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The Archaeology of the Spanish Contact Period in the Caribbean

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The arrival of Spanish conquistadors and colonists to the Caribbean in the late fifteenth century set in motion the processes that produced the post-1500 "New World." The sixteenth-century cultural and ecological exchanges among Europe, Africa, and the Americas that took place during the early contact period greatly affected the social and economic patterns of life in both the Old and the New Worlds. Nowhere was this change manifest as profoundly and dramatically as in the sixteenth-century Caribbean. This essay explores the archaeological insights into the processes of encounter between the Amerindian peoples of the Caribbean region and the first permanent Europeans in the Americas and the responses of each to contact with the other. Archaeological research has informed our understanding of this seminal era in New World cultural development in important ways. It had also allowed the documentation of both the cultural and demographic disintegration of the Caribbean Indians and the formation of Euro-American culture.

KEY WORDS: acculturation; Antilles; Caribbean; colonization; contact; Cuba; Florida; Hispaniola; Jamaica; Puerto Rico; Spaniards.

INTRODUCTION

The arrival of Columbus in the Caribbean marked the beginning of an era that radically altered the world of 1492. The ensuing Antillean contact period gave rise to the development of Euro-American culture while simultaneously bringing about the disappearance of Caribbean Amerindian culture. Although the physical sites of the first European–Amerindian contact and colonization in the region have been systematically studied by archaeologists for only a

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few decades, the results of that work have made important contributions to our understanding of this erratically documented, but seminal era of cultural development in the New World.

This essay reviews the major archaeological work in the Caribbean that has concentrated upon early contact and Columbus-era sites (ca. 1490–1520). It also attempts to identify the contributions this work has made to our understanding of the processes and results of initial European–American contacts, particularly those aspects of contact and colonization most elusive in the written record.

Emphasis is placed on the Greater Antilles, and Hispaniola in particular, primarily because the sites of the earliest European–American contact and interaction occur there and also because much of the relevant contact-period archaeology has taken place there. Unlike other parts of the Caribbean, where prehistoric studies have overwhelmingly dominated the archaeological arena, archaeologists in the Dominican Republic have given considerable published attention to sites of the contact and colonial periods [for an overview of archaeological research in this region see the *Proceedings of the International Congress for the Study of the Precolumbian Cultures of the Lesser Antilles* (1965–1983), redesignated the *Proceedings of the International Association for Caribbean Archaeology* in 1985].

The Significance of the Contact-Period Caribbean

American Indians first experienced sustained contact with Europeans in the Caribbean, where the permanent European settlement of the New World began. A major part of the initial Spanish colonial enterprise was concerned with the organization and exploitation of the natural and human resources of the Antilles (for detailed discussions of the structure and policy of early contact see Elliott, 1987; Gibson, 1966, 1987; Lockhart and Schwartz, 1983, pp. 59–86; McAlister, 1984; Sauer, 1966).

The strategies developed by the Spaniards to achieve these ends and the precedents established in the Caribbean during the earliest years of contact affected not only European attitudes and perceptions regarding the New World in general (see Gerbi, 1985), but also the institutions and policies that subsequently developed throughout the Americas (see Elliott, 1987, pp. 14–18). All of this had in turn a profoundly important role in shaping what we think of as the "modern world" (Wallerstein, 1974; Wolf, 1982), which, within half a century of Spanish contact in the Caribbean, was no longer synonymous with "the Americas." It was instead the global interaction sphere in which lie the roots of contemporary American life.

Florida as Part of the Circum-Caribbean Contact Period

Florida proper has been considered as part of the circum-Caribbean area during early historic times, particularly from the perspective of colonial administration (Deagan, 1985a). The initial Spanish presence in Florida was a direct result of circumstances in the Columbus-era Caribbean, in that the first 50 years of Spanish activity in Florida was dominated by exploratory expeditions originating in the Caribbean. These were furthermore intended to locate slaves, gold, and other riches for the benefit of Spanish colonists in both Spain and the Caribbean.

Florida shares the tropical environments and life zones of the Caribbean only in approximately its southern third (West and Augelli, 1976, pp. 44–45; Dohrenwend and Harris, 1975, pp. 5–113). Other than the early sporadic slave raids along the coast (see Dobyns, 1983), Spanish colonization activity in Florida was concentrated primarily in the northern, subtropical regions of the peninsula, where agricultural productivity and population densities were greatest.

The Indians of peninsular Florida, like those of the Caribbean, included several identifiable cultural groups ranging from complex subtropical chiefdoms such as the Timucua (Deagan, 1978, 1985a; Milanich, 1978) to band-level foragers [the Ais, Jororo, etc. (Milanich and Fairbanks, 1980; Fairbanks, 1974)]. The Calusa, a powerful chiefdom based largely on foraging and the extraction of a tribute, lived in southwest Florida and apparently interacted with Caribbean groups during the early historic period (see Marquardt, 1987, 1988; Widmer, 1983; Goggin and Sturtevant, 1964). Efforts to document archaeologically interaction and exchange among the Indians of Florida and the Caribbean have been provocative but, to date, unsuccessful (Marquardt, 1987; Keegan, 1987; Bullen, 1974; Sturtevant, 1961).

Although the contact period in the circum-Caribbean region (ca. 1492–1520) encompasses part of Florida—particularly from the Amerindian perspective—the Spanish presence and impact in Florida were clearly not restricted to the circum-Caribbean arena. Spanish Florida (*La Florida*) in 1565 included not only present-day Florida, but also the territory north to Virginia west to the Mississippi. The earliest Spanish exploration and settlement in Florida extended into the areas now occupied by Georgia, the Carolinas, and Virginia, and these areas cannot be considered either culturally or environmentally as part of the circum-Caribbean region. Because of this, much of the research devoted to Spanish exploration and colonization in *La Florida* is more properly considered in the context of the southeastern United States and, thus, beyond the scope of this essay. Relevant work on the Spanish in Florida is, however, cited and discussed as it is appropriate to circum-Caribbean concerns.

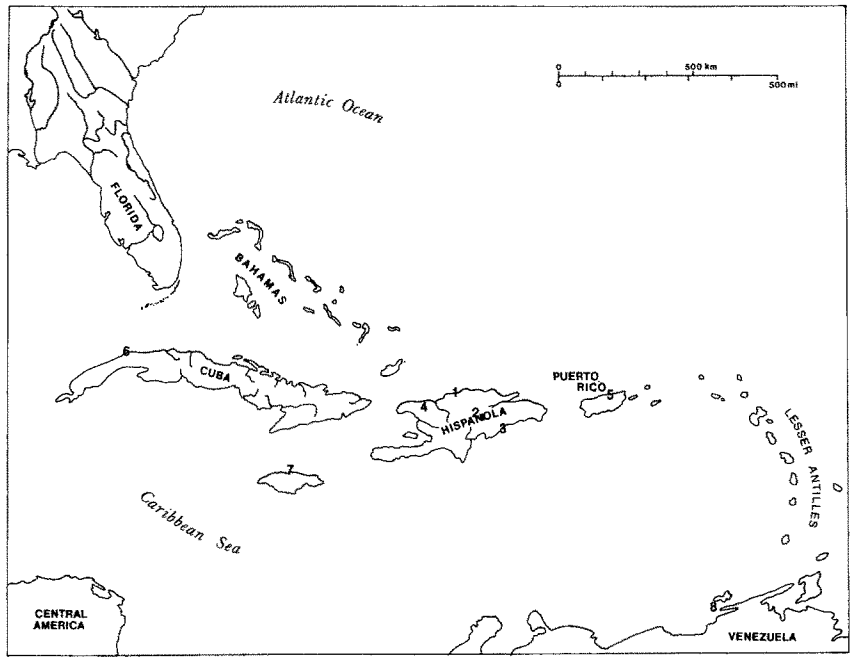

Fig. 1. The circum-Caribbean area showing major Spanish settlements, 1493–1515. 1, La Isabela; 2, Concepción de la Vega; 3, Santo Domingo; 4, Puerto Real; 5, San Juan and Caparra; 6, Havana; 7, Sevilla Nueva; 8, Nueva Cadiz.

THE CARIBBEAN AT CONTACT

Strategies to accomplish successful exploitation were developed to a great extent in response to the peoples and environments encountered by the Spaniards during the early years of contact. These are discussed here briefly in order to provide a general context; greater detail can be found in the cited sources.

The Physical Setting

The Caribbean islands, also referred to as the West Indies and the Antilles, consist of three major island groups (Fig. 1). These are the Lesser Antilles, the Greater Antilles, and the Bahama Archipelago. The Lesser Antilles are composed of a series of mostly submerged volcanic peaks stretching from South America to the Greater Antilles. Considerable physiographic variety exists among the Lesser Antilles, which include areas of rugged

volcanic peaks, coral reefs, gentle slopes of light volcanic soils, and limestone formations (Harris, 1965; West and Augelli, 1976, pp. 184–214). The northwestern islands of the groups are known as the Leeward Islands, and the southeastern islands are known as the Windwards, because one can sail before the trade winds from the latter to the former.

Three islands in the Windward group, Trinidad, Tobago, and Barbados, are actually extensions of the continental structure of South America (Sleight, 1965, p. 226; West and Augelli, 1976, p. 185). This is reflected in the geographic and cultural history of these islands, which retained cultural ties with northern South America into historic times (Boomert, 1984; Figueredo and Glazier, 1978). The Virgin Islands, at the other end of the Lesser Antilles arc, are a group of small sedimentary and volcanic islands that serve as a transition between the Lesser and the Greater Antilles both geographically and culturally (Escardo, 1978; Sleight, 1965, p. 227; Bullen, 1964).

The Greater Antilles consist of the four large land masses of Cuba (44,218 mi^2), Hispaniola (29,057 mi^2), Jamaica (4411 mi^2), and Puerto Rico (3500 mi^2). These islands, capable of sustaining dense populations in both prehistoric times and the present, are characterized by very long, indented shorelines, and extensive mountainous regions interspersed with plains and coastal lowlands. Differences in elevation and in tradewind patterns on the islands of the Greater Antilles result in considerable variation of temperature and rainfall, and consequently a diverse range of environmental and vegetational characteristics (see West and Augelli, 1976, pp. 130–180; Sleight, 1965).

