facilitated fish and shellfish drying and smoking, the cultivation of cotton, and salt processing (Allaire 1991:468-469). All three of these products may have been exchanged in a trade network that could have included the entire Caribbean and northern South America. The settlement change may represent a shift from an agricultural subsistence economy to a maritime one, possibly caused by climatic changes, which may have led to a “regression” in pottery (Allaire 1977:347-348). Allaire does not assume that this “artistic decline” is associated with an economic decline (Allaire 1991:472).

Allaire discusses several hypotheses regarding the sudden disappearance of the Suazoid series from the archaeological record (Allaire 1977:363-367). A rapid acculturation shortly before European contact would probably have left more Suazoid “survival” traits evident in *Kalina* material culture. A recent migration of Caribs into the Windward Islands is a more plausible explanation archaeologically because it would explain the sudden disappearance of the Suazoid series. However, there is little archaeological evidence to suggest that an already fully-developed Island Carib material

culture arrived in the Windward Islands to replace the Suazoid series. Allaire critically assessed the Europeans accounts that are often used to substantiate a Carib invasion and found no truly acceptable historical evidence (Allaire 1980:239).

Peter L. Drewett on Barbados

Peter L. Drewett of the University College London has led the Barbados Archaeological Survey since its establishment in 1984. Prehistoric Barbados (1991) summarizes his findings with significant contributions from other experts. The Saladoid, Saladoid/Barrancoid, Troumassoid, and Suazoid series were identified on Barbados according to the generally accepted typology assigned to the prehistoric Lesser Antilles.

Mary Hill Harris from the University of Cambridge analyzed the majority of the archaeological ceramic recovered from Barbados. Harris conducted a sherd unit of analysis of the excavated ceramics and used the complete vessels from the Barbados Museum as referents. Categories of ceramic ware were initially divided into 18 rather narrow types based on surface treatment but were later combined and reduced in number. Although few sherds were large enough to demonstrate vessel forms, bowls seemed the most common. Harris subdivided the rare scratched ware into Type F, SS, and PS and “finger-marked” decoration into fingertip and fingernail marked categories (Drewett 1991:39, 41). Decoration was given priority in the classification of the ceramic types followed by thickness, rim types, and vessel form (Drewett 1991:85, 87, 89). The relatively homogenous fabric or paste exhibited quartz and calcareous inclusions but no distinct patterning (Drewett 1991:41, 43, 45). A total of 31,670 sherds were collected from 28 of the 64 sites identified with four sites having been excavated (Drewett 1991:39).

The sites of Chancery Lane and Silver Sands were of particular importance because they exhibited stratigraphy used to develop a ceramic chronology for Barbados (Drewett 1991:39). Both the Chancery Lane and Silver Sands sites are located on low sand dunes in natural marine inlets near marshes, the former is located in Long Bay on the southern coast and the latter 2-3 km south (Drewett 1991:17-19). A movement of people from the earlier Chancery Lane site to nearby Silver Sands due to environmental reasons was suggested (Drewett 1991:95).

Chancery Lane yielded over 6,000 sherds with good stratigraphy and several features, including two prehistoric postholes, a pit, and several burials. The ceramics from the site seem to represent a long occupation at Chancery Lane from Saladoid to Suazoid (Drewett 1991:59). An interesting “slipped-and-scratched” sherd exhibiting Caliviny Polychrome paint over scratching was recovered (Drewett 1991:39).

The Silver Sands site was excavated in 1988 and 1989 with separate analyses having been conducted by different archaeologists. Harris analyzed over 7,000 sherds from the 1988 excavation and graduate student Sandy Rogers of the University College London analyzed nearly 10,000 additional sherds in 1989. Some differences in technique and findings are evident between the two analyses (Drewett 1991:77). The Suazoid ceramics from Silver Sands, especially Trench 2 (120 cm deep), seem to correlate well with the Bullens’ definition of the series (Drewett 1991:61, 77).

The 1988 Silver Sands ceramic assemblage demonstrates a stratified development between the Troumassoid and Suazoid series. Trench 2 (6,405 sherds), Context 2 (20-60 cm) yielded the richest deposit of “classic” Suazoid sherds as it was cut through a midden (Drewett 1991:23, 61). One shell was dated to A.D. 960 +/- 80 (Drewett 1991:24).

Around 50% of the sherds were thick (≥ 15 mm) and finger-marking comprised 75% or more of the total decoration found on 4%-8% of the sherds (Drewett 1991:61).

Underlying Contexts 4 and 5 yielded a decreased amount of finger-marking (10% or less of decorated sherds) and thickness as well as an increase in Caliviny Polychrome decoration (up to 50%) with grooving evident at approximately 110-120 cm depth (Drewett 1991:61). Scratched ware is very rare at Silver Sands. Rim forms become more elaborate at higher levels. Vessel forms did not present clear patterns although excruciate bowls, often finger-marked and footed, occurred frequently at upper layers. These changes in ceramic characteristics seem to occur around the 50 cm depth in Context 2. Ceramic feet were found frequently, as much as 7.5% of all sherds in the 30-40 cm layer. Griddle sherds were found throughout the trench and all were footed except one at the 90-100 cm depth. Other noteworthy ceramics included unusually-decorated sherds, possible spindle whorls, a partial body stamp, a large incense burner, and two miniature vessels.

The 1989 excavation at Silver Sands exhibited a poorly-defined stratigraphy but a dense deposit of Suazoid pottery. Rogers performed a sherd unit of analysis on the 9,866 sherds recovered from trenches 5-11 at Silver Sands. She had “no doubt” that the pottery found at the site belonged to the Bullens’ Suazey series (Drewett 1991:67). Sherds in trenches 5-11 reached a depth of approximately 60 cm with little intra-site variation in pottery. Only 54 sherds, or 0.6% of the entire assemblage, exhibited decoration (Drewett 1991:69). Rogers suggests that the eleven striated sherds, representing 0.1% of the total sherd count, may have resulted from the brushing of a slip or paint onto the pottery which subsequently eroded during deposition (Drewett 1991:69). Rogers believed that the

striations evident on Silver Sands sherds did not appear decorative and were unlikely to be the same phenomenon described by the Bullens (Drewett 1991:73). The 21 painted sherds represented 0.2% of the entire sherd assemblage. Fingernail-decoration accounted for 64% of the decorated rim sherds, 7% of the total rim count, and only 1% of the total sherds (Drewett 1991:71, 73). Griddles were identified by flatness and thickness using C.N.C. Roach (1938c) as a guide. No evidence of footed griddles was found although 477 pot “legs” were recovered. The 1,421 samples were dominated by rounded (42%) and flattened (29%) lip forms (Drewett 1991:71). Twenty-three adornos may have been attached to effigy vessels, but little attempt was made to reconstruct them (Drewett 1991:73, 75, 77). A radiocarbon date of A.D. 1300 +/- 100 years was obtained from a human long bone from Burial 3 in Trench 6.

The analyses of the ceramic assemblages from Chancery Lane and Silver Sands yielded some patterns. Thicker sherds were found more toward the top layers. Cream slipped surfaces were more frequent in layers postdating Saladoid/Barrancoid sherds and predating finger-marking. Red slipping was found on Saladoid/Barrancoid sherds as well as Troumassoid. Although scratched ware was infrequent, it seemed to correlate with Caliviny Polychrome, not finger-marking. This evidence seems to support the hypothesis that Caliviny and Suazey ceramics were produced by the same group of people (Drewett 1991:87). The increase in sites during Suazoid times on Barbados and the increased use of calcareous tempers may indicate adaptation to formerly marginal areas infrequently used by the Saladoid (Drewett 2004:219). There was no evidence of Cayo or Cayoid pottery loosely associated with the Island Caribs. Harris suggested that the elaborately decorated archaeological material at Silver Sands, much of which included imported non-

ceramic artifacts I have not discussed, may represent a “late florescence” of the Suazoid people that was left undisturbed by migrating Island Caribs (Drewett 1991:95, 97).

Ann Cody Holdren on Grenada

A considerably different approach to late prehistoric archaeology and ethnohistory in the Lesser Antilles or Eastern Caribbean is that of Ann Cody Holdren. Holdren hypothesized that the term Island Carib or *Caraïbe* is used to represent a multi-ethnic polity that left different ceramic assemblages on each island they inhabited (Holdren 1998: xxi, xxii). She supports her argument with ethnohistoric and archaeological evidence from Grenada.

Holdren used European ethnohistoric and historic documents referring to the *Caraïbe* to suggest a greater archaeological heterogeneity in the Amerindian Eastern Caribbean than was previously believed by many archaeologists (Holdren 1998:38). Through the use of a direct historical approach and a reticulate model, Holdren suggests that historical documents indicate that the *Caraïbe* were not a single ethnic unit but a confederation of multiple ethnic groups with separate origins (Holdren 1998:32-35, 38). European accounts indicate that both *Caraïbe* and South American *Galibi* lived on Grenada, the latter group having arrived by at least the mid-seventeenth century (Holdren 1998:6, 38). The *Caraïbe* seem to be associated with the northern half of Grenada and the *Galibi* with the southern half (Holdren 1998:72). The Savanne Suazey site, designated P3 by Holdren, was loosely associated with the *Caraïbe* half of the island (Holdren 1998:73).

Holdren compared the ethnohistoric data with the archaeological evidence from Grenada in an attempt to find groups and the relationships between them and support the prediction that “multiple and varied pottery complexes will be associated with *Caraïbe*

archaeological sites” (Holdren 1998:8, 74). A multivariate ceramic vessel unit of analysis not associated with previous typologies was used to examine 766 vessels recovered in 1994 from Grenada (Holdren 1998:76). Five sites were chosen for subsurface excavation, including two “*Caraïbe*” and two “*Galibi*” sites and the Savanne Suazey type site for Suazey pottery previously excavated by Bullen in 1962 (Holdren 1998:73). Although Holdren stated that she did not emphasize particular attributes, she selected 40 vessel attributes as units of analysis (Holdren 1998:74, 76). The majority of the attributes compared were stylistic, Holdren did not include metric measurements such as vessel diameter and thickness (Holdren 1998:225). Holdren believed it would have been inappropriate to use relative percentages of vessel types because variables are not mutually exclusive, only the presence or absence of particular attributes was recorded (Holdren 1998:231-232).

Holdren recovered artifacts similar to the ones recovered by Bullen from the four units she excavated at the Savanne Suazey site (Holdren 1998:207, Figure 3-3). Unit 8.5N/21W yielded unidentified linear iron fragments, a hand-wrought nail head, abundant faunal remains, two diorite beads, and charcoal AMS dated to around A.D. 1245 (Holdren 1998:207-208). Unit 5N/17W contained iron fragments, a diorite bead blank, three unidentified worked-shell artifacts, and a posthole feature with charcoal that dated to approximately A.D. 970 (Holdren 1998:209). Unit 3.5N/19.5W contained two iron fragments and three historic ceramic sherds “composed of orange-yellow clay with very coarse quartz temper” (Holdren 1998:210). A pit burial containing two individuals was excavated in Unit 1.5S/17W and the associated charcoal was dated to about A.D. 1170 (Holdren 1998:210-212). Holdren published several historic period radiometric dates

from the “NE LOCUS” of the Savanne Suazey site but failed to discuss them in her dissertation (Holdren 1998:246). These historic dates would have helped to support

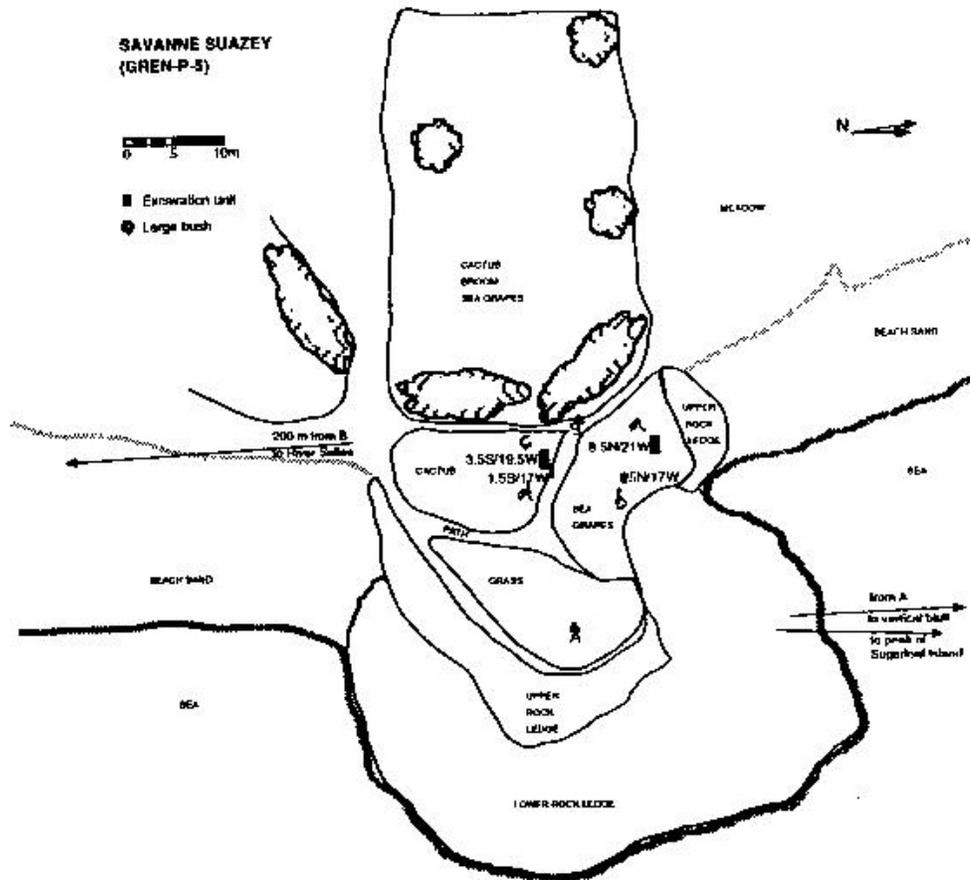


Figure 3-3. Southern area of the Savanne Suazey site.