The Bahamas include some 700 coral islands and 2000 coral reefs and rocks encompassing the contemporary political divisions of the Bahamas and the Turks and Caicos Islands. Characterized in general by poor calcareous soils and sparse vegetation, the Bahamas' primary natural resources are those derived from the sea (Sealey, 1985; Sears and Sullivan, 1978, p. 4; West and Augelli, 1976, pp. 214–215). The northernmost portion of the Bahamas, adjacent to Florida, is the only part of the West Indies to have a subtropical climate (Sealey, 1985; Sears and Sullivan, 1978, p. 4; West, and Augelli, 1976, pp. 214–215).

Although sea level has been an important factor in the consideration of prehistoric culture and environment in the Caribbean and in Florida, most evidence indicates that sea level has risen in the region only a few centimeters in the past 500 years (see Mitchell and Keegan, 1987; Watters, 1982; Ruppé, 1980, 1979; Enos and Perkins, 1979). Erosional and deposition processes, however, have considerably altered circum-Caribbean coastlines and impacted or obscured archaeological sites of the historic period (Mitchell and Keegan, 1987).

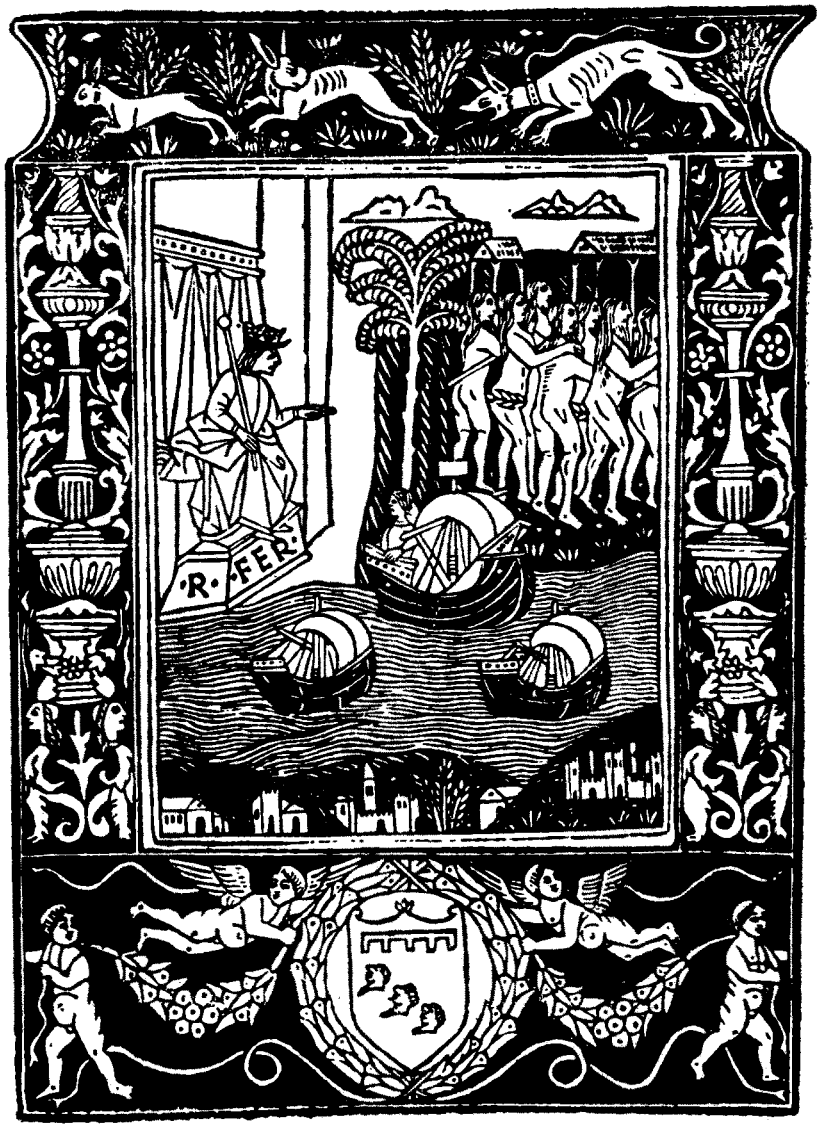

Fig. 2. Woodcut title page from "Storia della nuove insule di Chanaria indiane tracte duna pistola di Xpofano Colombo . . . ," a letter from Christopher Columbus to Ferdinand and Isabela, 1493. This is one of the earliest known images of the encounter between Caribbean Indians and Europeans. Originally published in Rome in 1493; original in the Biblioteca Colombina de Sevilla, Spain.

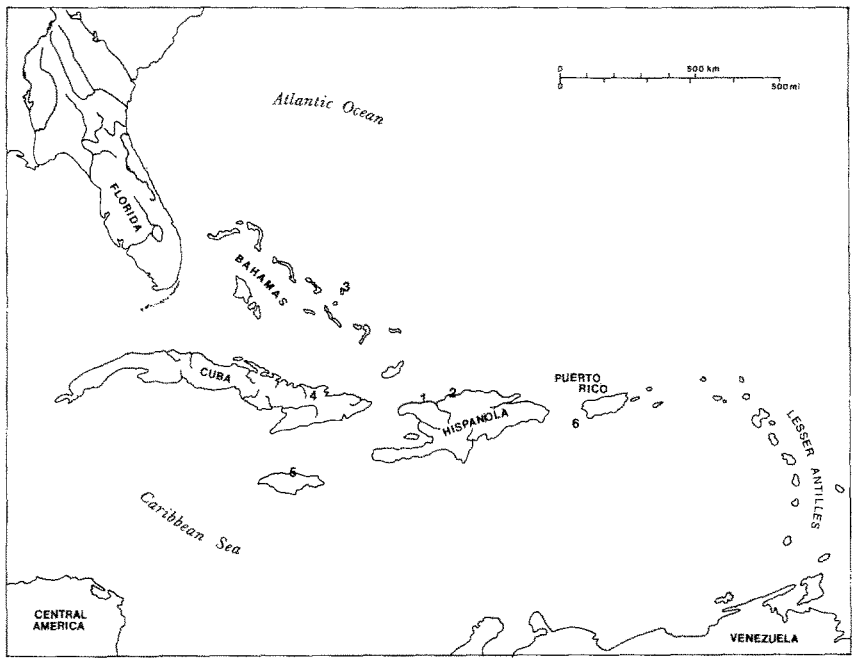

Fig. 3. Excavated and reported contact-period Amerindian sites in the Caribbean. 1, La Navidad-En Bas Saline, Haiti; 2, La Isabela villages, Dominican Republic; 3, Long Bay site, Bahamas; 4, Yayal, Cuba; 5, Maima and Windsor Hole (Sevilla Nueva); 6, Mona Island, Puerto Rico.

Caribbean Inhabitants at the Time of Contact

In 1492 the Caribbean islands are believed to have been occupied by at least three cultural and linguistic groups: the Taino, the Guanahatabey (also known as Ciboney), and the Island-Carib.

The Guanahatabey. By the time of European arrival, the people believed to have been the original inhabitants of the Greater Antilles, the Guanahatabey, were geographically restricted to western Cuba (Rouse, 1948b, 1986a; Tabio and Ray, 1979, pp. 18–95). They are thought to have been aceramic foragers with a band organization and a dependence on marine resources who spoke a language distinct from that of other Caribbean Indians (Rouse, 1948b, 1986a; Tabio and Rey, 1979, pp. 18–95). Very little ethnohistorical or archaeological information is available concerning these people (see Tabio and Rey, 1979), who apparently disappeared very shortly after contact (Rouse, 1948b, 1986a; Loven, 1935).

The Island Carib. In 1492 much of the southern two-thirds of the Lesser Antilles was occupied by people referred to today as the Island Carib,

who were notorious among the Europeans as cannibals (see Alegría, 1981). This group also spoke a different Arawakan language from that of the Taino or Guanahatabey and possessed a distinct set of stylistic material traits (see Rouse, 1948c; Allaire, 1977; Boomert, 1984; Haviser, 1987).

The Island Carib had a historic reputation for being warlike and fierce and were active in launching raids against the Taino chiefdoms of the Greater Antilles (discussed below). During these they killed the Taino men and captured the women (Rouse, 1948c; Allaire, 1977; Boomert, 1984; Haviser, 1987). According to their legends, they arrived in the Lesser Antilles shortly before the arrival of Columbus, where they overcame the previous inhabitants, who they called Igneri (Allaire, 1980; Gullick, 1980). Archaeological and linguistic evidence, however, is somewhat more equivocal, suggesting that the Island Caribs may have arrived in the Windward Islands some centuries before European contact and developed their distinctive cultural expressions as an *in situ* adaptation influenced by their intermediary contacts with the Taino to the north and the mainland Arawak peoples to the south (see Davis and Goodwin, 1988; Rouse, 1986a; Bullen, 1964). This issue remains unresolved.

Like the Taino, the Island Carib were manioc farmers and marine foragers, however, the *zemi*-based ritual tradition characteristic of the Taino was not practiced by the Island Carib.

Because of their reputation as cannibals and their ferocity at resisting the Spaniards, the crown permitted the enslavement of the Carib (see Floyd, 1973, pp. 133–135). Their procurement became a profitable business after 1508, and the numbers of Indians in the Lesser Antilles declined rapidly after this time.

The Taino. The Taino were the first Caribbean people to encounter Europeans, and they sustained the most direct and most intense interaction with them during the contact period. In 1492 they occupied most of the Greater Antilles, where the subsequent focus of Spanish occupation and dominion was to occur. The Taino received the almost exclusive ethnographic attention of the first chroniclers of the New World and are, thus, the most abundantly documented historically. The accounts of these early chroniclers, while certainly biased by the fifteenth-century perceptual frameworks of their authors (see Gerbi, 1985), do provide us with a considerable amount of ethnographic information about the Taino. They include the chronicles of Columbus and his companions, which have been synthesized by Varela (1982), Gil and Varela (1984), Oviedo y Valdes (1950, 1959), de las Casas (1954, 1974), Martyr D'Anghiera (1970), Benzoni (1857), and Pané, who was commissioned by Columbus to study and report on Arawak religion in Hispaniola (Pané, 1974; F. Columbus, cited by Keen, 1959; Bourne, 1907; Martyr D'Anghiera, 1970). These primary sources have been synthesized and

interpreted by Wilson (1986), Gerbi (1985), Alegría (1978), Cassa (1975), Sturtevant (1961), Rouse (1948a), and Loven (1935).