Holdren’s hypothesis regarding the connection between Suazey pottery and historic indigenous ethnic groups.

Holdren analyzed several pottery attributes that can be compared with my own analysis. The 162 vessels recovered from the Savanne Suazey site were separated into 55 “display only vessels”, 63 “utilitarian only vessels”, and 44 plain vessels without functional indicators (Holdren 1998:108-109). Nine griddles, 6% of the total number of vessels, were identified. Only one griddle “foot” was recovered. (Holdren 1998:109, 83-84) Temper appeared to consist of local rhyolite (Holdren 1998:89). Striations were

found on 20% of the vessels and finger/fingernail-indented rims from only two vessels or 1% of the total assemblage (Holdren 1998:81-82). Little data was offered about red-slipping except that it was present on vessels from unit 5N/17W and absent from those from unit 8.5N/21W (Holdren 1998:232). Of the 98 rims excavated from the site, a mean diameter of 28.5 cm was calculated (Holdren 1998:88).

Holdren could not definitely associate the indigenous pottery from the Savanne Suazey site with either “*Caraibe*” or “*Galibi*” attributes. Depending upon the variables used, the Savanne Suazey site exhibits characteristics associated with both ethnic groups (Holdren 1998:99). Although predicated on rather unconvincing results, Holdren suggested that “at least two distinct groups resided in Grenada” (Holdren 1998:100). Holdren supports Allaire’s belief that Suazoid pottery evolved *in situ* but insists that it exhibits “*Galibi*” influence (Holdren 1998:102, 112). She suggests that the use of stylistic attributes in her analysis and the unclear results she obtained may indicate that differences between groups may not have been emphasized (Holdren 1998:112).

What Do We Know About the Suazoid?

What do we know about the people who made Suazoid pottery? Generally, they lived at coastal sites on the Windward Islands of the Lesser Antilles around A.D. 1000-1500. Suazan people ate cassava, terrestrial and marine animals, and probably a lot of foods we haven’t found preserved yet. Posthole evidence leads us to believe that they lived in round houses in villages of unknown size and orientation. In contrast to the ballcourts and built ceremonial areas of the Taino, obvious monumental construction is not evident in the Windward Islands. Suazoid material remains consist mostly of ceramics with some lithic and shell artifacts. It seems clear from the archaeological literature that the Suazoid series demonstrates considerable heterogeneity within an

overall trend of ceramic simplification from earlier times. Did these ceramic changes occur as a result of invasion(s) from South America, as Marshall B. McKusick and Ripley P. Bullen believed, or do they suggest an indigenous development from either the Troumassoid or Saladoid series?

What happened to the Suazan people? McKusick and Bullen supported the hypothesis that the indigenous people of the Windward Islands were invaded and replaced by Suazoid-making Caribs from the South American coast. Allaire rejected this version of the “Carib invasion” hypothesis based on the fact that the pottery of the Island Caribs of the 1600’s on Martinique did not resemble the archaeological Suazoid series. Louis Allaire discussed both an acculturation and a migration hypothesis to explain the sudden disappearance of the Suazoid series from the archaeological record (Allaire 1977:363-367). Peter L. Drewett suggested that, at least on Barbados, the Suazan people were left undisturbed by migrating Island Caribs but offers no explanation for their disappearance. Ann Cody Holdren promoted the idea that multiple Amerindian groups inhabited the Windward Islands contemporaneously in both the prehistoric and historic time periods. The answer may lie in the combination of acculturation and migration hypotheses. If the Arawakan-Cariban language had already been introduced in to the Lesser Antilles as a trade language, acculturation and migration from South America would have been facilitated. Prolonged contact between the Windward Islands and South America may have influenced material and ideological production through trade, conflict, and migration. The Island Caribs may have “conquered” a region and a people already familiar to them through regular contact.

CHAPTER 4 CERAMIC ANALYSIS

I predict that a vessel unit of analysis of the pottery from the Savanne Suazey site on Grenada will reveal patterns different from previous archaeological ceramic analyses in the Caribbean. The importance of this methodology will be demonstrated through the comparison of my results with other archaeological analyses, including the original sherd level of analysis performed by Ripley P. Bullen. I will briefly describe the methodology I used and report the results of my analysis.

Methodology

I have conducted a vessel unit of analysis of the ceramic assemblage excavated from the Savanne Suazey type site on Grenada in an attempt to identify patterns that would not otherwise be evident. Ripley P. Bullen (1964) performed a sherd unit of analysis on the assemblage that emphasized what he believed were Suazey “diagnostic” traits such as decorative scratching and finger-indented rims. I believe that my analysis will provide a different perspective from that of Bullen and other archaeologists that have studied Suazoid ceramics.

Why Study Whole Vessels?

A vessel unit of analysis of ceramics is a useful tool from which to infer human behavior from the archaeological record. A fundamental concept in pottery analysis is that whole pots were tools that were designed for a function or functions, whether those were cooking, serving, storage, ideological, or any number of other uses (Braun

1983:107-108). Past peoples manufactured pots with the primary intention of using them for some purpose as whole vessels.

Use of the most appropriate and comparable unit of analysis in the study of ceramics is a fundamental issue in archaeology (Skibo et al. 1989). Traditional units of analysis, sherds and “diagnostic” traits, are not easily comparable to the human behavior that created them. People did not make and interact with sherds but whole pots, at least until they were broken. The reconstruction of vessels allows archaeologists to view individual stylistic properties within the context of the entire vessel. Analyses of individual sherds are useful but cannot adequately describe characteristics associated with complete vessels, such as technofunctional properties and overall decoration.

The study of technofunctional characteristics of whole ceramic vessels can provide insight into past human behavior. Technofunctional or morphotechnological characteristics are attributes of shape and technology closely associated with the suitability of a vessel for a particular function (Rice 1987:207, 210; 1996:138). Plain pots in particular were often designed to function as utilitarian tools. The study of use-related technotechnical properties of ceramics requires the analysis of whole vessels (Rice 1996:140). The use of experimental archaeology to assess technofunctional properties of mechanical performance characteristics helps to support inferences about the past.

A vessel unit of analysis provides better data than a sherd unit of analysis. Proper refitting and sorting of ceramic vessels reduces the overestimation of the minimum number of vessels (MNV) inherent in sherd analyses (Rice 1987:291). The frequency of “redundantly recorded design elements” is also reduced where sherds from vessels that

were partially decorated would likely have been sorted as separate pots with distinctly different stylistic characteristics. (Skibo et al. 1989:388-391, 394-397). A vessel unit of analysis does not eliminate the subjectivity and uncertainty involved in interpreting archaeological ceramics, but it does reduce them substantially.

Caribbean Archaeology

Distinct stylistic attributes of archaeological ceramic artifacts have long been the focus of archaeological study in the Caribbean. Archaeologists have used culture-historical approaches to establish diagnostic traits from which to categorize assemblages into archaeological cultures. Although this perspective has been criticized for its disassociation from actual past human behavior, most Caribbean archaeologists continue to conduct ceramic sherd unit of analyses focused on stylistic traits that rely upon typologies constructed within a cultural-historical perspective. It seems that vessel unit of analyses have been avoided because they are more costly in time and effort than sherd unit of analyses and are considered unnecessary in the process of identifying archaeological cultures from diagnostic traits evident on individual sherds.

Although numerous Caribbean archaeologists have suggested the use of vessel analyses, few have actually performed them (Bullen and Bullen 1972:129; Rouse 1939:139; 157). Instead, archaeologists use the rare whole pot or unusually large sherd to extrapolate the entire range of vessel forms for ceramic assemblages. Notable exceptions are the vessel unit of analyses performed by Christopher T. Espenshade in Puerto Rico and Louis Allaire, Peter O' B. Harris, and Emily R. Lundberg in the Lesser Antilles (Allaire 1977; Espenshade 1995, 2000; Harris 1995; Lundberg 2005).

Caribbean archaeologists have long discarded or failed to collect what they considered non-diagnostic plain body sherds with little consideration for their value in

ceramic vessel reconstruction. Plain sherds are more difficult to sort than decorated ones and have often been typologically oversimplified and discarded. However, this bias disregards the existence of technological styles that represent expressions of choice when faced with more than one possibility. Technological style results from the compromise of certain vessel attributes that affect the function of the product, in this case ceramic vessels. Archaeologists need to realize that technological style can be just as important as decorative style.

The use of both vessel unit and sherd unit of analyses is probably the most appropriate course of action for archaeologists (Mills 1989:134). In comparison to a sherd unit of analysis, a vessel unit of analysis offers a wider range of data at the expense of greater time, money, and effort. Archaeologists must decide what method at what time is most appropriate to use for answering particular research questions within limitations.

Common Problems

Certain problems affect all ceramic analyses and the interpretations of the archaeological data. The complex behavior and meanings involved in ceramic production and use in the past cannot be directly observed and must be inferred through analogy. The comparisons made between the information from the static material record and the dynamic human behavior that produced it are subject to many biases and uncertainties. The difficulty involved in explaining past material variability necessitates the use of all available sources of information to construct plausible ideas from which develop our understanding of the human past.

One specific problem for any analysis of archaeological ceramics is the issue of “use-life” and deposition rate. The lifespan of any particular vessel type dramatically affects the rate of ceramic deposition and the number of vessels and sherds deposited in

the archaeological record (David and Hennig 1972:19; DeBoer 1974:335; Mills 1989:134). Ethnoarchaeological studies show that a variety of uses for specific functional groups of ceramics can affect the use-life and deposition of vessels, such as the lower “life expectancy” of serving vessels broken intentionally during feasts (DeBoer 2001:229). Factors such as the thinness or size of a vessel can affect both the rate of breakage and the number of sherds deposited in the archaeological record (Rice 1987:292-230).

The reuse of ceramic vessels after breakage is another factor that can confuse archaeological interpretations. Deal and Hagstrum (1994:127) suggest that the rare occurrence of whole vessel reconstructions may be the result of the reuse of sherds for secondary purposes. Large sherds could have been used as plates or firedogs. I have found that Savanne Suazey vessel bases are rare finds, perhaps they were reused for other purposes after breakage. It is also possible that a lack of complete vessels can result from the abandonment of a site as people discarded broken pots and brought whole ones with them (Deal and Hagstrum 1994:121).

Taphonomic processes transform material culture and often obscure patterns that represent the behavior of those people that created, interacted with, and deposited the artifacts we recover. Archaeologists must consider the role that differential preservation and other taphonomic processes have altered the condition and context of archaeological ceramics.

Pre-Reanalysis

The condition of the collection before I began my analysis was the result of unknown collection and curative procedures. I do not know if the assemblage was thoroughly washed or rewashed upon arrival at the FLMNH. Intense scrubbing could

have removed valuable use-wear evidence. Otherwise, the sherds appeared well-preserved with relatively clean breakages and little erosion. One significant problem was the overall incompleteness of the collection as compared to Bullen's inventory, a problem discussed in the results section.

I found no evidence that an archaeological vessel reconstruction was ever attempted on the Savanne Suazey ceramic assemblage stored at the FLMNH. Not one sherd had been glued to another. Sherds were organized into labeled boxes that identified them according to the ceramic typology devised by Bullen (1964), not by vessel.

Sorting and Refitting

I began my analysis by sorting and labeling the sherds according to the provenience number given by Bullen. Seven series of numbers were used to label the sherds from the collection, from 98006 to 98012. I organized these series into groups and added sequential numbers with B-72 and black ink in an effort to keep track of individual sherds.

My first attempt to perform a vessel unit of analysis on the Savanne Suazey collection was cursory to say the least. I had attempted to conduct the analysis in only one semester for Professor Kenneth Sassaman's archaeological ceramics class at the University of Florida in the spring of 2002. Even after I had limited my study to trench C, I found myself overwhelmed and I resorted to a sherd unit of analysis to expedite the work. My findings encouraged me to continue analysis of the collection for my thesis.

Sorting and refitting of the sherds took a considerable amount of time. For approximately 1.5 years, I sorted, resorted, and refitted the 1,296 sherds until I was satisfied that the collection had been thoroughly organized. Preservation was generally good with clean breaks often evident. Much of the difficulty I encountered resulted from

the low level of obvious variation within the assemblage. It was necessary to become intimately familiar with the collection to the point that I could remember individual sherds and vessels. This familiarity was one reason that I did not lump the sherds into less stringently delineated lots at the risk of splitting the assemblage into areal vessel-units. Although a certain amount of subjectivity will always be inherent in any ceramic analysis, the proper refitting of sherds by vessel unit of analysis can help to limit the bias inherent in a sherd unit of analysis. The presence of abundant fresh breaks without matching sherds has led me to believe that Bullen had discarded many sherds before his inventory was conducted. Sherds were refitted with pH-neutral glue and set in sand-filled boxes until dry. Refitted and single sherds were sorted into vessel lots and placed into numbered boxes.

Sorting was achieved through the comparison of similarities and differences in vessel characteristics. My initial attempt to organize the assemblage focused upon more distinct characteristics such as surface treatment and rim form, similar to previous studies. I soon discovered that distinct surface treatments were uncommon and I incorporated attributes such as color, thickness, and curvature. I then attempted to refit sherds but found that numerous fresh breaks were still unmatched and that further sorting would be required. After I had resorted the assemblage at least four times and included a rough paste analysis, I finished refitting the sherds with glue.

Vessel Unit Of Analysis And Measurements

Having sorted and refitted the sherds into vessel lots, I conducted appropriate measurements and recorded the data for analysis. Using the excel program from Windows 2000, I constructed 61 columns to record the data gathered from the analysis of the 242 vessels used. I have recorded but excluded historic vessels, sherds of

questionable provenience, and non-pottery artifacts from the vessel unit of analysis but will include them in my conclusions.

First, I recorded vessel characteristics and conducted measurements. Using a printed excel spreadsheet I began by recording 29 columns of data in pencil. After conducting the first simple analysis, I found that many more categories were required and I reanalyzed the assemblage.

Determining the orifice diameters and vessel profiles of the assemblage were fundamental to the vessel unit of analysis. The Savanne Suazey assemblage displayed little variability in orifice shape and it can be assumed that roughly circular orifice diameters are present with few exceptions. An orifice diameter chart was used to determine the diameter in centimeters of any rim measurable and the percent of the total rim present. To avoid using rims too small to be accurately measured, I recorded but did not include rims under 5% of the total vessel rim in the analysis. Rims used to measure orifice diameters were used to profile the vessel units. Orientation of the vessels was accomplished by placing the rim on top of a flat surface and rotating it until as little light as possible could be seen between the lip and the flat surface. A protractor was used to measure the angles at which the majority of the profiled vessels were oriented.

Vessels types were established from the orifice diameter measurements and vessel profiles. The assemblage displayed a relatively limited variety of vessel types with excurvate bowls making up the majority of profiled vessels. I have employed inferred use classifications such as “bowls” and “snuff pot” throughout my analysis in an effort to simplify my terminology and make it more easily understood by other readers. Perhaps I should have assigned arbitrary types to vessels instead of using labels infused with

subjective meaning. Vessel form was fairly easy to determine for all vessels except griddles because it was difficult to separate vessel bases from griddle sherds until several rounds of thorough sorting had been performed.

Although my original analysis was designed to study griddles and cassava processing, it proved difficult to adequately profile griddles. I have therefore adjusted my analysis to include several characteristics collected from griddles without adequate rims.

Results

The results of my vessel unit of analysis of the Savanne Suazey archaeological ceramics assemblage are organized into categories based largely upon the sequence within which the analysis was conducted. It was necessary to perform certain analyses before others, such as the measurement of orifice diameters before the categorization of size modes. I will describe only those factors important for this particular study.

Sampling and Inventory

Sampling was achieved through the use a vessel unit of analysis within a set of predetermined conditions. After deciding I would use all available artifacts from the Savanne Suazey assemblage, it became apparent that the assemblage was incomplete. Only artifacts from trenches A, B, and C from the “southern area” had been stored at the FLMNH. My units of analysis, whole vessels represented by individual sherds, were organized according to a set of criteria into a profiled subsample that was used to suggest patterning throughout the entire assemblage.

I was unable to locate a significant portion of the excavated sherds recovered from the Savanne Suazey site. Artifacts from trenches A, B, and C from the “southern area” were curated in the FLMNH but not those from trench D. The entire artifact assemblage

from the “northern area” could not be located at all. I contacted Mrs. Gene Pitt, the manager of the Grenada National Museum, in October and November of 2003 and was told that no artifacts from the 1962 Bullen excavation were kept on Grenada. Excluding Bullen’s publication (1964), I could not find any personal notes, maps, or other references to the 1962 excavation in the FLMNH. All ceramic sherds were labeled in black ink from 98006 (trench A level 0-6”) to 98012 (trench C level 6-12”).

Although the artifacts from one entire area and one trench are missing, there are presently more artifacts in the collection than were recorded by Bullen for the upper levels of trenches A and B. (Table 4-1) Four sherds from four different vessels (#49, 108, 137, and 195) were damaged during analysis and I was unable to read their labels and assign them to specific proveniences. Ceramic artifacts not included in the primary analysis included; one finger-indented sherd # 93 that was marked with an unknown provenience number (A-75), a roller stamp and an adorno without numbers, and the 65 sherds that Bullen (1964) probably referred to as "Savanne Plain" ware. I partially reconstructed the latter ceramics and had them identified as quartz-rich, historic spanish tiles and I excluded them from my analysis based on the belief they were intrusions in an otherwise intact site.

Table 4-1. Savanne Suazey Ceramic Artifact Inventories.

Inventory	Trench/Level							Unidentified	Total
	A (0-6")	A (6-12")	B (0-6")	B (6-9")	B (9-12")	C (0-6")	C (6-12")		
Bullen (1964)	408	100	181	111	27	301	104	0	1232
Keegan (1991)	386	98	262	110	27	301	105	0	1289
Donop (2005)	379	92	268	106	23	296	100	7	1271

Orifice Diameters and Profiling

Having established the sample universe for my research, I constructed a useful vessel subsample using orifice diameters of profiled vessels fulfilling the criteria

discussed in the methods section. I determined the vessel type or form for 65 of the 242 or 27% of the total number of vessels used in the analysis. Out of the total 242 vessel lots, 91 orifice diameters were recorded but only 65 measured greater than 4% of the total rim. Although all 91 rims were profiled, only these 65 vessel units were used to create vessel profiles from which most of my detailed vessel-unit analysis was conducted. Of these vessel units, 15 did not extend three centimeters from the lip toward the hypothesized base; one griddle, one plate, one incurvate bowl, and twelve excurve bowls. I included them considering the overall simplicity in vessel form exhibited by the assemblage as determined by the other 50 profiles.

Vessel form distribution showed little variation in the Savanne Suazey assemblage. The 65 profiled vessels used in the analysis are distributed by vessel form as follows; 50 (77%) excurve bowls, three (5%) griddles, five (8%) incurvate bowls, two (3%) plates, four (6%) straight bowls, and one (1%) possible snuff pot (Figure 4-1).

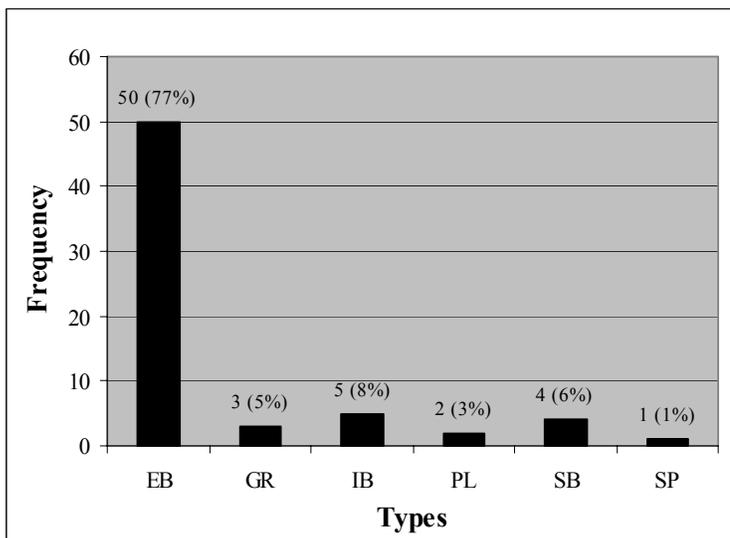


Figure 4-1. Frequency distributions of vessel types for 65 profiled vessels.

The analysis of profiled vessel orifice diameters revealed significant patterning (Table 4-2). It was possible to organize excurve bowls into size modes using the 50

orifice diameter measurements and statistical percentiles (Table 4-3). Descriptive statistics performed on each size mode indicates a “normal” distribution within each mode. Dividing the sample into thirds seemed to adequately assign size modes of small, medium, and large for the excurvate bowls in this study (Figure 4-2).

Table 4-2. Descriptive Statistics of Orifice Diameters (cm) for All Profiled Vessels.

Descriptive Statistics						
Vessels Type	Mean	Count	Minimum	Maximum	Range	Median
Excurvate bowls	27.20	50	6	44	38	27
Incurvate bowls	27.20	5	12	46	34	26
Straight bowls	26.00	4	20	38	18	23
Griddles	45.33	3	36	50	14	50
Plate	22.00	2	20	24	4	22
Snuff pot	2.00	1	2	2	0	2

Table 4-3. Descriptive Statistics of Orifice Diameter (cm) for Profiled, Excurvate Bowls.

Descriptive Statistics						
Excurvate Bowl Size	Mean	Count	Minimum	Maximum	Range	Median
Large	38.00	14	32	44	12	38
Medium	27.89	18	26	30	4	28
Small	18.11	18	6	24	18	20

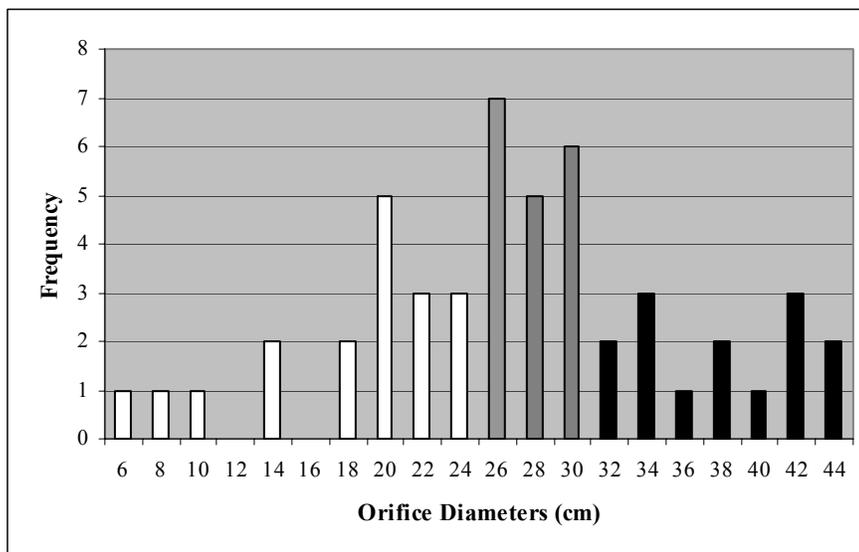


Figure 4-2. Frequency distributions of orifice diameters for 50 excurvate bowls.

I have illustrated typical excurvate bowls by size mode using profiled, partial vessels (Figure 4-3). I based the complete vessel reconstructions upon representative profiles chosen for their similarity to the mean orifice diameters and mean degree wall angles for each excurvate bowl size mode. I used the profiles from vessel numbers 25, 41, and 89. Some guesswork was necessary to complete the illustration of the large excurvate bowl because the profile lacked much of the basal portion of the vessel.

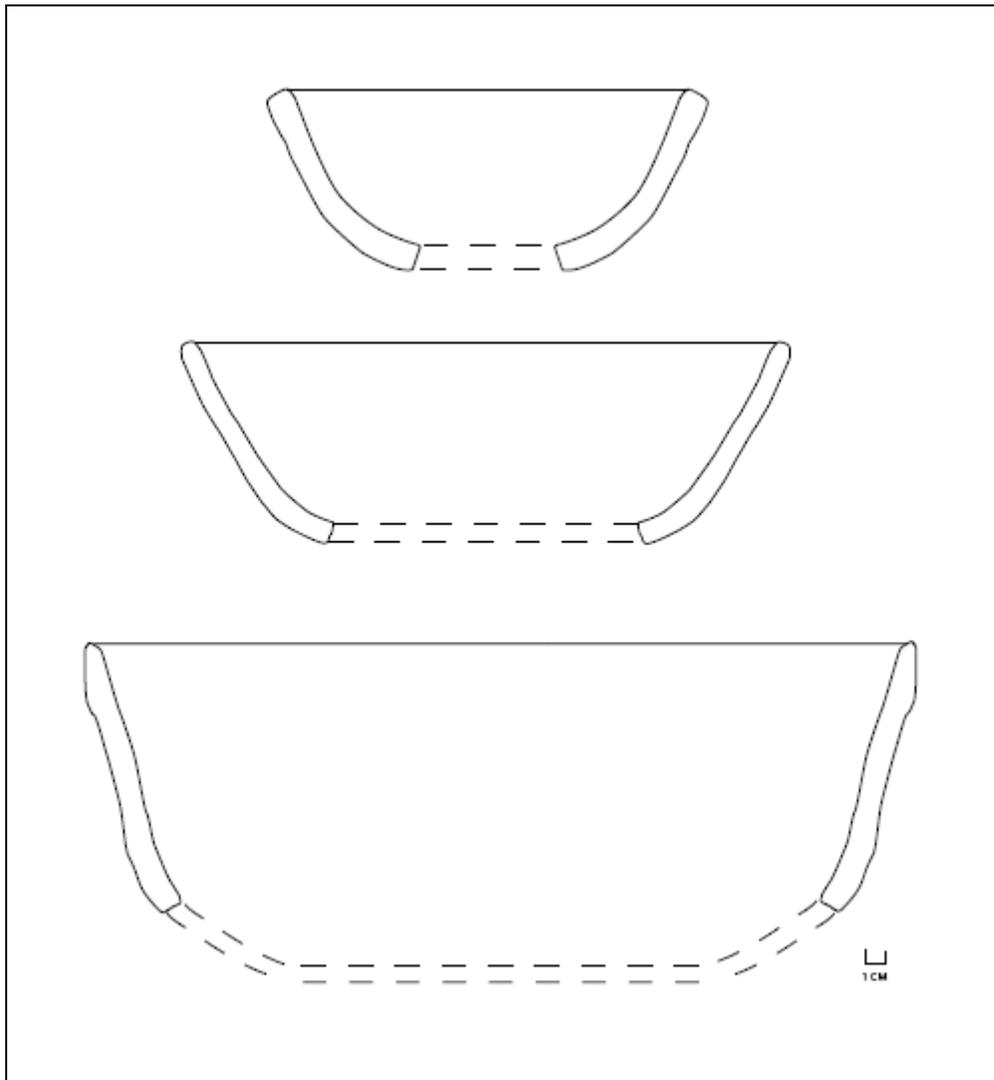


Figure 4-3. Excurvate bowl vessel reconstructions

Frequencies in griddle forming and finishing techniques, use wear, and oxidation seem to demonstrate patterning that can be used to properly orient griddles without adequate rims (Table 4-4). The three profiled griddles (vessel #3,9,12) all exhibited pressing, oxidation, and some form of use wear on the exterior bases. Two griddles had smoothed interiors or cooking surfaces, the other was too badly worn to determine finishing technique. Familiarity with the assemblage and the patterns demonstrated by the few profiled griddles led me to classify 21 total vessels as probable griddles, including the three already designated as such. I calculated the griddle to pot ratio for the entire assemblage to be approximately 1:11 with about 1:12.5 at the lower proveniences and a 1:9 ratio at the upper proveniences.