This documentary base has been slowly supplemented and refined by archaeological research on Taino sites over the past few decades. Relatively little archaeological research on the Taino, however, has emphasized the synchronic study of Taino cultural patterns and institutions. Instead, most work has necessarily concentrated on questions designed to define artistic and material traditions, develop chronological frameworks, and resolve issues of internal migration (Rouse, 1982, 1986a, b) (some exceptions to this include Siegel and Bernstein, 1987; Deagan, 1986; Rose, 1986; Keegan, 1982, 1985; Sears and Sullivan, 1978; Tabio and Rey, 1979; Goodwin, 1979; Veloz Maggiolo, 1976–1977). Taken together, however, the documentary and archaeological data provide a sufficient context from which to assess the mechanisms and impacts of European–Indian contact in the Caribbean.

The Taino spoke a mutually intelligible language, referred to as Taino, and shared a sufficient number of material culture traits to be considered as a single archaeological culture group (Rouse, 1986a, pp. 110–117). Stylistic material distinctions (primarily in ceramics) have been documented among the Taino in different parts of the Greater Antilles, most particularly those surrounding the major passages between the islands (see Rouse, 1986a). The Taino apparently migrated from South America into the Caribbean islands via the Lesser Antilles at shortly before A.D. 1 (Rouse, 1986b, pp. 293–297) and, in the process (are believed to have), displaced the prior inhabitants of the Greater Antilles, the Guanahatabey (see below).

Fully developed Taino cultural patterns appeared in the Greater Antilles at about A.D. 1200 and persisted until about 1500. These were characterized by larger sites in a wider range of locations, organization around plazas or ballcourts (see Alegría, 1979), manioc-based farming (Sturtevant, 1961), hereditary chiefdoms (Wilson, 1985, 1986; Alcina Franch, 1983; Dreyfus, 1981; Cassa, 1975), Ostionoid ceramic traditions (Rouse, 1986b, p. 297), and the development of an elaborate artistic–ritual tradition (García Arévalo, 1979; Deive, 1983; Rouse, 1986a, pp. 114–115). The latter tradition was centered around the worship of *zemis* or images representing spirits (Fig. 4).

Taino horticulture was based on manioc cultivation, and maize, beans, peanuts, and other minor crops were also grown (Sturtevant, 1961). Farming was balanced with a very diversified pattern of marine species exploitation (Wing, 1983; Wing and Scudder, 1983; Wing and Reitz, 1982), providing an appropriate protein balance for the starch-based horticultural yield. Cotton was also cultivated and was a significant trade item (Rose, 1986).

The Taino appear from ethnohistorical sources to have been an example of a complex chiefdom society, such as those discussed by Wright (1984, pp. 68–69), possibly with an incipient system of social class stratification (Wilson,

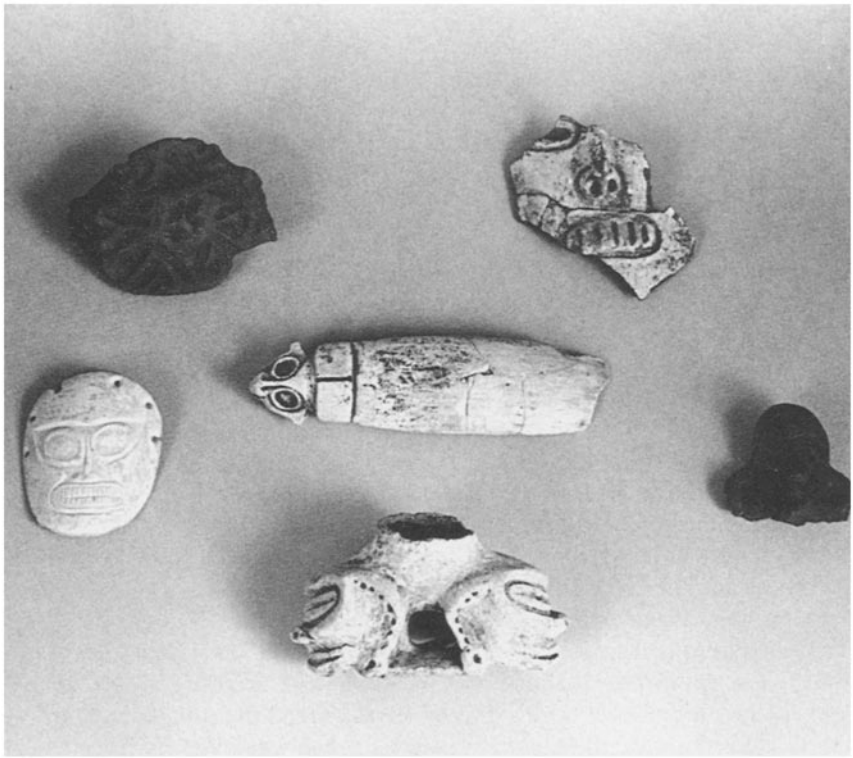

Fig. 4. Taino ceramics and ritual objects. Top left: Incised red clay cloth-marking stamp (width, 9.5 cm) (En Bas Saline, FSM Cat. No. EBS-4019). Top right: White-slipped vessel fragment incised with incised and molded face design (max. width, 7 cm) (En Bas Saline; FSM Cat. No. EBS-3844). Center left: Carved shell mask amulet (height, 7.5 cm) (Cuba; FSM Cat. No. 91084). Center middle: Bone vomit spatula (length, 16 cm) (Cuba; FSM Cat. No. 91086). Center right: Ceramic adorno face (height, 5 cm) (En Bas Saline; FSM Cat. No. EBS-3749). Bottom center: Double effigy-handled, white-slipped vessel top (height, 5.5 cm) (En Bas Saline; FSM Cat. No. EBS 4501).

1986, pp. 208–215). They were among the most densely settled prestate, sedentary societies in the New World (see Feinman and Nietzel, 1984) and apparently sustained one of the most strongly differentiated chief positions in the Americas, both symbolically and socially (Feinman and Nietzel, 1984; Rouse, 1948a; Wilson, 1986).

Population estimates for the Taino have varied considerably and been based primarily on observations of the Taino of Hispaniola. These have ranged from the 100,000 suggested by Rosenblatt (1954) to the higher estimates of 3,000,000 by de las Casas (1951, Vol. 2, Chap. 1) and 6,000,000–8,000,000

by Cook and Borah (1971) (see also Henige, 1978; Moya Pons, 1982). Archaeological data suggest that on Hispaniola, at least, one of the higher figures may have been more accurate, given the site densities encountered in the very few areas of the island that have been surveyed (Veloz-Maggiolo and Ortega, 1980; Moore, 1985; Rouse and Moore, 1984; Hamilton, 1984, Appendix D; Rainey, 1941, p. 5).

At least three archaeologically defined subdivisions for Taino culture have been proposed, based on material and settlement patterns. The "Classic" Taino occupied Hispaniola, Puerto Rico, and eastern Cuba. They had the most elaborately carved *zemis* and ornate ceramics and more ceremonial plazas and ballcourts than the other groups, who are referred to as "Sub-Taino" (Rouse, 1986a, b; Tabio and Rey, 1979, pp. 180–203). The Western Sub-Taino occupied Jamaica and southwestern Haiti, and the Eastern Sub-Taino occupied the northern part of the Lesser Antilles.

The Bahamas, or Lucayan Islands as they were known in colonial times, were also occupied by the Taino at the time of European arrival and may represent a fourth Sub-Taino expression. This area is believed to have been first occupied between A.D. 600 and A.D. 800, colonized by Taino peoples from the Greater Antilles (see Rose, 1986; Keegan, 1985; Sullivan, 1981; Sears and Sullivan, 1978). There they developed a distinctive local variant of Sub-Taino material culture, as well as an extensive commercial exchange system (Rose, 1986; Keegan, 1985; Sullivan, 1981; Sears and Sullivan, 1978). Like other Sub-Taino people, the Lucayan Taino shared a common language and interacted with other Taino groups, farmed manioc, and did not develop the elaborate ritual and artistic tradition or settlement complexity of the Classic Taino.

European Arrival

All of the traits described for the Taino seem to have disappeared quite rapidly after the arrival of Europeans in the Caribbean. Within 1 year of initial contact, the Spaniards implemented measures to subdue the land and its inhabitants while extracting profits from both. This enterprise began in 1493 with the establishment of La Isabela in the Dominican Republic by Christopher Columbus (Varela, 1982, 1987; Palm, 1945). Spanish presence was concentrated in the Caribbean until about 1517, when the focus of colonial attention shifted to mainland Central and South America (see Floyd, 1973). This also corresponded to the point in time at which the human and mineral resources of the Caribbean Islands were largely depleted (Sauer, 1966, pp. 198–204).

One of the policies implemented by the Spaniards that was to have a profound and lasting impact on the Caribbean was the establishment by

Columbus in the 1490s of a system of forced Indian labor (Gibson, 1987, p. 366; Moya Pons, 1971, 1982; Zavala, 1938). This was formalized by the Crown in 1503 as the *repartimiento* or *encomienda*. These institutions allowed for the allocation of Indian groups to specific Spanish settlers for use as a labor force (Elliott, 1987, p. 17). The labor was held to be obligatory to the Spanish settlers in exchange for instruction of the Indians in Christianity and civilization (Elliott, 1987, p. 17). The organization and distribution of native labor was effected through the caciques (chiefs), and this policy of dealing with the Native Americans through their chiefs persisted in subsequent Spanish colonial efforts throughout the Americas (Deagan, 1985a, p. 294; Lockhart and Schwartz, 1983, pp. 113–115).