Table 4-4. Griddle Characteristics.

Characteristics	Frequency
Total Griddles	21
Pressed Exterior Base	9
Interior Smoothing	16
Pressed Exterior and Interior Smoothing	6
Interior Oxidation	7
Exterior Oxidation	18
Interior and Exterior Oxidation	6
Interior Attrition	6
Interior Cracking	3
Interior Pedestalling	2
Interior Pitting	0
Any Interior Use-Wear	9
Exterior Attrition	9
Exterior Pedestalling	7
Exterior Pitting	6
Any Exterior Use-Wear	17

Thickness

Thickness measurements for the lip, body, and base for each vessel type demonstrates some variability. The three modes of excurvate bowls demonstrate unexpected differences, such as small bowls having thicker bodies than medium bowls and thicker bases than any other mode. (Table 4-5) Measurements for incurvate and straight bowls, plates, and the snuff pot were not included in the table due to the low number of adequate samples. However, when bases for profiled and non-profiled griddles are measured and compared to excurvate bowls, a significant difference is noted. This difference may be helpful in determining whether individual sherds are from the base or body of a vessel that exhibits little curvature or diversity of form, such as those in the Savanne Suazey assemblage.

Table 4-5. Mean Thickness for Excurvate Bowls and Griddles.

Vessel Type	Mean Thickness (mm)			
	Lip	Body (3cm)	Body (6cm)	Base
All excurvate bowls	8.52	9.42	9.61	8.56
Large excurvate bowls	8.43	11.07	11.35	6.90
Medium excurvate bowls	8.15	8.35	7.02	7.16
Small excurvate bowls	8.97	9.00	10.00	10.60
Griddles				12.19

Vessel Weights

Vessel weights were determined for the most complete vessels. Although few vessels could even be roughly approximated, I have included the average weights for profiled excurvate bowls. (Table 4-6)

Table 4-6. Weights for Profiled, Excurvate Bowls.

Vessel	n	Weight (g)	Weight (lb)
Large	4	2918.2	6.4
Medium	3	1491.9	3.3
Small	4	956.9	2.1

Rim Treatment

Rim treatment was limited to finger-indentation, a “horned” modification, smoothing, and burnishing. The distribution of finger-indented rims among profiled excurvate bowls demonstrates patterning. (Figure 4-4) Nine finger-indented rims of 65 (14%) profiled vessels were found on larger profiled excurvate bowls with a mean orifice diameter of 32 cm. Nine more non-profiled vessels with finger-indented rims brought the total to 18 of 140 (13%) of the total number of rims and 7% of the total number of vessels.

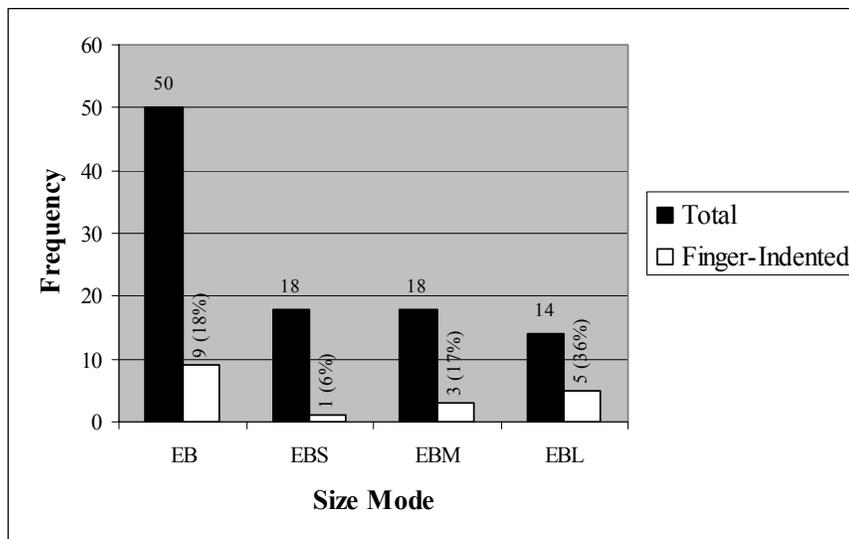


Figure 4-4. Frequency distribution of finger-indented rims for 50 profiled, excurvate bowls.

One modified or “horned” rim treatment was found on the small excurvate bowl #98.

Smoothing was found on 3 of 14 or 21% of large excurvate bowls, 6 of 18 or 33% of

medium excurvate bowls, and 8 of 18 or 44% of small excurvate bowls. Smoothed rims correlate well with smoothed interior and/or exterior body walls. The two burnished rims were part of vessels entirely burnished.

Lip Morphology

Vessel lip morphology consisted of flat, round, and tapered forms. Flat lips were found on 35% of the profiled vessels, round lips on 51%, and tapered lips on 14%. Seven finger-indented lips from profiled vessels seem to have been flattened and then indented.

Forming Techniques

Coiling and scraping are the most prominent forming techniques visible on Savanne Suazey ceramic vessels. Most vessels exhibited some evidence of the coiling method used to manufacture the vessels. Scraping is evident on 30 of 65 (46%) profiled vessels and 90 vessels or 37% of the total assemblage. However, scraping is evident on much of the profiled excurvate bowls but is totally absent on all other profiled vessels, probably due in large part to finishing techniques such as smoothing and burnishing that obscure evidence of the process. Scraping was found on 12 of 14 (86%) of large excurvate bowls, 11 of 18 (61%) of medium, and 7 of 18 (39%) of small excurvate bowls.

Finishing Techniques

Finishing techniques included smoothing, burnishing, red-slipping, scratching, and incision. I used smoothing, burnishing, and red-slipping as diagnostic of the "Caliviny" ware described by Bullen and other archaeologists. Although polychrome painting is considered a typical characteristic of the Caliviny, I could find only one possible example. All red-slipped vessels were also smoothed.

Evidence for smoothing and burnishing was the most abundant finishing techniques found on Savanne Suazey ceramic vessels. I found smoothed surfaces on 32 of 65 (49%) profiled non-griddle vessels and 95 of 177 (54%) non-profiled vessels, a total of 53% of the entire assemblage. (Figure 4-5) Burnishing was found on only three of 65 (5%) profiled vessels and nine of 242 (4%) total vessels with one medium excurvate bowl, one incurvate bowl, the snuff pot, and six other non-profiled vessels. Smoothing and burnishing did not usually totally obscure evidence of forming techniques.

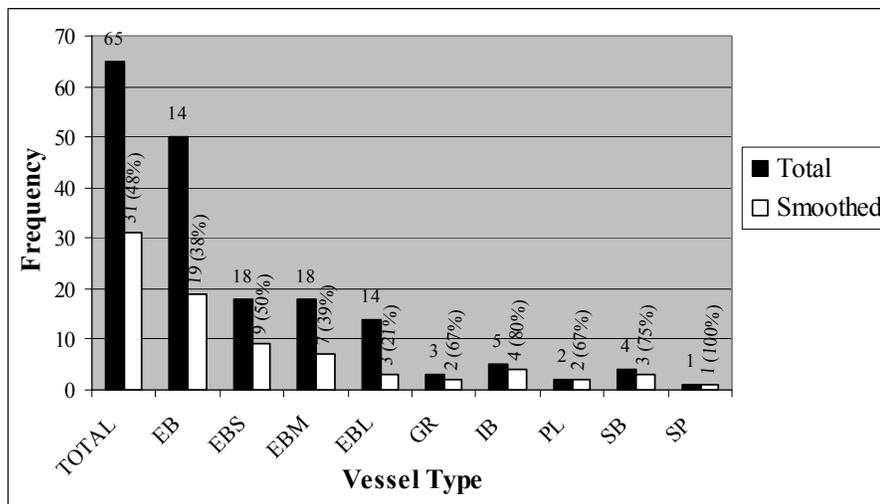


Figure 4-5. Frequency distributions of smoothing for 65 profiled vessels.

Red-slipping was found more frequently on certain types of vessels and size modes. (Figure 4-6) No evidence of red slip was found on any large excurvate bowl, griddle, plate, or the single snuff pot. Red slip was found on 9 of 65 (14%) profiled vessels and 23 of 177 (13%) non-profiled vessels for a total of 13% of the entire assemblage. The percentage of red-slipping could have theoretically been as high as 24% if all vessel surfaces had been preserved adequately. Variation in red-slipping between size modes of excurvate bowls shows some patterning. (Figure 4-7) All red-slipped vessels are also fine and smoothed or burnished, except small excurvate bowl # 221 and vessel #159.

The only possible polychrome example is vessel #172 from the upper level of trench A which exhibited cracked white or gray paint on the exterior body and base of the vessel with an otherwise all red-slipped interior, exterior, and rim.

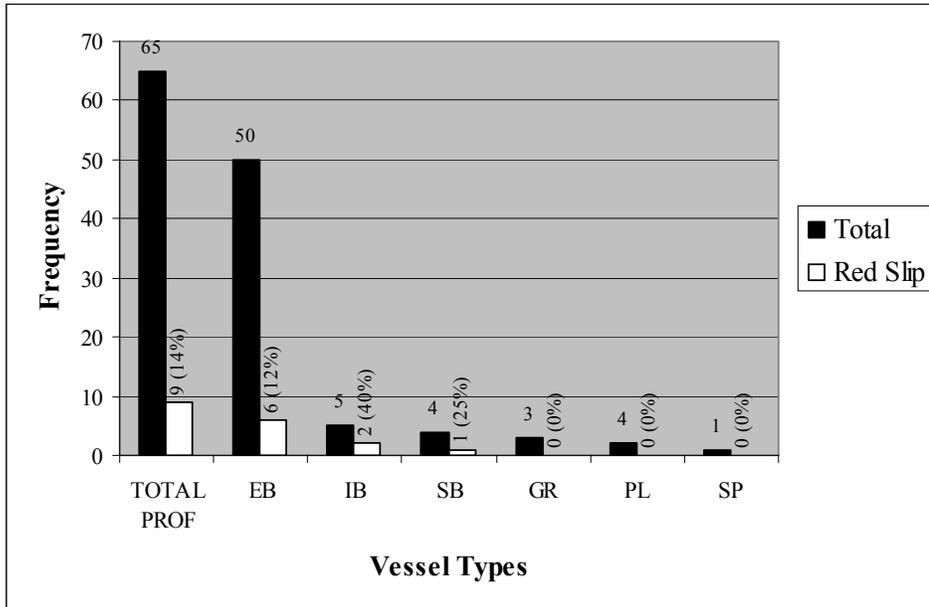


Figure 4-6. Frequency distributions of red-slipping for 65 profiled vessels.

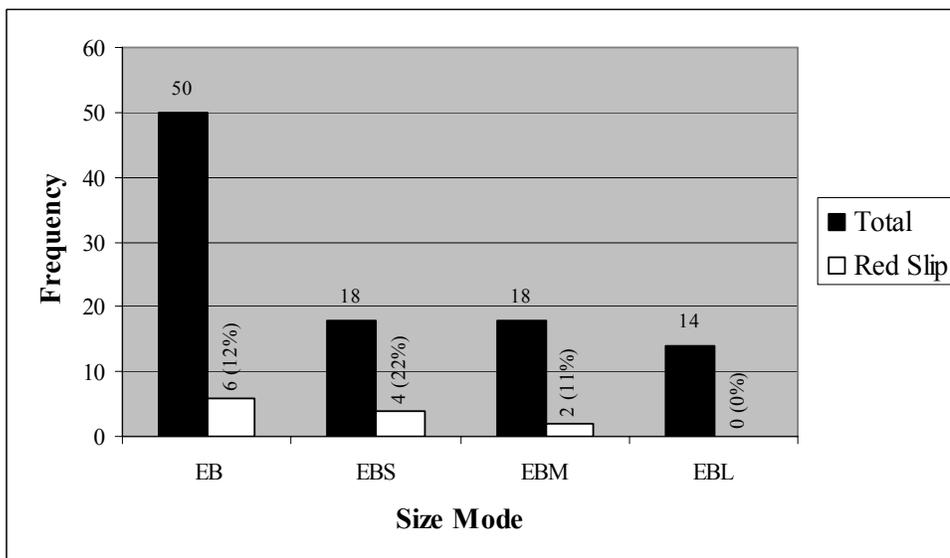


Figure 4-7. Frequency distributions of red-slipping for profiled, excrucate bowls.

Scratching and incision are two finishing techniques that are found to occur rarely in the Savanne Suazey assemblage. Scratching was not found on any profiled vessels and only seven of the 242 (3%) of the total vessels used in the analysis. Scratching was found on both the interior and exterior. Incisions were found on only two non-profiled vessels, the rim of #66 (98008) and the base of #241 (98011).

For purposes of comparison, decoration includes finger-indented rims, scratching, red-slipping, and incision. Decoration occurs on 18 of 65 (28%) of profiled vessels and 59 of 242 (24%) of the total vessels. No vessel exhibited more than one type of decoration.

Use-Wear

Use-wear evidence on profiled vessels did not demonstrate strong patterning. Large excurve bowls exhibited some interior (43%) and exterior (64%) body use-wear with exterior sooting on 2 of 14 (14%) vessels. Small excurve bowls exhibited attrition on the exterior rim (22%), use-wear on the exterior body (39%), and interior sooting (6%).

Paste and Inclusions

I microscopically accessed all 242 vessels for inclusions and paste characteristics. I found that the ceramic paste of the Savanne Suazey assemblage is relatively uniform in types and sorting of inclusions. Hydrochloric acid (HCL) testing of samples of each profiled vessel type revealed no presence of calcium carbonate (CaCO_3) inclusions. I used the presence of black mafic, clear quartz, and white volcanic or igneous inclusions in 230 of 242 or 95% of the total number of vessels to suggest the classification of a common "Savanne Suazey paste". The five profiled vessels not considered "Suazey" are one large excurve bowl #213, one medium excurve bowl #16, one small excurve

bowl #218, one incurvate bowl #185, and one straight bowl #223. I could not find patterns to explain why 5% of the total assemblage exhibited a difference in paste.

Repair Evidence

There was no evidence of repair in the assemblage. It is possible that perishable materials that were not preserved were used to glue the sherds together.

Provenience

Relative dating by arbitrary level provided a rough estimate of the chronology of the Savanne Suazey ceramic assemblage. Considering Bullen's method of excavation, I chose to group the trench proveniences into six-inch deep upper and lower levels in an effort to roughly estimate vertical provenience patterns.

I used vessel proveniences to determine the occurrence of certain characteristics relative to the overall distribution of total vessels. (Table 4-7) The majority of the assemblage was recovered from the upper level or top six inches (0-15 cm). Vessel type frequency distributions did not vary significantly from that of total profiled vessels with the exception of medium excurvate bowls, which were found more often in the lower level than other types.

Table 4-7. Proveniences.

	Levels							
	Upper		Lower		Both		Total	
All Vessel Types	n	%	n	%	n	%	n	%
Total profiled vessels	42	65	20	31	3	4	65	100
Total non-profiled vessels	128	72	34	19	15	9	177	100
Total	170	70	54	22	18	8	242	100
Finger-indention								
Total profiled vessels	4	44	1	12	4	44	9	100
Total non-profiled vessels	5	56	3	33	1	11	9	100
Total	9	50	4	22	5	28	18	100
Red-slipping								
Total profiled vessels	5	56	3	33	1	11	9	100
Total non-profiled vessels	17	74	6	26	0	0	23	100
Total	22	69	9	28	1	3	32	100
Smoothing or Burnishing								
Total profiled vessels	19	60	10	31	3	9	32	100
Total non-profiled vessels	68	78	17	20	2	2	87	100
Total	87	73	27	23	5	4	119	100

CHAPTER 5 COMPARISONS, CONCLUSIONS, AND SUGGESTIONS

The results of my vessel-unit analysis must be compared with other archaeological research to reach any plausible conclusions. My focus on technofunctional ceramic characteristics of the Savanne Suazey assemblage demands that I use experimental archaeological data to help me interpret my findings. My conclusions must then be compared with other archaeological work from the Caribbean in an effort to find similarities and differences in ceramics on a regional scale. Finally, the combined data must be used to address larger issues pertinent to the archaeology of the Caribbean, specifically the late prehistoric Lesser Antilles.

Use and Function

Experimental data can assist archaeologists in determining probable functions and specific uses for archaeological ceramics. Function refers to broad roles, activities, and capacities for ceramics while use refers to the specific way or ways ceramics were used for a particular purpose (Rice 1996a:139). I use the term “function” to indicate the suitability of a ceramic vessel for generalized tasks and “use” to refer to the specific activity a vessel was involved in.

Particular characteristics of a pot may indirectly indicate that certain vessels were more suited technofunctionally for specific tasks, but direct use-wear evidence can better indicate actual vessel use. However, the seemingly more informative use-wear can be misleading. Vessels may have been used for multiple types of activities that left different and confusing patterns of use-wear. The reuse of vessels after breakage would have

further obfuscated evidence of primary use or uses. Poor preservation of perishable use-wear evidence can further cloud the archaeological picture. This is why functional or more specifically technofunctional interpretations using experimental data should be used to enhance our understanding of archaeological ceramics. Deal and Hagstrum (1994) suggested that paste and morphological characteristics better indicate the primary use of a vessel while use-wear, breakage, and residues indicate secondary uses (Deal and Hagstrum 1994:122-123). Although experimental data cannot definitively tell us that a vessel was used for a specific purpose, it can help us to determine if a pot was suited for a particular task.

Comparison with Experimental Data

The comparison of my results with the data from experimental archaeology may help explain some of the patterns revealed in my ceramic analysis. It must be stressed that experiments do not exactly reproduce the conditions that existed when the archaeological material, in this case pottery, was produced, used, and discarded. What I suggest is that archaeologists use as many possible sources of data to help interpret what we dig up, including experimental archaeology.

The relatively simple Savanne Suazey assemblage is particularly suited for a vessel unit of analysis of technofunctional characteristics and interpretation using experimental archaeology. The majority of vessels, 77% of the profiled vessels, are morphologically simple with excurvate rims and open orifices, gradually sloping walls, and flat bases. Decorations were found to be associated with certain vessel types and size modes.

Technofunctional Characteristics

Technofunctional or morphotechnological characteristics are closely related to the suitability for a particular function such as processing, transport, and storage. (Rice

1987:207-208) The profiled vessels, the most complete and informative examples of the assemblage, can be used to estimate the shape of the entire vessel and its constituent parts. I have used experimental data to suggest the functions for specific vessel forms and the reasons they were chosen by Savanne Suazey potters. I most often refer to the more commonly found excurvate bowls.

The shape of the mouth of most of the Savanne Suazey ceramic vessels would have facilitated evaporation and the manipulation of food contents. The most common rim forms were excurvate with flat, rounded, and tapered lip forms. The open mouth of these vessels would have caused the vessel contents to evaporate more quickly than a restricted orifice (Hally 1986:279-281; Linton 1944:370). It would also have made the manipulation of vessel contents easier, suggesting either a cooking or serving function (Rice 1987:225). Ralph Linton (1944) suggested that a wide-mouth vessel would have been better suited for warming or brief cooking than prolonged direct-fire boiling.

The bodies of the Savanne Suazey vessels suggest a concern for thermal and mechanical properties. The gradually sloping walls of most of the vessels would have helped to reduce mechanically induced fracture and cracking and increased the heat absorption efficiency of the vessel (Braun 1983:118; Hally 1986:280-281). Although thickness measurements varied somewhat throughout individual vessels, the frequent presence of scraping indicates the deliberate attempt by Savanne Suazey potters to thin the walls to appropriate thickness for specific purposes. Thermal shock resistance and thermal conductivity would have been improved by thinning vessel walls to a fairly uniform thickness (Braun 1983:118-119; Rice 1987:229; Rice 1999:32). This would have made the vessel more suitable for direct-fire cooking. Conversely, the relatively

thicker walls of the small excurvate bowls would have made them susceptible to damage caused by sudden changes in temperature and would have been unsuitable for direct-fire cooking. However, thicker walls increase flexural strength and resistance to mechanical stress (Braun 1983:118; Rice 1987:227; Rice 1999:32). The thick walls of the small excurvate vessels may indicate a serving or storage function in which a resistance to mechanical, not thermal stress, was of primary concern. An improved resistance to mechanical stress is important considering that heavy use as a serving vessel would have increased the chance of mechanical impact, the most common cause of vessel failure (Bronitsky and Hamer 1986:90).

Although few bases were recovered and even fewer attached to reconstructed vessels, the predominant flat basal form seems to indicate limited thermal properties with good vessel stability. It is generally accepted that round-bottomed cooking vessels facilitate heat absorption efficiency and reduce thermal and mechanical stress associated with direct-fire cooking (Hally 1986:280; Mills 1986:10; Rice 1999:30). Flat bottoms increase the surface area exposed to direct fire and create a heat trap in which the bottom of the vessel is subjected to intense, localized heat that increases thermal stress (Schiffer and Skibo 1987: 606). Also, because sharp angles increase thermal and mechanical stress and collect moisture, the connection between a flat base and a wall is a weak point in the vessel (Braun 1983:125; Rice 1987:231). An open vessel with angular joints at the base is also less impact resistance (Schiffer and Skibo 1987:606). So why would anyone produce flat-bottomed pots? One advantage is that a vessel with a flat base is more stable and does not require firedogs or other supports to be positioned upright (Hally 1986: 279). Considering the thermal and mechanical disadvantages associated with flat bases,

the larger Savanne Suazey excurvate vessels seem ill-suited for direct-fire cooking. However, the thinness of the bases also would have helped to offset some of the disadvantages by increasing thermal conductivity. Prolonged simmering (85°-88°C) instead of boiling (100°C or higher) would expose the vessel to lower temperatures that could be controlled through a variety of methods. In fact, simmering would have preserved the nutrients, facilitated processing of small animals and plants, and thickened starchy root byproducts into a usable gel (Reid 1989:169-170; Rice 1999:32-33). Seafoods can be cooked at low temperatures and some manioc could have been simmered or boiled instead of baked on a griddle.

Inclusions and Temper

I could not identify specific patterns in paste characteristics of the Savanne Suazey ceramic assemblage but I can offer general explanations for tempering as explained by experimental archaeology. Temper is the deliberate addition of inclusions into the clay paste in an effort to enhance certain characteristics of the vessel before and after firing. Temper can be used to control plasticity and workability, porosity, drying time, shrinkage, cracking, and the flexural strength of dried vessels before firing (Arnold 1985:211; Braun 1983:122-124). Specific factors such as grain size and the clay-to-temper ratio also significantly affect unfired pottery. After firing, temper affects the thermal and mechanical properties of the vessel (Braun 1983:122-123). The choice to use specific types of temper usually involves availability and a compromise between desirable and undesirable properties that affect the vessel in different ways.

The Savanne Suazey assemblage demonstrated little variation in inclusion or temper type, size, roundness, or sorting. I found that a medium-grain, angular, sand with

fair sorting and frequent large angular inclusions was most common. It is possible that a significant amount of the sand inclusions were natural although the abundant amount of angular mineral grains suggests intentional tempering.

Sand tempering affects the drying time, strength, and workability of a ceramic vessel before it is fired. Sand temper decreases the drying time of a vessel and reduces the chance that it will be accidentally broken before firing (Schiffer and Skibo 1987:603; Skibo et al. 1989:134). However, mineral tempers weaken unfired vessels and make them more difficult to handle (Schiffer and Skibo 1987:604).

Sand temper has significant effects on thermal and mechanical properties of a ceramic vessel during and after firing. Sand temper increases the porosity and permeability of a vessel and reduces spalling damage by allowing expanding water vapor to escape more easily during firing. At least one experiment concluded that the amount of temper did not significantly affect weight loss due to water vapor during firing (Bronitsky and Hamer 1986:95; Rye 1976:117). Sand temper also increases the heating effectiveness and impact resistance of a fired vessel (Schiffer and Skibo 1987:605-606; Skibo et al. 1989:131). The grain size of a sand temper is an important consideration because smaller grains increase flexural strength and resistance to crack initiation, thermal shock, and impact but decrease resistance to crack propagation (Braun 1983:122-123; Bronitsky and Hamer 1986:95). However, large voids or irregular inclusions or temper help to limit the extent that cracks spread once they have begun (Bronitsky and Hamer 1986:97). The finer sand temper with frequent large inclusions found in Savanne Suazey ceramics may demonstrate an attempt by indigenous potters to combine the benefits of both smaller and larger grained sand tempers. Considering that the sand

temper used by Savanne Suazey potters was probably from the nearby beach, expediency was probably a factor in the choice of this particular temper.

Surface Treatments

Surface treatments have significant effects on the performance of ceramic vessels. Although Savanne Suazey ceramics exhibited a limited range of surface treatments, each one has specific properties.

Although it is often interpreted as a lack of concern for the overall finish of utilitarian vessel types, unfinished scraping could also represent a means to improve vessel performance (Rice 1987:138). Only excurvate bowls, particularly larger ones, exhibited scraping. The roughened surface may have been easier to grip and the increased surface area may have facilitated drying (Rice 1999:30; Schiffer et al. 1994:209). Scraping, a type of texturing or roughening, may have had a considerable effect on thermal properties. Several archaeologists suggest that surface texturing may increase thermal shock resistance as a result of increased permeability and reduced crack propagation and interior tensile stress (Rice 1996:141, 148; Rice 1999:30; Sassaman and Rudolphi 2001:413; Schiffer et al. 1994:202, 204, 207, 209-210). Heating effectiveness may or may not be improved by scraping (Hally 1986:280; Rice 1996a:141; Rice 1999:30; Schiffer et al. 1994:204). The increased surface area seems to have inhibited spalling by allowing steam to escape more readily and may also have improved the fuel-efficiency of initial firing large pots by allowing heat to penetrate the vessel more easily and uniformly (Schiffer et al. 1994:208, 210). The scraping evident on larger excurvate bowls in the Savanne Suazey assemblage may indicate an attempt to increase the chance of successful firing and enhance the thermal shock resistance for vessels used in direct-fire cooking.

Scratching or shallow texturing would have provided similar benefits as scraping. However, I found that scratching was often performed over scraping and would have been unnecessary from a technofunctional point of view.

Smoothing and burnishing diminish the permeability of a ceramic vessel. A decreased permeability, especially on the interior of a vessel, reduces heat absorption and increases the likelihood of spalling (Rice 1996:141, 148; Rye 1976:205). Burnishing further decreases permeability and accentuates the thermal stress and damage caused by intense direct-fire cooking. A smoothed or burnished ceramic vessel with a low surface permeability would be desirable as containers for liquids and would have made cleaning easier.

Attachments

Few ceramic vessel attachments were identified from the Savanne Suazey assemblage. Only one agouti adorno, one anthropomorphic head adorno, and one “double-horned handle” were recovered. The lack of legs and handles may indicate the reliance upon flat vessel bases and non-ceramic tools for vessel stability and manipulation. Considering the role of attachments in transferring vessels, Savanne Suazey pottery was probably not designed for frequent movement (Rice 1987:226)

Use-Wear

It was difficult to identify patterns in use-wear evidence. Direct evidence of cooking, such as sooting and carbonized food remains, was very rarely preserved. Although I found oxidation to be common, I could not differentiate between oxidation from use and oxidation from initial firing. Considering the overall good preservation of the ceramics, it is difficult to explain why so little evidence of use-wear was found. It is possible that multiple uses and reuses of the vessels obscured primary use-wear evidence

and confused the overall patterning (Deal and Hagstrum 1994:122-123). In addition, it is possible that sooting on the sherds was removed if the artifacts were thoroughly washed or scrubbed before curation in the 1960s.