In order to make the process of organizing labor more efficient, native groups throughout the Caribbean were relocated and consolidated. This practice, known as *reducción*, exacerbated the disruptions to traditional Amerindian society already impacted by contact period disease, warfare, environmental introductions, and social reorganization (see Deagan, 1985a; Dobyns, 1983; Moya Pons, 1982; Crosby, 1972, p. 39; Cook and Borah, 1971; Sauer, 1966, pp. 198–204). In Florida, the practice of *reducción* was implemented only infrequently, and primarily during the eighteenth century in Florida, owing to the absence of large-scale extractive ventures there (Deagan, 1985a).

In Hispaniola, Taino peoples had been reduced from several million in 1492 to fewer than 25,000 by 1515 (Sauer, 1966, pp. 200–201; Navarette, 1864–1884, Vol. 2). The situation was even more devastating in the Lucayan Islands, which are believed to have been completely depopulated by disease and slave raiding by 1513 (Sauer, 1966, p. 160). In Puerto Rico, there were 1000 Indian slaves and 500 free Indians in 1530. These people were drawn from islands throughout the Caribbean (Alegría, 1963, pp. 68–69), indicating that the Taino of Puerto Rico were practically extinct by that date.

Much of the Lesser Antilles north of Trinidad and Tobago were reported to have been largely depopulated by 1520 (Sauer, 1966, p. 194), although there is some suggestion that several islands (Dominica, Guadalupe, St. Vincent, Grenada, St. Kitts, and Nevis) were partially inhabited into the seventeenth century (Dave Davis, personal communication to K. Deagan, New Orleans, March 2, 1988). Jamaica also suffered rapid declines through epidemics and was effectively depopulated by about 1520 (Sauer, 1966, p. 159). Cuba, while severely decimated by the same date, apparently did contain remnants of the Taino population in mountainous unsettled areas into the seventeenth century (Domínguez, 1984, pp. 70–71; Romero, 1981).

The Indians of peninsular Florida also experienced the tragic population declines suffered by their Caribbean neighbors after contact. This occurred somewhat less intensively and less rapidly than in the Caribbean for a

number of reasons. These included the later date of full-time, Spanish occupation in Florida (post-1565); the much more limited extent of that occupation than in the Antilles; the presence of a population and territorial hinterland to buffer losses sustained through initial disease impact; a somewhat more enlightened Spanish policy toward the Indians inspired by the devastating situation in the Caribbean; and as noted above, the absence of resources in Florida that required the reduction of Indian populations for effective exploitation (see Deagan, 1985a).

The disappearance of the native inhabitants of the Greater Antilles is perhaps the most striking feature of European–Amerindian contact. These population declines and the concomitant reduction of the labor force available to the Spaniards had a grave effect on the Native Americans in regions peripheral to the Caribbean. Even before colonization efforts began, slave raids were common in the Lesser Antilles, the Bahamas, Florida, the Yucatan Peninsula, the northern coast of South America, and Panama (Elliott, 1987, pp. 18–21; Sauer, 1966, pp. 189–194). These had the effect of depleting Amerindian populations in advance of European settlement through both the taking of slaves and the introduction of diseases.

By 1518, even these groups could not satisfy the Spanish demand for labor, and the large-scale importation to the Caribbean of African people as slaves began (Elliott, 1987, p. 20). From this movement emerged demographic and racial composition patterns that persist in the region today. It was also at about this date that the production of sugar and hides eclipsed precious metals as the primary economic activity in Hispaniola (Lockhart and Schwartz, 1983, pp. 73–75), and attention turned from the Caribbean to Mexico and Central and South America.

Before this occurred, however, the Spaniards radiated from Hispaniola to take over and occupy other parts of the Caribbean. The settlement of Puerto Rico was begun in 1508, Jamaica in 1509, and in 1511 the conquest of Cuba was begun. Ponce de Leon reached and claimed Florida in 1513, although it was not permanently settled until St. Augustine was founded in 1565 (Deagan, 1985b; Lyon, 1976). Between those dates, a number of unsuccessful attempts to explore and colonize Florida took place, summarized by Weddle (1985, pp. 183–284) and Sauer (1971, pp. 32–46, 157–195). Among these was the De Soto entrada, a remarkable expedition that traversed much of the Southeastern United States between 1539 and 1543 and has been the focus of a major archaeological effort in Florida, discussed below.

The Lesser Antilles were never subject to significant occupation by the Spaniards, owing largely to the absence of precious metals in those islands. The Island Carib were preyed upon as slaves by the Spaniards very early in the contact period and were depleted beyond the point of use by the second decade of the sixteenth century (Boomert, 1984; Sauer, 1966, p. 194).

Some small remnant groups of Indians in the Dutch Antilles were consolidated by the Spaniards under Spanish supervision (see Goslinga, 1971, pp. 18–19), although Spanish missionization and colonization of Trinidad did not begin until the 1590s (Boomert, 1984; Newson, 1976). It has been suggested that the Indians of Trinidad, at least, were spared the worst of the slave raids owing to their widespread Caribbean and South American trade networks, which the Spaniards took advantage of to provision their pearl island settlements off the coast of Venezuela (Boomert, 1984).

After the depletion of the Indians in much of the Lesser Antilles, a population vacuum existed until other, non-Spanish European colonial powers began to occupy and claim the islands in the seventeenth century (see Harris, 1965, pp. 79–83). During that period, however, pigs and cattle released on the islands became feral and multiplied and were regularly hunted by pirates and buccaneers in the region (Harris, 1965, pp. 79–83).

A similar situation existed in the Bahamas, which were largely unoccupied after the disappearance of the Indians in the early sixteenth century (Craton, 1986). The islands were used intermittently as a base for pirates and a source of salt and were not reoccupied until sparse Dutch and English populations entered the area in the mid-seventeenth century (Craton, 1986).

THE ARCHAEOLOGY OF AMERINDIAN CONTACT-PERIOD SITES IN THE CARIBBEAN

The study of contact-period Indian sites has been a recent development in the Caribbean, both because of the traditional research interests in prehistoric chronology, origins, and migration patterns and because of the difficulty of recognizing contact-period sites. The latter circumstance is due largely to the extremely rapid demise of the native peoples of the Caribbean and the extensive relocation of those that survived. With a few isolated exceptions, it is unlikely that traditional cultural patterns existed among the Caribbean Indians for more than 20 years after contact.

Several contact-period Amerindian sites have, nevertheless, been identified and studied in recent years, largely through the impetus of the Columbian Quincentennary and the increasing interest in sites thought to have been visited by Columbus. These include aboriginal village sites in Cuba, Jamaica, Haiti, the Dominican Republic, and the Bahamas (Fig. 3). Much of this work is recently initiated or currently in progress and has been unevenly reported.

The Bahamas. Recent interest in the first landfall of Columbus has led to the identification of several sites in the Bahamas believed to have been occupied in 1492 (Mitchell and Keegan, 1987; Hoffman, 1986; Judge, 1986; Rose, 1986; Keegan, 1984; Sears, 1976).

Few of these sites have been systematically excavated, and only one excavated site, that of Long Bay, contains conclusive stratigraphic evidence for the association of European and Taino materials (Hoffman, 1986). This site yielded ceramic and glass items of European origin dating to the late fifteenth century (Brill, 1986), which occur at Long Bay either through direct European presence or through the Lucayan trade networks in the very early contact period.

Because of its brief historic Indian occupation and the absence of Spanish colonies in the Bahamas, there is relatively little opportunity to study post-contact cultural dynamics there. This is not the case for Florida, located adjacent to the Bahamas. Sites of postcontact, but precolonial Indian presence have been located archaeologically throughout Florida over the past century. The majority of these sites is burial mounds, with European goods accompanying the burials, and much of the early work has been synthesized by Hale Smith (1956).

Florida. European materials apparently entered Florida Indian exchange networks quite frequently during the first quarter of the sixteenth century through trade with Spanish slavers or Lucayan Indians, as well as through shipwreck salvage. They included ornamental as well as utilitarian European goods, often reworked into aboriginal forms and frequently accompanying burials (see Sears, 1982, pp. 59–67; Smith, 1956, pp. 11–38; Griffin and Smith, 1948).

Early contact-period Florida has been the subject of recent archaeological efforts in Florida related to the 1539–1543 Hernando de Soto expedition (Milanich, 1987). This work has helped locate and verify the route itself and has, in addition, been able to elucidate some of the specific impacts of De Soto and other early explorers on the Indians of Florida (Milanich, 1987; Mitchem and Hutchinson, 1987). The site of De Soto's winter encampment in 1540 has also been located and is currently being excavated (Jones and Ewen, 1987).

Excavations at the Tatham burial mound in Florida have shown the incorporation of both ornamental and utilitarian Spanish items into traditional Indian burial contexts prior to 1550 (Mitchem and Hutchinson, 1987, pp. 55–57). These include both reworked and intact items of European metal, glass beads, spikes, chisels, nails, and armor fragments (Mitchem and Hutchinson, 1987, pp. 55–57). A silver celt effigy pendant was discovered, apparently worked from European metal. The material assemblage and its associations are characteristic of other sites of the period in Florida, as discussed in the sources cited above. Episodes of mass, possibly epidemic-related deaths have been documented, as well as physical trauma to Indian individuals caused by metal weapons (Mitchem and Hutchinson, 1987, p. 41).

The archaeological evidence from the early contact-period Indian sites of Florida indicates in general that European goods were incorporated into existing aboriginal technological categories, either unmodified or reworked to fit Indian utilitarian types. Many objects were used as ornamental or ritual items and, overall, do not appear to have produced any significant technological innovations. Change in the native cultures of Florida, like those of the Caribbean, was undoubtedly provoked at that early period more profoundly by disease and population declines.

Cuba. The most intensive and regular interaction between Spaniards and native Caribbean peoples occurred on the islands of the Greater Antilles, and it is there that we find the few postcontact Caribbean Indian sites that have been identified and studied. Cuba was one of the last of the Greater Antilles islands to be settled by Europeans, and historic Taino occupation probably persisted longer there than elsewhere in the Antilles. Documentary and archaeological evidence for the historic period occupation of the Taino in Cuba has been synthesized by Romero (1981), demonstrating that such a postcontact persistence did in fact exist and that evidence for Spanish–Indian acculturation can be located in the Taino and Spanish assemblages.

Irving Rouse's survey of the Maniabon Hills region of Cuba located nine Taino sites (of 113 total Taino sites) that were apparently occupied during the contact period (Rouse, 1942, p. 144; see also Goggin, 1968, pp. 34–36). Early sixteenth-century Spanish materials were found at these sites, as well as pieces of aboriginal pottery produced in the form of European wares (platters, jars, a candlestick). A shell pendant was carved in the shape of a pig (Rouse, 1942, p. 144). Spanish materials (ceramics and iron) were also reused by the Taino at these sites to produce tools and other items of aboriginal form and function.

Detailed information about this period has come from one of the most interesting of these sites, that of Yayal, in the Holguin province of northeastern Cuba (Domínguez, 1984; Guarch, 1967; Rouse, 1942, pp. 21, 115–119). Yayal is a large sub-Taino aboriginal site, near the town of Holguin, which was established in 1523 (Domínguez, 1984, pp. 43–45; Rouse, 1942, p. 118). A coin from the site dated to about 1580 suggests that it may have been occupied until after that date (Domínguez, 1984, p. 71), making it the longest-occupied historic period Indian site known in the Greater Antilles.

The site appears to have been of exclusively aboriginal occupation, despite the considerable evidence for interaction with Europeans. Yayal was extensively collected and excavated in the early decades of this century, and the information from the various projects and collections is synthesized by Domínguez (1984).

Although no stratigraphic information or dietary remains are available from the early excavations, Yayal is remarkable for its admixture of European

and Taino materials. Approximately 10% of the material originally recovered from the site is European in origin or inspiration (Domínguez, 1984, p. 47). These include fragments of such metal items as horseshoes, knives, nails, copper sheeting, coins, bells, and rings. Glass fragments and Spanish ceramics (primarily sixteenth-century majolica) were also present at the site. As in the Florida sites discussed above, these objects were used unmodified in some cases, but in many cases they were reworked to form pendants, disks, net-weights, and spindles. The most dramatic example of reuse at the site was a petaloid celt fashioned from iron (Domínguez, 1984, p. 65).

During the site's occupation, there apparently developed a ceramic tradition influenced by European wares. A number of vessels were reported from Yayal in European plate and crude chamber pot forms. Zoomorphic adorno handles—typical of late Taino ceramic assemblages—were present not only in such traditional forms as bats, lizards, and frogs, but also representing large mammals that were probably horses or cows (Domínguez, 1984, p. Fig. 20).

The balance of the assemblage from Yayal indicates that traditional Taino dietary, artistic, craft, and ritual elements persisted along with the new European-influenced items. These latter appear to have added or adapted to existing Taino material and functional categories, rather than replacing them.

Hispaniola. The En Bas Saline site in northern Haiti is another Taino village occupied during the historic period by Native Americans (Deagan, 1986, 1987b; Deagan and Williams, 1986). The work at En Bas Saline, which, at approximately 110,000 m^2, is the largest Taino site yet recorded in Haiti, was also begun through the impetus of the Columbian quincentennary (Deagan, 1987a, b; Hodges, 1985). It is believed to have been the town of Guacanacaric, the Taino cacique who assisted Columbus and his men after the wreck of the *Santa Maria* on December 24, 1492 [for discussion of the arguments for the location of the *Santa Maria* wreck and the village of Guacanacaric, see Deagan (1986, 1987b), Hodges (1985), Taviani (1984, Vol. 2, pp. 153–157), and Morison (1940)]. Unable to transport his crew on the remaining ships, Columbus ordered a small fort constructed, probably by fortifying Guacanacaric's longhouse (Varela, 1982; Morison, 1940). He named the fortress La Navidad and left 39 of his men there to trade with the Indians.

Upon his return in November of 1493, he found all of his men dead, the fort burned, and the supplies dispersed among the Indians over a distance of several kilometers. Various accounts indicate that the men died as a result of disease, internal fighting, antagonizing their hosts by their greed regarding gold and women, and finally, an attack from another Taino cacique. Columbus abandoned the area and left to establish La Isabela to the west (discussed

below). After this encounter, the people of En Bas Saline were left alone until 1503, when the town of Puerto Real was established approximately 2 km distant from Guacanacaric's village (see below). The site was probably abandoned by or before 1515, the year after the *repartimiento* records of Puerto Real indicated a dearth of Hispaniolan Indians in the region (Hodges, 1980; Moya Pons, 1982; Sauer, 1966, p. 201).

Investigations by the University of Florida between 1983 and 1986 (and continuing at the time of this writing) revealed that the site was occupied by the Taino from about A.D. 1250 until historic times (Deagan, 1986, 1987b). Very few items of European origin have been located at the site. Of the nearly 60,000 artifacts from excavated contexts, only 0.8% are of European origin. They include Spanish ceramics, *latticinio* glass, and metal fragments. The best dating index for the postcontact period at the site, however, has been European faunal remains—pig and rat—known to have arrived with Columbus. This should also be true of most sites of initial European contact in the Caribbean, given the low probability that such scarce and exotic items as glass, metal, or glazed pottery would enter the archaeological record without considerable circulation in the native exchange networks.

Analyses of the postcontact contexts at En Bas Saline tentatively suggest some of the changes experienced by the Taino after contact and before their demise (Deagan, 1987b). These do not include the replacement of native technologies, materials, or functions by European counterparts or the adoption of European stylistic and formal elements as was the case at Yayal. This is undoubtedly due, at least in part, to the difference in duration of postcontact occupation at the two sites.

At En Bas Saline, a general simplification and loss of specialization is suggested in the postcontact period. A smaller proportion of ceramics was decorated, and there was a loss of several formal and decorative elements in the ceramic repertoire. A lower proportion of ornamental and ritual items occurs in the postcontact contexts. There was also a significant reduction in the quantity of items related to manioc production (griddles and abraders) during historic times and an increase in the diversity of shellfish species used (Deagan, 1987b; Wing, 1987).

These trends—admittedly based on preliminary data—may indicate changes in response to the depleted population, a loss of demographic normality through the removal of males for mine labor, and a breakdown in the transmission of specialized knowledge of craft traditions. Few comparable sites have been excavated for comparison of evidence for pre- to postcontact change, however, several Taino villages in the Greater Antilles have been identified—such as En Bas Saline—at locations adjacent to early Spanish settlements and were probably impacted in much the same way. Although preliminary reconnaissance activities have taken place at some of these sites,

none has yet been systematically excavated with an orientation toward contact-period cultural dynamics.

Contact-period Taino towns have been located and tested adjacent to the site of La Isabela, which was established by Columbus in 1493 (Veloz Maggiolo and Guerrero, 1986; Taviani, 1984, Vol. 2, p. 161; Caro, 1973; J. Guerrero and F. Luna Calderón, personal communication, Puerto Plata, 1985).

A wide variety of European artifacts and materials has been recovered from a number of Taino sites throughout the Dominican Republic, including burial sites in which European articles were incorporated into traditional Taino burial ritual (see García Arévalo, 1978a; García Arévalo and Morbán Laucer, 1971; Chanlatte Baik *et al.*, 1971; Vega, 1979; Goggin, 1968, pp. 30–31). Aboriginal ceramics made in European forms are also recovered in Taino contexts, suggesting that some acculturative impact was manifest in the material life of the Hispaniola Taino before their demise (see García Arévalo, 1978a, pp. 111–112, 1978b).

Jamaica. At least three contact-period Taino sites have been located close to Sevilla Nueva, Jamaica, established by the Spaniards in 1509 (Lopez y Sebastian, 1986; Wynter, 1984, p. 19; Goodwin, 1946). One of these is believed to be the site of Maima, which was contemporary with early Sevilla Nueva. It has been intermittently tested although not yet reported (Lopez y Sebastian, 1986; Hammond, 1969, 1970; R. Ebanks, personal communication, Jamaica National Historic Trust, Kingston, 1986). The Windsor Hole site in Jamaica is also located near Sevilla Nueva and contains evidence of sixteenth-century Spanish and Indian occupation (Goggin, 1968, pp. 37–39; Goodwin, 1946). The White Marl site, possibly the largest Taino site in Jamaica, has also yielded sixteenth-century Spanish materials and was apparently occupied for a time during the early Spanish contact period (Goggin, 1968, p. 36), although no systematic study of the period or remains has been completed.

Relatively little archaeological research has been reported from contact-period Indian sites in Puerto Rico. Historic-period aboriginal occupation has been noted as presented in some recorded sites (ASB/NPS, 1983), and a contact-period Taino town was recorded on Mona Island (Rouse, 1952, pp. 363–368). None of these has been extensively investigated.

THE ARCHAEOLOGY OF SPANISH CONTACT-PERIOD SITES IN THE CARIBBEAN

There is considerably more archaeological information about the contact period resulting from studies of European sites, although methods, research

orientations, and reporting at these sites have varied widely. Many historical and anthropological questions are relevant to these sites and the research efforts at them, such as the degree to which the first Spanish colonists were able to maintain a transplanted "European" life-style (Ewen, 1987; Deagan, 1985b; Domínguez, 1984; McEwan, 1983), the nature and intensity of Spanish incorporation of Indian cultural elements as adaptive measures (Deagan, 1983, 1985b; García Arévalo, 1978a), the extent and impact of intermarriage between Spaniards and Indians (Deagan, 1973), the roles of Africans in contributing to "Euro-American" cultural formation (Smith, 1986; Arrom and García Arévalo, 1986), the nature of change in traditional Spanish subsistence patterns in response to New World environments (Reitz, 1986; Reitz and Scarry, 1986; McEwan, 1983), the ways in which these initial colonial experiences shaped subsequent cultural interaction in the New World, and the overall mechanics involved in the earliest crystallization of a Spanish–American cultural tradition (Ewen, 1987; Deagan, 1985b; Foster, 1960).