The few examples of sooting on profiled vessels hint at the possible function for certain vessel types and size modes. I found that only 2 of 14 (14%) large excurve bowls exhibited sooting on the exterior body. This suggests that these vessels were used in direct-fire cooking. Only one small excurve bowl exhibited sooting, and this was found on the interior of the vessel. This could mean that this vessel was used to contain some sort of burnt material.

Combining Vessel Characteristics

Studying the combination of the technofunctional characteristics of the constituent parts of a ceramic vessel is the most important aspect of using experimental archaeological data to interpret findings from a vessel-unit analysis. A vessel with a flat base or exterior decoration does not limit it to indirect fire use. Many ethnographic examples describe the use of pottery with seemingly poor individual technofunctional attributes having been used in ways not predicted by experimental findings. What does the combination of technofunctional characteristics for particular vessel types and modes of Savanne Suazey pottery indicate?

Excurve bowls seem to have been designed for different functions according to size modes. My suggestions regarding possible functions are based on the study of the combinations of vessel characteristics and their technofunctional properties.

Large excurve bowls were found to have been suited for low-level, direct-fire cooking or simmering. The open or unrestricted mouths would have facilitated easy manipulation of food contents but would have increased the rate of water vapor

evaporation. This orifice design would not have allowed for intense direct-fire boiling of liquid food contents for a sustained period of time without boiling dry. However, activities such as salt processing that rely upon boiling off water to produce a solid product would have been made easier. I found that the gradually sloping bodies of the profiled, large excurve bowls had been deliberately scraped to thin and form the walls to presumably appropriate thicknesses for certain functions. Thinner, fairly uniform walls would have improved thermal shock resistance and thermal conductivity while the gradual slope of the walls reduced mechanically induced damage and improved heat absorption efficiency. The high incidence of unfinished scraping also points to a concern for thermal properties, especially an increased thermal shock resistance, and possibly gripability. However, the flat bases of Savanne Suazey pottery seem to indicate that intense direct-fire cooking was not the primary function of these vessels. Flat bases increase thermal stress and create angular weak points where the bottom meets the walls. Flat-bottomed vessels are more stable and do not require supports, in fact, no ceramic firedogs, stands, or legs were recovered from the Savanne Suazey site. Use of a local sand temper would have facilitated drying of the unfired vessel and promote useful thermal and mechanical properties. Large, excurve bowls exhibit a compromise between good thermal and mechanical properties and easy use. The scraping and flat bases would have made carrying and positioning of the vessels easier. Perhaps these vessels were used for the simmering of maritime resources that did not require prolonged boiling temperatures.

Medium, excurve bowls demonstrate a combination of vessel characteristics suitable for cooking and serving. I found that these vessels exhibited unrestricted mouths

similar in form to large excurve bowls. The gradually sloping walls were thinner than either large or small excurve bowls and exhibited a substantial amount of scraping and smoothing and some red-slipping. The few bases that were recovered were flat.

Medium, excurve bowls seem to combine the technofunctional characteristics of typical cooking and serving vessels and were perhaps used for both purposes.

Small, excurve bowls exhibited characteristics that seem suited for serving or storage functions. Small orifices and presumably small volumes are not conducive to direct-fire cooking of significant amounts of food. However, the openness of the vessels made manipulation of the contents easier. The sloping walls and flat bases of the small, excurve bowls were relatively thick and would have increased thermal stresses but increased flexural strength and resistance to mechanical breakage. The incidence of unfinished scraping is significantly less than those of large or medium excurve bowls while the frequency of smoothing and red-slipping is greater. Less scraping and more smoothing would have decreased permeability and increased thermal shock resistance. The unsuitability of small, excurve bowls for cooking combined with the simple, easy to use form suggests a serving and/or storage function for these small vessels in which they were not often subjected to direct-fire but intensive handling.

Griddles are suited for the well-documented cassava processing found throughout indigenous Caribbean, Central American, and South American communities. Frequent evidence of unfinished exterior basal pressing, presumably onto a flat surface during manufacture, indicates ease of production. Exterior basal oxidation represents initial firing placement and probably direct-fire cooking orientation. Frequent exterior use-wear may indicate that firedogs were used to elevate the griddles above the fire. The high

incidence of interior smoothing would have facilitated the manufacture of cassava cakes or other food products. Griddles were no doubt used to prepare cassava but it is not known whether other products were also processed on griddles as well.

Incurvate bowls, plates, straight bowls, and the single snuff pot were suited to be primarily serving or storage vessels. Due to the infrequent occurrence of these vessel forms in my profiled sample, I cannot confidently state the functions for each type. The restricted orifice of the incurvate bowls suggests a storage function as it would have limited the manipulation of the vessel contents. Plates were obviously used for serving and the probable snuff pot for the inhalation of a tobacco product. All of these vessel forms exhibited a high level of smoothing. I found red-slipping only on a few incurvate and straight bowls. Incurvate and straight bowl orifice diameters were very similar to the mean diameters of medium excurvate bowls and may have functioned in the same way.

My vessel unit of analysis demonstrated significant patterning in vessel characteristics with specific technofunctional properties. Large, excurvate bowls and griddles represent vessels used primarily for low-intensity, direct-fire cooking. As the size of the excurvate vessel decreases, typical cooking characteristics decrease in frequency in favor of ones that are more suited for serving or storage, as are the much less frequent non-excurvate bowl forms. A concern for “manipulability” is demonstrated by surface texturing, unrestricted orifices, flat bases and the fact that no very large vessels, larger than 44cm in diameter, were recovered. Savanne Suazey pottery demonstrates simple solutions to functional concerns.

At this point in my paper something should be said about the supposed diagnostic traits of the Suazoid ceramic series. Finger-indented rims were found only on excurvate

bowls and most frequently on larger vessels. There is probably no technofunctional explanation for these lip indentations and I consider these decorations. Scratching probably imparts some technofunctional advantages similar to unfinished scraping, but it is unclear why a potter would scratch over scrape and I therefore also include this finishing technique as decoration. Lastly, functional ceramic legs attached to vessels and especially griddles are often considered typical Suazoid traits. Not even one leg was recovered by Bullen from the Savanne Suazey type site.

Comparison with Previous Work

Analyzing my data in the context of other archaeological work is the next step toward a more complete understanding of the Suazoid ceramic series of the Lesser Antilles. Using the information from Chapter 3, I will compare my results to those of other archaeologists in an attempt to uncover patterning.

Comparison with Bullen

I have compared my results with those of Ripley P. Bullen, the archaeologist that excavated the Savanne Suazey assemblage. I have used only Bullen's data regarding prehistoric artifacts from trenches A thru C because I could not find the artifacts from trench D and I excluded historic artifacts from my primary analysis. I have calculated percentages for various categories using the data from Bullen's Table 2 (Bullen 1964:12).

The comparison between my vessel unit of analysis and the sherd unit of analysis performed by Bullen on the same artifact assemblage yielded some interesting results. (Table 5-1) Both finger-indentation and red-slipping were underrepresented by Bullen in comparison to my analysis while scratching was considerably overrepresented. In Bullen's analysis, only 27 of 1,149 (2%) sherds exhibited finger-indentation compared to the 9 of 65 (14%) profiled vessels, 18 of 140 (13%) total rims, and 18 of 242 (7%) total

vessels identified by myself. Red-slipping was found on 59 of 1,149 (5%) of the sherds in Bullen's analysis but 9 of 65 (14%) of the profiled vessels and 32 of 242 (13%) of the total number of vessels in my analysis. Bullen categorized 120 of 1,149 (10%) sherds as scratched while I found that there was no scratching on profiled vessels and only 7 of 242 (3%) total vessels.

Table 5-1. Comparison of Bullen (1964) and Donop (2005)*

	Bullen	Donop
Ceramic unit of analysis	Sherd	Vessel
Dates	AD 1400	NA
Sherd count	1,149	1,219
MNV	NA	242
Profiled vessel forms	NA	Excurvate (77%)
Temper	Grit	Sand
Orifice diameter mean (cm)	NA	27.4
Wall thickness mean (mm)	8-12	Excurvate 9.42 (3cm), 9.61 (6cm)
Griddle % total	11	9 total, 5 profiled
Griddle legs	0	0
Legs	0	0
Decoration % total	30	24 total, 28 profiled
Finger-indented rims % total	2	7 total, 14 profiled
Red slipping % total	5	13 total, 14 profiled
Scratching % total	10	3 total, 0 profiled

* Only prehistoric sherds and vessels used in comparison.

The provenience patterns in my analysis do not support Bullen's typology or his Carib invasion hypothesis. Finger-indented rims, a supposed Sauzey/Carib trait, did not occur primarily in the upper six-inch level. Red-slipping, a trait associated with the "Caliviny" series, was not found primarily in the lower six-inch level. Four scratched vessels of the total seven were found in the upper level. These ceramic vessel patterns do not support the hypothesis that Caliviny-producing Arawaks were invaded by Sauzey-making Caribs. In fact, these patterns demonstrate that the entire assemblage seems to be one ceramic series with varying degrees of refinement and decoration.

Comparison with Other Suazoid Archaeology

A comparison of my results with those of the archaeologists I have described in chapter 3 revealed a lot of variation. We must keep in mind, as demonstrated above, that results from a vessel unit of analysis can significantly differ from those of a sherd unit of analysis. However, it seems to me that the Suazoid material evidence throughout the Lesser Antilles demonstrates real heterogeneity within an overall trend of simplification when compared to earlier time periods in the same region.

Similarities and differences in ceramic characteristics are evident when comparing the archaeology of the Suazoid series on different islands and sites. (Table 5-2 and 5-3) I believe that non-decorative vessel characteristics demonstrate significant continuity throughout the range of the Suazoid series distribution. Much more variation is shown among decorative characteristics that have traditionally been used as diagnostic traits.

Table 5-2. Comparison of Sherd Unit of Analyses.

	McKusick	McKusick	Bullen	Drewett
Country	St. Lucia	St. Lucia	Grenada	Barbados
Site	Choc	Fannis	South Savanne Suazey (A-C)	Silver Sands (1989)
Coast	Leeward	Windward	Windward	South
Dates	NA	NA	AD 1400	AD 1300 +/- 100
Sherd count	5,000	1,849	1,232	10,000
MNV	NA	NA	NA	NA
Vessel forms	EB	Container (78%)	NA	?
Temper	Grit	Grit	Grit	Quartz, calcareous
Orifice diameter mean (cm)	NA	NA	NA	NA
Wall thickness mean (mm)	NA	6-25 (1/4"-1")	8-12	NA
Griddle % total	?	20	11	NA
Griddle legs	Present	Present	0	0
Legs	42	67	0	477
Decoration % total	20	?	28	.6
Finger-indented rims % total	0	40 (rims)	2	1
Red slipping % total	6 (rims)	20 (rims)	5	.2
Scratching % total	Frequent	Present	10	.1

Table 5-3. Comparison of Vessel Unit of Analyses

	Allaire	Holdren	Donop
Country	Martinique	Grenada	Grenada
Site	Macabou III	South Savanne Suazey	South Savanne Suazey (A-C)
Coast	South	Windward	Windward
Dates	?	AD 1245, 970, 1170	AD 1400 (Bullen 1972)
Sherd count	?	NA	1,271
MNV	87 (14 griddles)	162	242
Major vessel form	Tronconical (80%)	NA	EB (77% profiled)
Temper	Sand and shell	Rhyolite	Sand/quartz
Orifice diameter mean (cm)	31.8	28.5	27.4
Wall thickness mean (mm)	11.2	NA	9.42 (3cm), 9.61 (6cm) EB
Griddle % total	16	6	9 total, 5 profiled
Griddle legs	8	1	0
Legs	2	NA	0
Decoration % total	44	NA	24
Finger-indented rims % total	10	1	13 total, 14 profiled, 7 rims
Red slipping % total	20	NA	13 total, 14 profiled
Scratching % total	33	20	3 total, 0 profiled

Morphological characteristics and temper type demonstrate considerable continuity between islands. The three studies that recorded vessel forms seem to indicate that around 80% of the assemblages were composed of excurvate vessels, probably bowls. Available overall griddle percentages averaged 12.8 % with a range of 6 to 20%. Temper type seemed consistent with sand or grit temper identified at all sites with the addition of shell or calcareous inclusions on Martinique and Barbados. Wall thickness was similar except for McKusick's Fannis site on St. Lucia which displayed a wider range of approximately 6 to 25mm. Orifice diameters collected from the three vessel-unit analyses were similar with a mean of 29.2cm. Ceramic legs are one of the few functional characteristics to display a wide frequency range. Numerous ceramic griddle legs were found on Martinique, St. Lucia, and Barbados but only one leg was excavated from the Savanne Suazey site by Ann Cody Holdren.

Decorative "traits" vary widely between islands and sites. The percentages of overall decorations, which included finger-indentation, red-slipping, painting, scratching,

and incision, was highest (44%) at the Macabou site on Martinique and lowest (.6%) at the Silver Sands site (1989) on Barbados. Finger-indented rims were most prevalent at the

Fannis site on St. Lucia at 40% of the total rims and least prevalent at nearby Choc site on St. Lucia, which had no finger-indentation except one sherd from a test square. Red-slipping also showed significant variation among sites with the highest frequency (20%) on Martinique and the lowest (.2%) on Barbados (1989). Scratching was not quantified as well as other decorative characteristics but it seems that Martinique displayed the highest frequency (33%) and Barbados the lowest (.1%).

Conclusions

It seems that the Suazoid traits used most often to identify the series are rather inconsistently distributed when compared to technofunctional vessel characteristics such as morphology and paste. Suazey potters on different islands seem to have made similar technological choices, possibly a regional technological style. If this is true, a Suazoid technological style may be a better, more reliable criterion than decorative style for interpretation of the late prehistoric Lesser Antilles because technological styles are often less subject to change (Gosselain 1992b:583). Patterns in technofunctional vessel characteristics that can only be revealed by vessel-unit analyses may be more important for the study of temporal continuity in material culture than more obvious but superficial decorative traits. Differences in decoration are important and they may indicate significant variation within an overall cultural group, but they can mislead archaeologists into believing there are more distinct material and cultural divisions than there actually were.