Much of this research has been informed by the work of John Goggin, who was active in Caribbean historical archaeology during the 1940s and 1950s. The results of his various investigations—devoted primarily to the classification, definition, and chronology of both material culture and archaeological cultures—are reported by Goggin (1960a, b; 1968). Irving Rouse and Jose Cruxent were also instrumental in the initiation of contact-period archaeological studies in the Caribbean, particularly in the early excavations at Spanish sites.

Hispaniola. The earliest site of intentional Spanish settlement in the Americas was at La Isabela, located near present-day Puerto Plata on the north coast of the Dominican Republic (Fig. 5). Columbus established La Isabela on his second voyage. He had with him 17 ships and 1200 men of a variety of social classes and occupations, as well as the range of items and accessories believed necessary to establish a colony (Varela, 1982, 1987, Taviani, 1984, Vol. 2, pp. 158–160).

It was at Isabela that European plants, animals, diseases, and cultural institutions were introduced to the New World on a large scale and in a regular manner, and because of this, Isabela has received considerable, if sporadic, archaeological attention.

Tests were carried out at the site in the late nineteenth century as part of the four hundredth anniversary of the site's founding; however, no information about the results of that work is available (Palm, 1945). Other, also unreported investigations were done in the 1930s and 1940s (personal communication, Office of Patrimonio Cultural, Santo Domingo, 1986; Taviani, 1984, Vol. 2, p. 160; Caro, 1973; Palm, 1945), and continued into the 1960s (García Arévalo, 1978a, p. 83). Some of the latter work was done by John

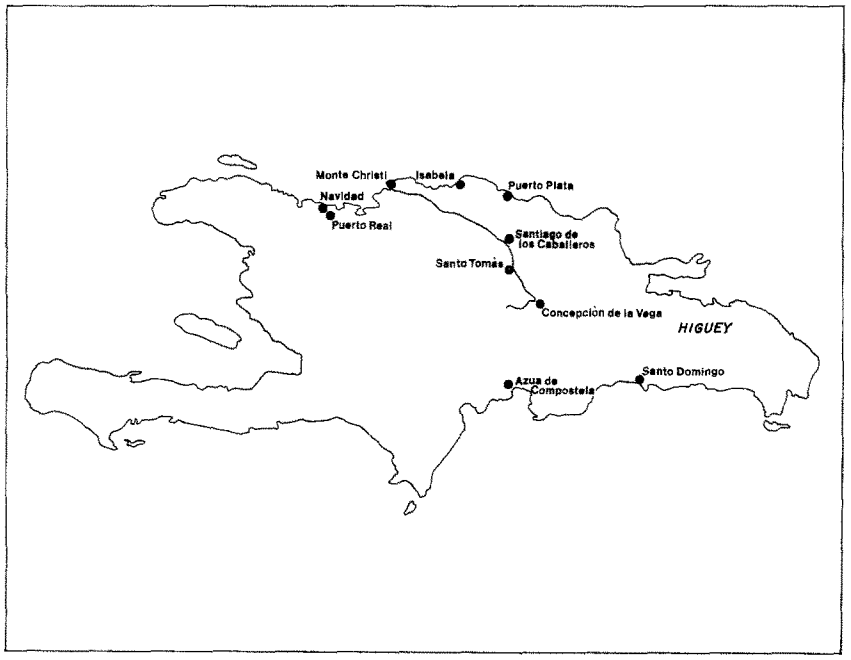

Fig. 5. Spanish settlements on Hispaniola, 1493–1510 (known sites).

Goggin (1968, p. 24). Excavations were reinitiated in 1983 under the auspices of the Museo del Hombre Dominicano (Taviani, 1984, Vol. 2, pp. 160–161).

The city consisted of a plaza fronting on the sea, with a stone fort, church, and *palacio real*, used as the home of Columbus (Varela, 1987). Streets were laid out in a grid plan around this plaza and were populated by some 200 thatch huts where the settlers lived (Varela, 1987). Isabela was located in an area already densely populated by the Taino, and a limerock quarry was located nearby (Varela, 1987; Veloz Maggiolo and Guerrero, 1986). Ill health, fire, crop failure, mutiny, and Indian aggression plagued La Isabela, and by 1498 it was abandoned in favor of Santo Domingo and Concepcion de la Vega (Varela, 1987).

Excavations at the site have located and concentrated upon the stone structures believed to have been the church and *palacio real* (Veloz Maggiolo and Guerrero, 1987; Taviani, 1984, Vol. 2, pp. 160–161; Luna Calderón, 1983; Guerrero and Ortega, 1983; F. Luna Calderón, J. Guerrero, M. Veloz-Maggiolo, E. Ortega, and M. García-Arévalo, personal communication, Santo Domingo, 1986).

The cemetery for the town has been located, and a number of Christian burials of Spaniards and Indians are presently being analyzed at the Museo

del Hombre Dominicano (Luna Calderón, 1983). The mortuary treatment of these individuals is identical to that documented for other sixteenth-century Spanish burials, including those at Puerto Real, Haiti (Willis, 1984); St. Augustine, Florida (Koch, 1980; Caballero and Zierden, 1979); and the earliest Florida missions (Larsen, 1987; Seaberg, 1951). This pattern is characterized by heads oriented to the west (faces toward the east), extended bodies with arms crossed at the chest, the general absence of grave goods or mortuary clothing (some exceptions to this occur in the Indian cemeteries at Florida missions), and burial in shrouds rather than coffins. This patterned mortuary behavior, which is quite distinct from that found on Anglo-American sites, reflects the ancient and conservative Catholic precepts concerning treatment of the dead (see Koch, 1980). The cemetery at La Isabela contained at least two unexpected phenomena: the burial of an 18- to 22-year-old Caucasian woman in a site believed to have been occupied predominantly by European men and Indian women, and the presence of a Caucasian male buried face downward with his hands behind his back (F. Luna Calderón, personal communication, La Isabela, 1983, 1985). The latter is believed to have been testimony to the harsh treatment of the colony's mutineers (F. Luna Calderón, personal communication, La Isabela, 1983, 1985).

Because the excavations have concentrated upon the burials in the cemetery and on revealing the extent of the foundations, little artifactual material is yet available for consideration. Most of what is known comes at this point from the surface collections made there in the late 1940s and 1950s by the Grupo Guama, Emile de Boyrie, and John Goggin (Goggin, 1968; Florida State Museum Catalogue Accession files A-16741). These include both Taino wares and a variety of late fifteenth-century Spanish ceramics.

This is a most interesting collection of materials, since it reflects an assemblage of the late fifteenth-century *mudejar* (Iberian Christian–Muslim) tradition in Spain. This is one of the few New World sites occupied prior to the rapid technological and commercial changes that occurred after the *reconquista* of Spain from the Moors was completed (1492) and regular transport and trade between the Old and the New Worlds began. Even the very limited collection of ceramics from La Isabela site is distinct from materials found at other Hispaniolan sites dating to only a decade later. The Isabela materials are instead more similar to those recovered from fifteenth- and sixteenth-century sites in Spain (McEwan, 1988).

Two years after the founding of La Isabela, a fortress and settlement were established near present-day La Vega in the central part of the Dominican Republic (Fig. 5). This was the town of Concepción de la Vega, located in the rich Vega Real and intended as a fortified center from which to trade for gold, subdue central Hispaniola, and produce sugar (Wilson, 1985; Poladura, 1980; Goggin, 1968, p. 24; Palm, 1952). The settlement was an economic

Fig. 6. Sixteenth-century ruins, Concepcion de la Vega, Dominican Republic (photo by author).

success and persisted as a thriving community of some 70 Spanish families until 1562, when an earthquake destroyed the town and it was abandoned (Wilson, 1985; Poladura, 1980; Goggin, 1968, p. 24; Palm, 1952).

Archaeological work has been under way at the site intermittently since the 1950s, when surface collections were made there (Goggin, 1968, p. 24). Large-scale excavations were initiated in 1976, under the auspices of the Dirección de Parques Nationales of the Dominican Republic (Gonzales, 1980; Poladura, 1980; Ortega and Fondeur, 1978a). These excavations have concentrated upon the architectural remains at the site, which are some of the most remarkable in the Caribbean (Fig. 6). They include the remains of a late

fifteenth-century fortress, a cathedral with buttresses intact, and portions of a Franciscan monastery. As at La Isabela, the homes of the colonists themselves have not yet been located or studied. Unlike the situation at La Isabela, however, the excavations at Concepción de la Vega have produced a large and varied material assemblage that provides some insight into the nature of life in the city.

The settlers at Concepción, perhaps building upon lessons learned at La Isabela, were apparently able to maintain a life-style that included many familiar Spanish items and amenities. Elaborate ceramics, ornamental items, glassware, household objects, furniture and structural hardware, and coins have been found in abundance at the site (see Poladura, 1980; Gonzales, 1980). A large number of book ornaments suggest an intellectual element in the life of the town, possibly related to the monastery (Gonzales, 1980).

One of the most remarkable features of the assemblage at Concepción de la Vega is the presence of a very unusual style of syncretic Hispanic–Indian pottery. These ceramics, studied and reported by Ortega and Fondeur (1978a), exhibit certain traits characteristic of South American Arawak ceramics, as well as Spanish formal elements such as plates, pitchers, and basins. It has been suggested that these wares reflect both the importation to the area of non-Taino Indians as slaves and a conscious attempt on the part of the Spaniards to organize Indian craft activity in directions more suited to Spanish tastes (Ortega and Fondeur, 1978a; García Arévalo, 1978a, pp. 91–92). Such nonlocal aboriginal wares exhibiting acculturative influence have also been found at several sixteenth-century sites in Santo Domingo (García Arévalo, 1978a, pp. 91–92, 117–118; Ortega and Fondeur, 1978b; Ortega, 1982). Local Indian ceramics made in European forms are a common feature on sixteenth-century Spanish as well as occasionally on Taino sites throughout the Caribbean, discussed below.