Archaeological research indicates that a gradual simplification of ceramics occurred throughout the Caribbean. The widespread and relatively homogenous Cedrosan Saladoid ceramic subseries gradually developed into numerous ceramic styles and series for unknown reasons. Prehistoric Amerindians in both the Greater and Lesser Antilles produced pottery considered crude in comparison to earlier ceramics, notably the Palmettan Ostionoid (A.D. 1110-1560) and the Suazan Troumassoid (A.D. 1000-1500) subseries. The roughness of the former series has been attributed to poor local clay sources but no such condition limited the production choices of the Suazan peoples. Several hypotheses have been suggested to explain the overall simplification of pottery in the late prehistoric Caribbean.

My analysis suggests that people may have become more concerned with the functional properties of ceramic vessels rather than decoration through time. I found morphological and decorative patterning that indicates the intentional manufacture of specific vessel forms for particular functions. Amerindian potters chose to create these specific vessels for reasons we have yet to adequately explain.

Ceramics have often been used as an indicator of ethnicity. Archaeologists infer ethnicity from ceramic characteristics they believe represent groups of people that produced distinctive pottery. Ripley P. Bullen believed that unreliable ethnohistoric accounts and the stratigraphic position of the Suazey series above the Caliviny series represented an invasion of the Arawakan islands by Caribs from South America. My analysis demonstrates that the Caliviny-Suazey or Troumassan Troumassoid-Suazan Troumassoid dichotomy does not exist at the Savanne Suazey site. We must be critical of analogies made between historic or modern ethnic groups and the recoverable material

remains of people of the past. Even so, continuity in technological style may indicate a general relatedness of Amerindian peoples of the prehistoric Caribbean with specific ceramic changes representative of more localized environmental and cultural conditions.

Environmental change caused by natural or anthropogenic sources may have led to changes in ceramics. Global climatic events such as the Medieval Warm Period (A.D. 900-1350) and Little Ice Age (A.D. 1350-1900) coincided with the Suazoid or Suazan Troumassoid period (A.D. 1000-1500). Perhaps these general climatic trends combined with localized anthropogenic environmental changes created conditions in which an overall simplification of pottery was necessitated. Deforestation and the depopulation of terrestrial fauna in the Caribbean, and on islands in particular, probably had significant effects on the prehistoric Amerindian populations.

Amerindians may have shifted to a more marine subsistence during the Late Ceramic Age as terrestrial fauna became scarce. Zooarchaeological remains indicate that the Saladoid diet in the Lesser Antilles included twice the amount of terrestrial fauna than the later Troumassoid and Suazoid times (Wing 1989). Cassava would have remained an important subsistence staple rich in carbohydrates but its lack of any significant amounts of protein would have necessitated the intensified exploitation of marine resources as terrestrial fauna became scarce in riverine areas with fertile soils. Site distributions for the Lesser Antilles indicate a sharp increase in single-component Suazoid sites during late prehistoric times in ecologically diverse zones near reefs (Bradford 2001:113-115). Increased population pressure and resource competition may have pushed Amerindian groups to exploit more marine resources in marginal but diverse areas during the Late Ceramic Age. Marine resources would have provided necessary protein for Amerindian

communities and perhaps maintained populations on arid areas of islands previously left unoccupied for lack of terrestrial fauna and fertile soil (Allaire 1991:6; Drewett 2004:219). Additionally, the arid coasts may have also provided the means to conduct inter-island trade in perishable commodities.

Ethnohistoric and archaeological data hints at a prehistoric inter-island trade network in the Caribbean. In addition to durable materials such as exotic stone beads, perishable commodities such as cotton, salt, and maritime products were traded throughout the Circum-Caribbean. The Island Carib exchange of maritime products, facilitated by a Cariban trade-language, was common between the islands of the Lesser Antilles and South America (Allaire 1996:43; Petersen 1997: 129). Although it has been shown that the Island Caribs probably did not produce the Suazoid ceramic series, their accounts provide a comparative example for possible prehistoric modes of interaction. Ceramic spindle whorl production increased during the Troumassoid period, presumably for cotton production (Rouse 1992:129). Arid conditions may have facilitated cotton and salt production and provided a surplus for trade (Allaire 1991:8, Drewett 2004:219). The large, open-mouthed, scraped Savanne Suazey bowls seem well-suited for boiling brine into solid salt. "Combed" coarse ware from southern Veracruz, Mexico have been associated with the development of an intensive Mayan Late Classic (A.D. 650-1000) salt trade network, perhaps as a response to increased populations and inadequate meat consumption in the region (Santley 2004:199-200, 206, 218). Salt could have been used prehistorically to preserve maritime products such as fish and conch for purposes of exchange. The simplification of pottery in the Caribbean may reflect an intensification of a dry-good trade in which potters designed ceramic vessels for function rather than

aesthetic value. Trading pretty pots may have given way to a more functional exchange in perishable goods.

The sociopolitical organization of Suazoid communities undoubtedly affected ceramic production. However, Suazoid sites have rarely been excavated with broad-scale settlement organization in mind. Scattered postholes and burials have not revealed any fundamental settlement or household organizational patterns beyond the identification of round houses. To my knowledge, the horizontal spatial distribution of fine ware and coarse ware for Suazoid sites has not yet been performed. Utilitarian vessels may have been more frequently produced and broken at sites that primarily processed food. Fine vessels may have been produced in various locations but may have been broken during community events such as rituals or feasting at specific sites or areas. Late Ceramic Age elites may have controlled the production and distribution of fine ceramics and the prestige they afforded. The varied distributions and frequencies of ceramic decoration during the Suazoid period may indicate the existence of local sociopolitical groups within an overall culture or interaction sphere. The Savanne Suazey site may be the remains of a peripheral settlement that was connected to a larger central community.

Connections between the peoples of the Caribbean Islands and South America probably remained important throughout the Ceramic Age. The gradual ceramic change supports the idea that Suazan peoples were the descendants of the Cedrosan peoples that arrived from South America. Barrancoid influences become evident in ceramics from the Windward Islands around A.D. 300-500 (Petersen 2004:25). Perhaps ceramic production became more focused upon producing trade goods with peoples throughout the Circum-Caribbean. The previously discussed Late Ceramic Age maritime focus and commodity

production and trade would have facilitated communication between the islands and the mainland. The Island Caribs were known to have interacted heavily with mainland Caribs and Arawaks, there is no reason to think their predecessors did anything else.

The Suazoid ceramic series should not be seen as a “devolved” form of Caribbean pottery. The Amerindians that produced Suazoid pottery dealt with conditions different from those of their Saladoid ancestors. By the Late Ceramic Age, many Caribbean Islands had been colonized and exploited by ceramic-using peoples for up to 2,000 years. The Suazan peoples adapted to the degraded environments they inherited from their ancestors and developed new ways to succeed. For reasons yet to be fully explained, it was no longer necessary to produce a wide variety of finely-made ceramics. Although clay sources and decoration materials remained available, Suazan potters chose to produce simple ceramics for specific functions. Subjective ceramic criteria should not be used as an absolute indicator of the overall sophistication of a group of people.

Suggestions

I propose that the vessel unit of analysis methodology should be used more often in conjunction with more specialized use-analysis and dating techniques. My analysis has identified vessel types and size modes and demonstrated possible functions for them. What is needed now is to identify specific characteristics of the Savanne Suazey assemblage through specialized techniques.

The analysis of specific ceramic characteristics pertinent to particular research questions can be performed given adequate funding. Paste inclusions and temper can be identified by petrographic, neutron activation, and mass spectrometry analyses. Analyses of fatty acids, starch grains, and other food residues could provide direct evidence of prehistoric subsistence and ceramic vessel use. Absolute dating of provenienced samples

is necessary for obvious reasons. Ripley P. Bullen dated only one *Strombus gigas* shell from the Savanne Suazey site although I found several heavily-sooted sherds in the assemblage. After conducting an analysis that focused primarily upon secondary evidence and inferred use, I anticipate having specialists provide me with some direct confirmation.

The vessel unit of analysis should be employed more often in an effort to provide appropriate and comparative samples. Vessel unit of analyses of multi-component sites and comparisons between vessel-unit analyses of different sites and islands could identify patterning through time on several scales. A ceramic analysis of a site that was occupied throughout a significant period of time could show changes or continuities in technofunctional properties not evident using a sherd unit of analysis. My doubts regarding the existence of a Caliviny series could be tested on ceramics from the Caliviny Island type site, or even better my own excavation. Lastly, archaeologists must keep all of the artifacts they excavate, including plain body sherds.

Analyzing Bullen's Savanne Suazey assemblage has made me realize how important spatial data is to interpretation of archaeological remains. I have no way of knowing if the fine ware or any other specific vessel type or characteristic distribution demonstrated patterning horizontally. A greater control of provenience, both horizontal and vertical, provides the necessary context for the assemblage and allows for more accurate interpretations.

Lastly, we must not rely upon existing typologies to organize our data. I have used common terminology throughout my thesis in an effort to allow readers to contextualize my research with the work of other archaeologists. However, we must be ready to

challenge our own subjective classification schemes when necessary as new data and perspectives emerge.

APPENDIX
SAMPLE VESSEL PROFILES

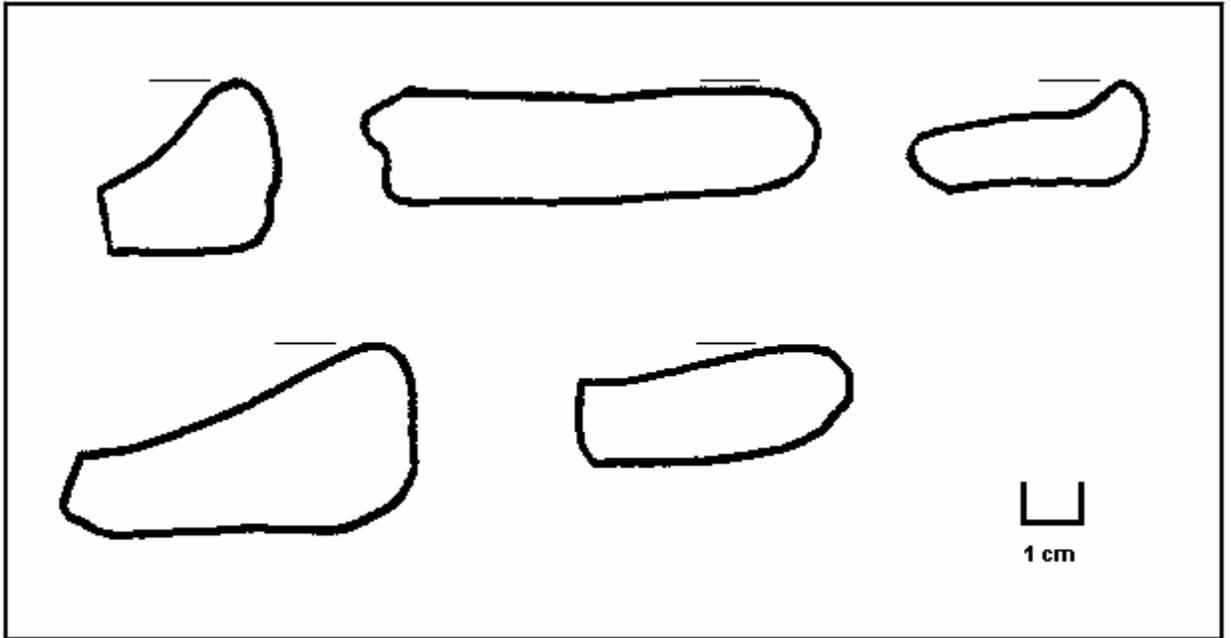


Figure A-1. Griddle profiles

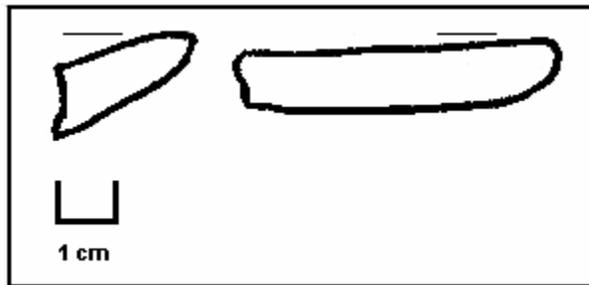


Figure A-2. Plate profiles.

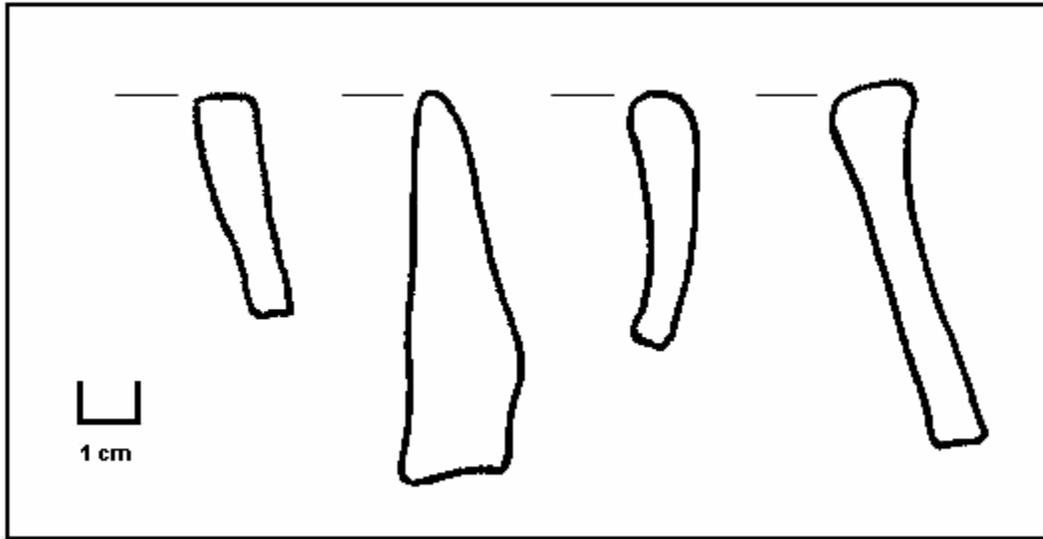


Figure A-3. Incurvate bowl profiles.