Shortly after the founding of Concepción de la Vega and the failure of La Isabela, the first permanent European capital in the New World was established at Santo Domingo in 1497 (Varela, 1987; Moya Pons, 1971). Santo Domingo is today a densely populated major urban center, which still contains significant remains of the initial period of occupation. A major research, restoration, and exhibition program has been under way in Santo Domingo for several decades, concentrating upon the original sixteenth-century settlement area. As a consequence, a great deal of archaeological, historical, and architectural research has taken place in the city and is interpreted in many of the buildings of the sensitively restored sixteenth-century *barrio*, as well as in the city's Museo de Casas Reales.

Excavations have revealed the complexity of the deposits and the massive urban disturbances to the archaeological record; nevertheless, a rich array of evidence for the material life of the colonists has been generated. Numerous

public, domestic, and religious sites have been excavated, including those reported by Ortega (1971, 1982), Ortega and Fondeur (1978b), García Arévalo (1978), Council (1975), and Ortega and Cruxent (1976). Taken together, this research provides an important descriptive resource for the study of the roots of Hispanic-American cultural development in the Caribbean.

By 1503, Santo Domingo was firmly established as the administrative seat of Spanish presence in the Caribbean, and in that year a series of 13 outlying communities was founded throughout Hispaniola in order to subdue the island and its resources (Moya Pons, 1971; Floyd, 1973, pp. 62–64) (Fig. 5). One of these was the town of Puerto Real, occupied between 1503 and 1578 (Lyon, 1981; Hodges, 1980) and the most extensively excavated site of initial European occupation in the Caribbean.

Puerto Real was a cattle ranching community, with a thriving and often illicit trade in meat and hides (Lyon, 1981; Hodges, 1980). At its peak it was occupied by more than 300 Spaniards and 1000 unfree Indian laborers, many of whom probably came from the adjacent Taino village at En Bas Saline (discussed above). It was forcibly abandoned in 1578 at the instigation of the Spanish crown, because of the inability of the Santo Domingo officials to halt the illegal trade of the town people with foreign nationals (Hoffman, 1980; Willis, 1984).

After the abandonment of Puerto Real, the colonists were relocated to the settlement of Bayahá, at present-day Ft. Liberté, Haiti. This site has been located and excavated by Dr. William Hodges of Haiti (Hamilton and Hodges, 1982), who also located the site of Puerto Real in 1977. The University of Florida carried out excavations at Puerto Real between 1980 and 1985, in order to study the structure of the town, the development of and changes in adaptive strategies of the Spaniards, and the evidence for Spanish–Indian interaction and influence and to understand the lifeways of the settlement (Ewen, 1987; Smith, 1986; Williams, 1986; Reitz, 1986; McEwan, 1986, 1983; Willis, 1984; Shapiro, 1983; Fairbanks and Marrinan, 1981).

A program of mapping and subsurface transect tests revealed a site area of approximately 16 ha, arranged in a rectangular form of about 500 × 400 m. The town was arranged—most probably on a grid plan—around a central plaza containing public buildings, a church, and a cemetery (Willis, 1984). Subsurface testing revealed the locations of 57 masonry structures with associated material assemblages that varied considerably among the sites (Williams, 1986). Excavations have been carried out in the central plaza and church areas (Willis, 1984; Marrinan, 1982), revealing the remains of large stone buildings believed to have been the church and monastery or *audiencia* (Fig. 7). The cathedral structure measured 27 × 7 m and was built and floored with *ladrillos*, which are flat Spanish bricks (Willis, 1984, pp. 72–84; Deagan, 1987a, pp. 124–125). The building's walls were ornamented

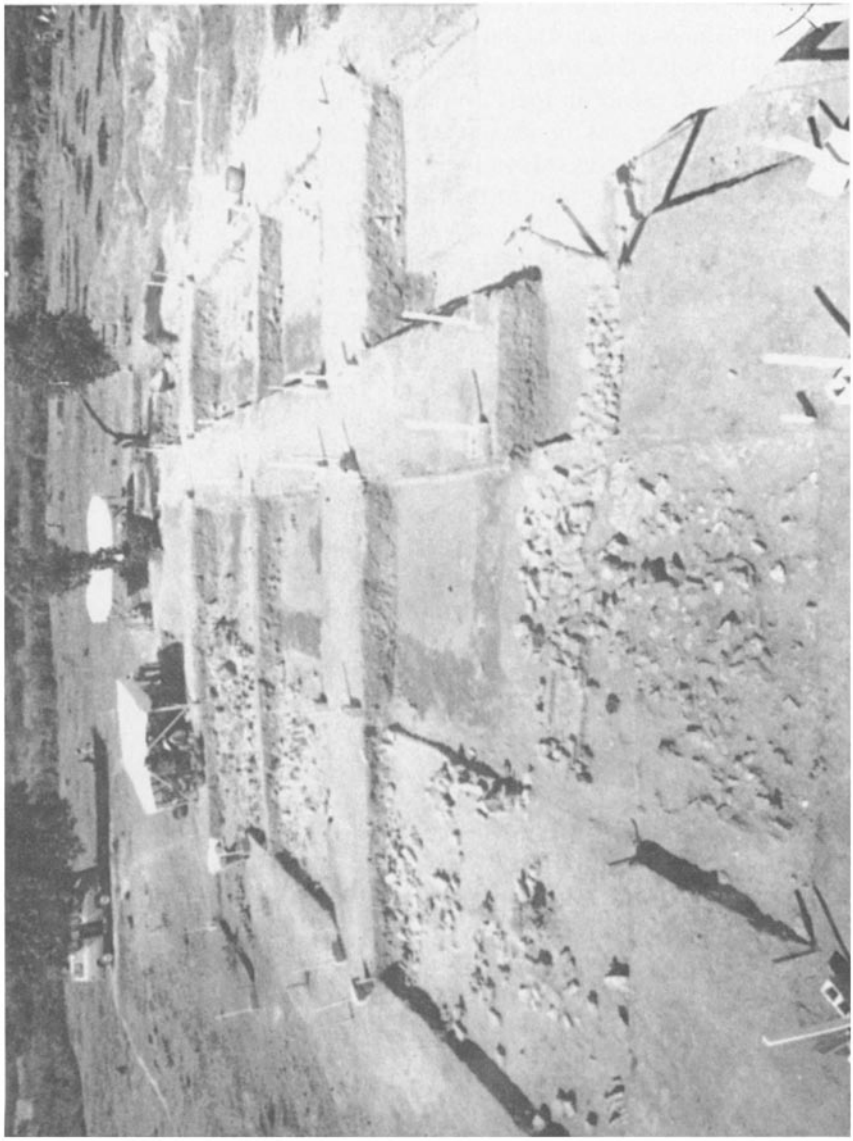

Fig. 7. Excavation of church at Puerto Real, Haiti (1503–1578) (photo by Paul Hodges).

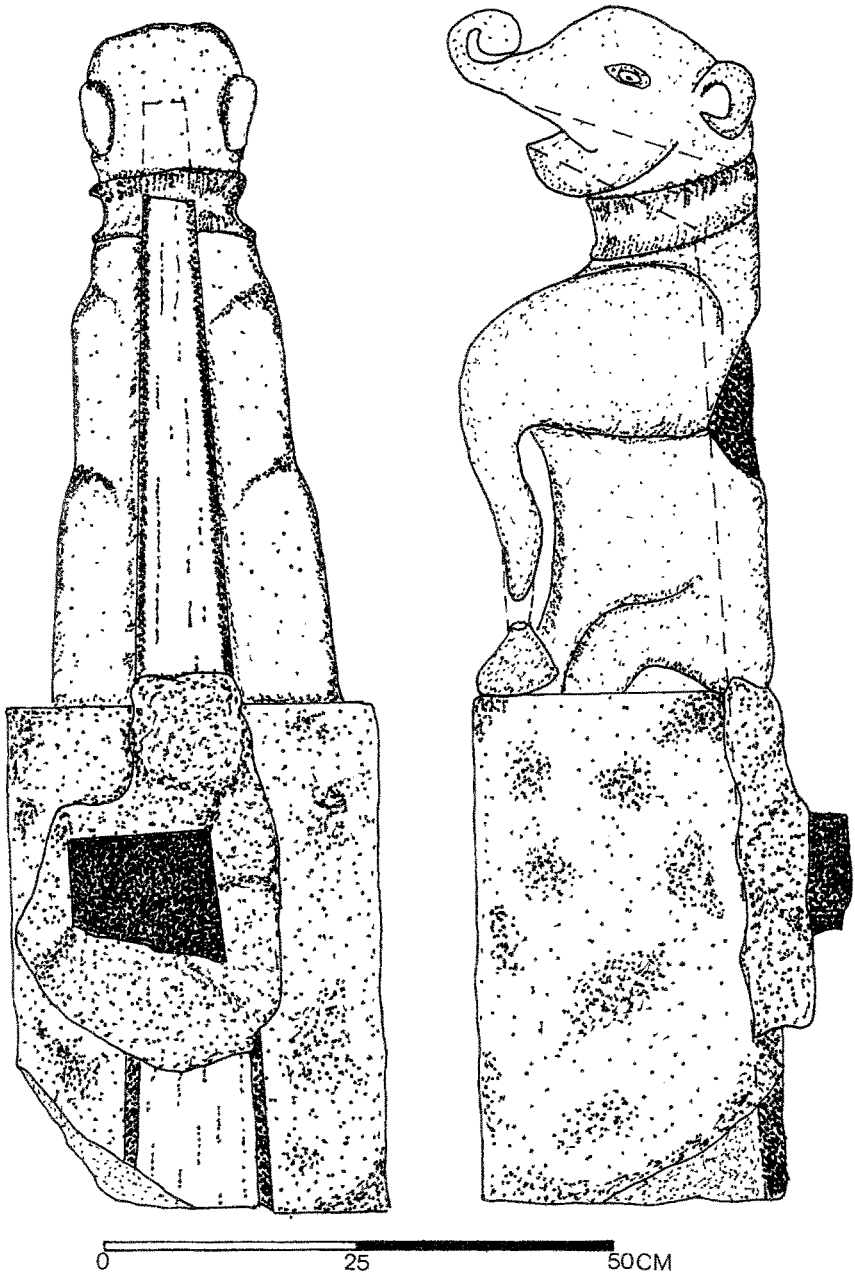

Fig. 8. Limestone gargoyle (ca. 1525) excavated by William Hodges at the church of Puerto Real, Haiti. Presently located in the Musee de Guahaba, Limbe, Haiti. Drawing after Willis (1984, p. 87).

with cuenca tile and the exterior ornamented with carved medieval-style limestone gargoyles (Fig. 8).