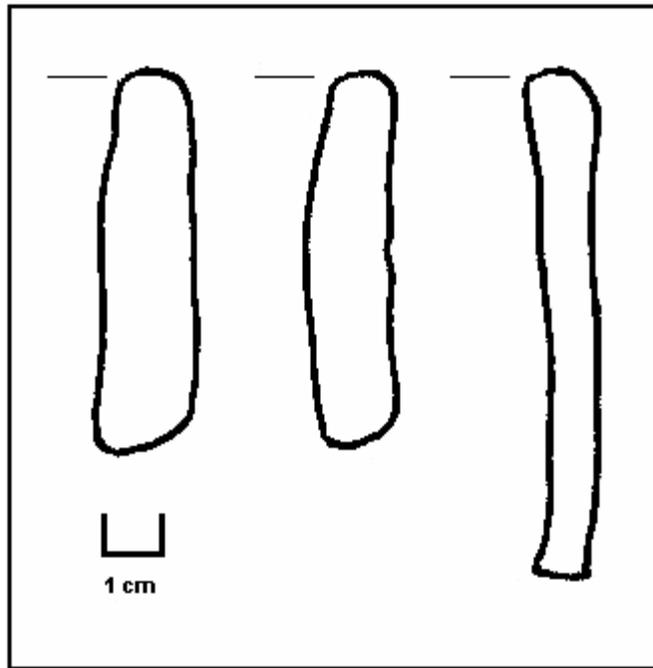


Figure A-4. Straight bowl profiles.

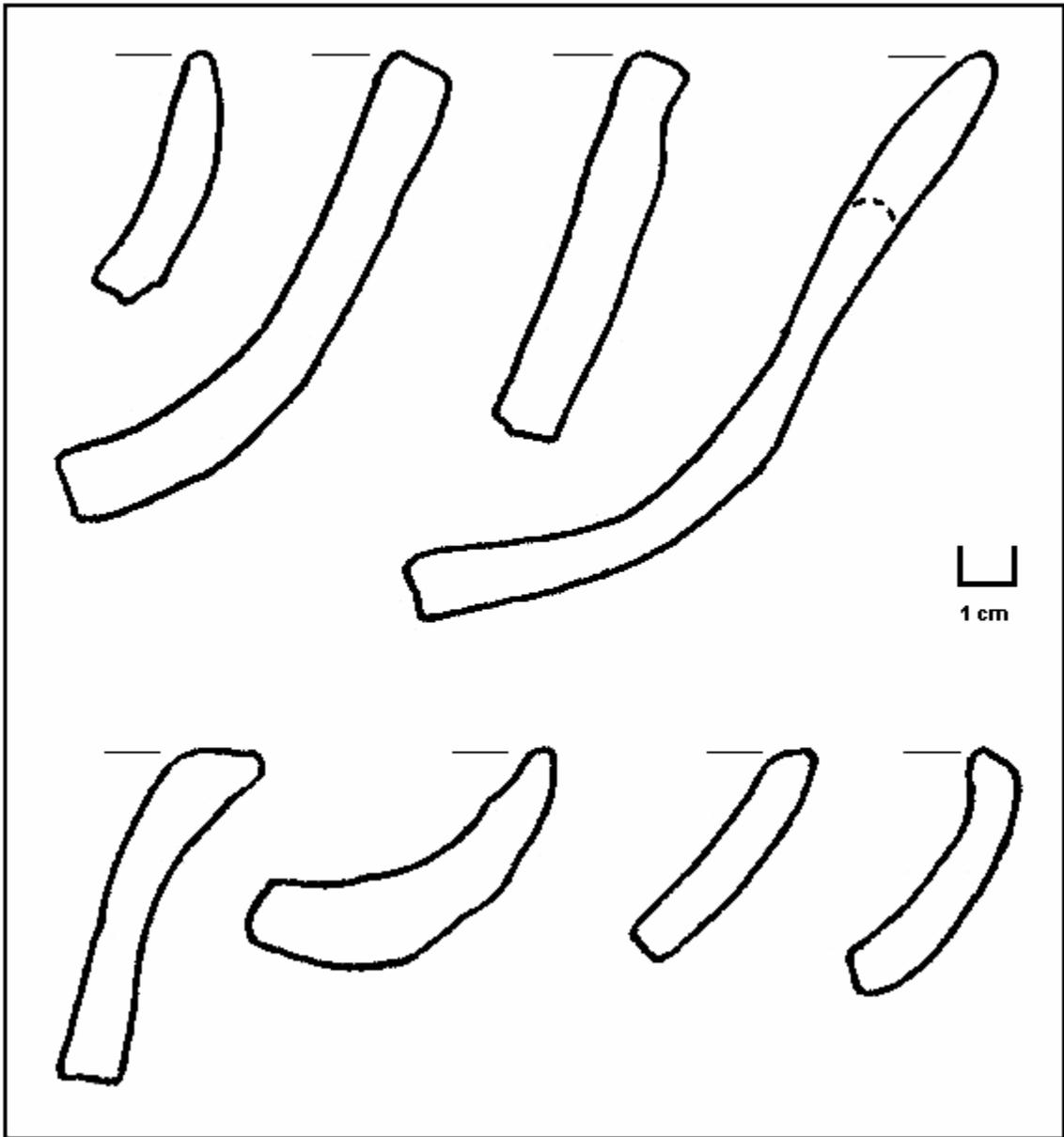


Figure A-5. Small bowl profiles.

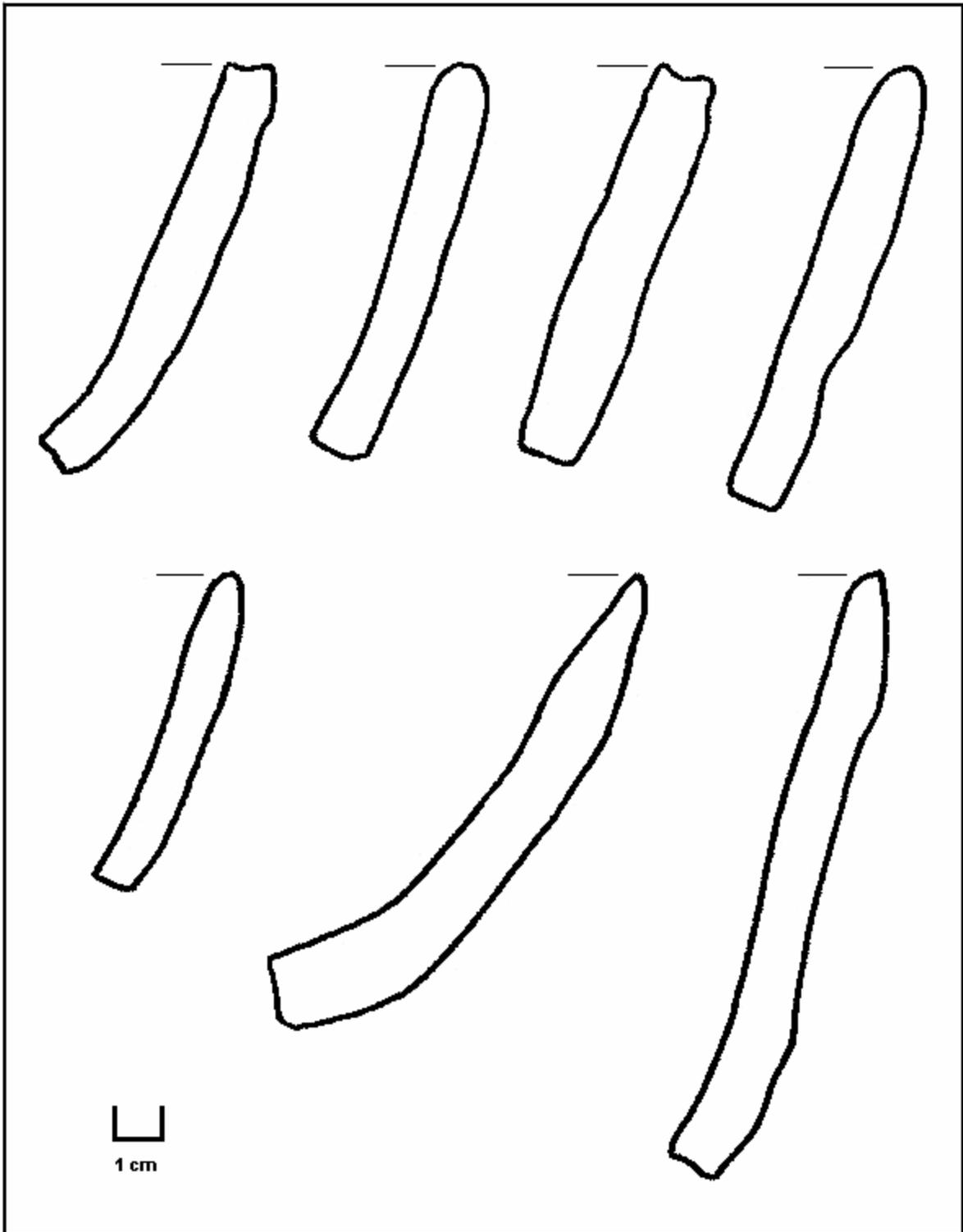


Figure A-6. Large bowl profiles.

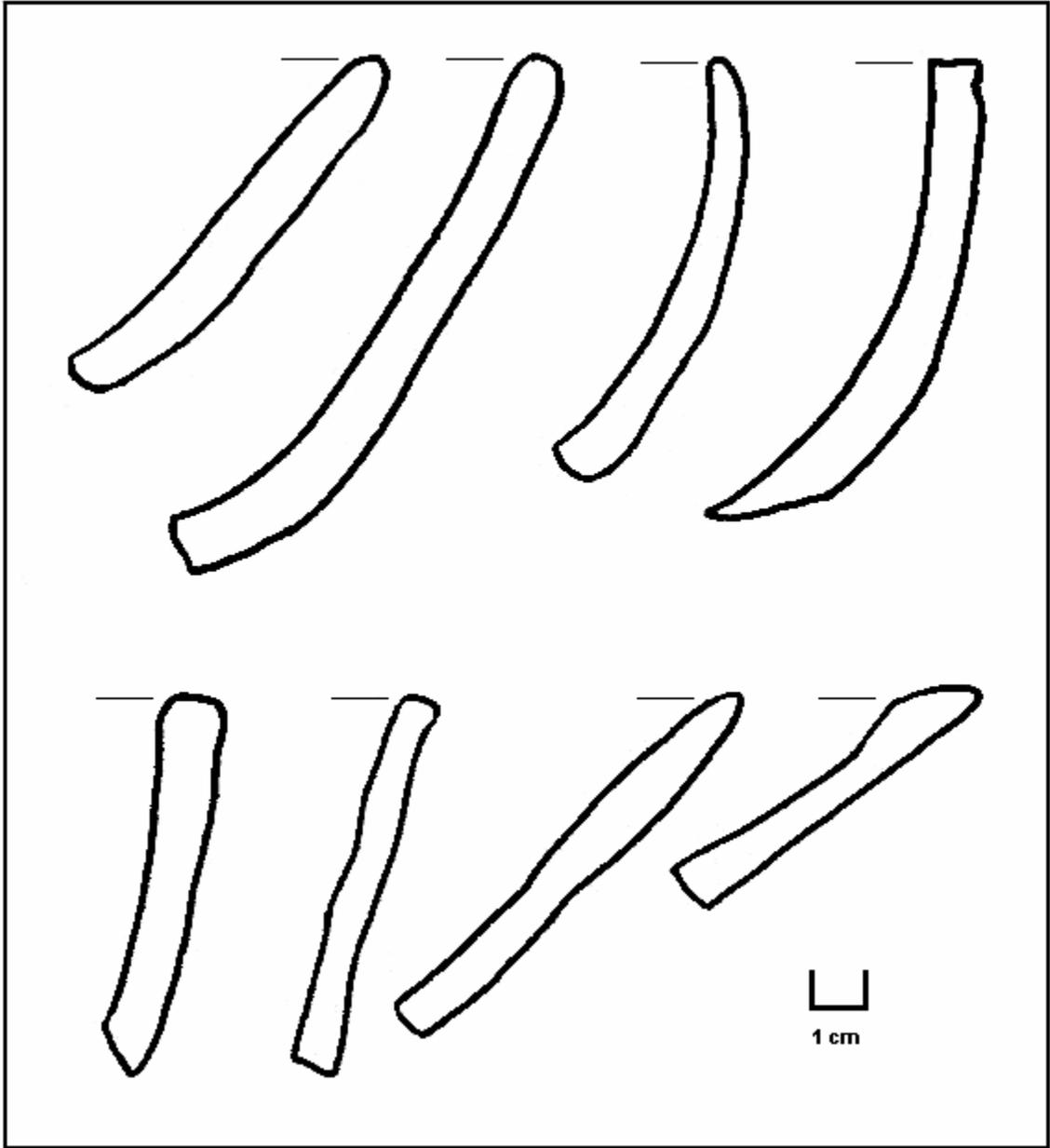


Figure A-7. Medium bowl profiles.

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BIOGRAPHICAL SKETCH

One could say I have taken the long way. I did not consider a career in archaeology until I was 25 years old, two years after completing my enlistment in the United States Air Force as a cardiopulmonary technician. I currently work as a certified respiratory therapist at Shands Childrens' Hospital. I enrolled at the University of Florida as a junior and completed my bachelors degeree in anthropology in 2000. I have since worked in Brazil and Tobago and I have focussed my research upon the archaeology of the late prehistoric Circum-Caribbean. I intend to complete my PhD in anthropology at the University of Florida.