The cemetery was located on the west side of that building, with burials facing the building (faces toward the east) in the traditional Catholic mortuary pattern seen at La Isabela (above). Three other areas at Puerto Real have been excavated, including two domestic sites (Ewen, 1987; McEwan, 1983, 1986) and a site believed to have been a commercial or manufacturing area, due to the huge quantities of animal bone, awls, and coins and the small amount of domestic refuse recovered there (Reitz, 1986).

The domestic sites have provided information about colonial life and adaptive measures. A diverse and international assemblage of items has been recovered from the town, including Spanish ceramics, Italian glass and ceramics, German stoneware, a variety of metal ornaments and book fasteners, jewelry, and many other small domestic implements such as knives, candlesticks, scissors, etc. Defensive concerns of life on a frontier are reflected in the large number of weaponry items from the site. These are particularly interesting in that they span the period of transition from late medieval crossbow-based weaponry to the era of firearms.

In addition to these goods, which probably helped to reproduce a Spanish life-style, evidence for adaptation to local circumstances is consistently present. Much of the cooking technology, for example, was of local manufacture, produced either by *repartimiento* Indians or by the many African slaves who were brought to Puerto Real after about 1520. Analysis of the locally produced pottery at Puerto Real (Smith, 1986) has shown that in the earliest occupation stages, small amounts of Taino Carrier wares were present in the Spanish households. They were associated with a simple undecorated ceramic ware with a paste similar to the Taino wares but with forms and surface treatment not documented for prehistoric times. The latter sometimes had European formal elements (Smith, 1986).

Along with these wares of probable historic Amerindian origin, and increasing and replacing them through time, is a thick, low-fired, dark, crude pottery referred to by Smith (1986) and others as "colono-ware" (Fig. 9). Temporal analysis at Puerto Real suggests that this pottery may have been made by African, rather than Indian slaves, since it occurs most frequently in contexts dating to after the demise of the Indian population. It also constitutes an increasing percentage of the entire assemblage through time (Ewen, 1987).

Very similar wares have been reported from sixteenth-century Spanish contexts in Cuba (Romero, 1981, p. 90; Domínguez, 1978, 1980), Nueva Cadiz, Venezuela (Willis, 1976), and the Dominican Republic (García Arévalo, 1978a). Regardless of the origin of the wares, however, it is clear that the Spaniards adopted locally produced non-European wares as their primary

Fig. 9. Colono-ware pottery: Puerto Real, Haiti (Florida State Museum Cat. Nos. PR-3165, 3264, 3263).

kitchen pottery throughout the circum-Caribbean region and that this trend persisted throughout the colonial period (see Deagan, 1983, Chap. 10, 1985b, p. 19).

The diet of the Spanish colonists at Puerto Real appears to have consisted primarily of beef and pork, with very little incorporation of local faunal species (Ewen, 1987; Reitz, 1986; McEwan, 1983). This was undoubtedly due to the primacy of cattle ranching in the economy of the town, which produced an abundance of beef. Local fish and turtles were eaten by the Spanish colonists but did not make a major contribution to the diet. This stands in sharp contrast to the faunal record at early Spanish settlements more remote from cattle ranching areas, such as Spanish Florida. There the settlers relied heavily upon local foods in their diet, and complained bitterly about it (Reitz and Scarry, 1985). Although remaining small, the proportion of local foods in the diet of the Puerto Real colonists increased through time, possibly

reflecting greater familiarity with the environment, a decline in cattle ranching activities, or sampling bias.

Plant remains are unfortunately not well preserved at Puerto Real, however, the presence of Taino-style ceramic griddle fragments in the archaeological record of Spanish households indicates that local cassava bread was used to some extent.

Puerto Real has provided an important source for understanding some of the adaptive mechanisms employed by the Spaniards in the New World, as well as changes in the patterns of adaptation as second- and third-generation *criollos* established themselves in the colony. The work to date has indicated that the use of native New World technologies by the Spanish colonists follows the pattern documented for Spanish Florida (Deagan, 1983, p. 271) of a Spanish–Indian syncretism found primarily in nonsocially visible areas and those typically associated with women's activities (Ewen, 1987). Socially visible areas remained characteristically Spanish.

Sugar Production. Puerto Real was a manifestation of the cattle ranching economy in Hispaniola that eclipsed precious metals as their reserves declined. Other Spanish communities responded to that decline by turning to the production of sugar (see Mintz, 1985, pp. 28–35; Williams, 1970, pp. 23–29), and early sixteenth-century Spanish sugar mills and associated sites have been a focus of archaeological interest throughout the Caribbean. Although the major period of sugar production in the Caribbean did not begin until the midseventeenth century (Mintz, 1985, pp. 28–35; Williams, 1970, pp. 23–29), Spanish efforts were widespread and influential in later ventures. The requirements of sugar cultivation and production had a major long-term impact on the demographic makeup of the Caribbean (in that it required large numbers of African slaves) and on the ecology of the islands (in that it required clearing of major tracts of forest land). Sites of the very early sugar industry have been a focus of Museo del Hombre Dominicano recording and research efforts since 1976, including those at Sanate (see Mañón Arredondor, 1978; Chanlatte Baik, 1978) and at Azua (J. Rodriguez, personal communication, Museo del Hombre Dominicano, 1986). Sixteenth-century Spanish sugar mill sites have also been recorded in Jamaica at the site of Sevilla Nueva (discussed below).

Also located and excavated in the sugar-producing Higuey province of the Dominican Republic was the fortified residence of Juan Ponce de Leon, called Salvaleón del Higuey (García Arévalo, 1978a, p. 43; Boyrie Moya, 1964). It was from here that he embarked in 1508 to subdue Boriquen, now known as Puerto Rico (Alegría, 1963; Brau, 1966; Murga Sanz, 1959).

Puerto Rico. Ponce de Leon built the first European settlement in Puerto Rico—including a fortified stone house for himself and his family—at Caparra, located today in a suburb of San Juan. Caparra was excavated

in the 1930s (Hostos, 1938) and yielded a large and elaborate collection of early sixteenth-century Spanish materials associated with a massive stone building. These can be seen today at the Museo de Caparra, near San Juan.

Archaeological work has also taken place intermittently in San Juan itself, occupied since 1519 (Manucy and Torres-Reyes, 1973, pp. 25–26). This work has been carried out largely in support of salvage, restoration, and interpretation of the buildings and fortifications of Old San Juan, under the auspices of the Instituto de Cultura Puertorriqueño, the National Park Service, the Army Corps of Engineers, and other public agencies. Much of this work is reported in unpublished form and is discussed by Pantel *et al.* (1986, pp. B1–B11). To date, archaeology in old San Juan has been devoted largely to concerns of site preservation and restoration.

El Morro castle, established in 1539, was tested by Hale Smith (1962), who provided architectural information and a stratigraphic sequence for the site. Excavations have also been done at the San Juan city walls (Watters, 1987; Solis, 1984; Walker, 1982), and tests are currently under way in the central part of downtown San Juan (Watters, 1987), in the vicinity of earlier excavations at the sixteenth-century convent and church of the Dominicans (Alegría, 1984). Information recovered through excavation in San Juan is, to date, relevant primarily to the later periods of colonial occupation; however, the data base on the initial Spanish occupation of the city is growth through projects such as these.

Cuba. By 1519, when San Juan was first established in its present location, Havana, Cuba, had assumed its position as the primary trade entrepôt in the Caribbean (Andrews, 1978, pp. 65–70) and as the staging ground from which the conquest of Mexico was launched (Lockhart and Schwartz, 1983, p. 83). Havana, like Santo Domingo and San Juan, has been a densely-occupied urban center for nearly five centuries. In recent years, however, programs of excavation have been carried out in the city by the Academia de Ciencias de la Habana and the Museo de la Ciudad de la Habana (Domínguez, 1984; Romero, 1981; Romero and Domínguez, 1979). Excavations have been carried out since the 1960s in both public buildings and domestic structures in the city as a basis for an extensive restoration program (Domínguez, 1984; Romero, 1981; Romero and Domínguez, 1979). The results are also permitting the reconstruction of colonial material life in Havana from the sixteenth through the nineteenth centuries, reflecting the rich international variety of Havana's goods (Domínguez, 1984; Romero, 1981; Romero and Domínguez, 1979).

Jamaica. In contrast to Havana, San Juan, and Santo Domingo, the site of Sevilla Nueva in Jamaica was the Spanish capital of that island for only 23 years. It was also one of the first contact period Spanish sites in the region to be studied archaeologically. Columbus and his men had been

stranded at the future location of Sevilla la Nueva in 1503 and passed a year of hardship and mutiny before they were rescued (Morales Padron, 1952, p. 40).

The Spanish settlement of 80 families was established in 1509 and was intended to be a permanent settlement (Wynter, 1984; Morales Padron, 1952, pp. 47–49). It was abandoned, however, by 1534, owing in part to unhealthy conditions and constant disease, which was a menace that consistently plagued the first Spanish colonists as well as the American Indians who encountered them. The settlement was relocated to the south side of the island and renamed Villa de la Vega. It served as the Spanish capital until English occupation in 1655. That second site is known today as Spanish Town and has been excavated intermittently over the past two decades (Mathewson, 1972; Ebanks, personal communication, Jamaica National Historic Trust, Kingston, 1986).

Sevilla la Nueva has been the focus of several archaeological studies, both terrestrial and marine. The first of these was done by Mr. C. S. Cotter of Jamaica, who discovered the site in 1937 and worked there intermittently for the next 30 years (Cotter, 1948, 1970). Surveys of the site and surrounding region have been carried out both to locate land elements (Smith *et al.*, 1982; Hammond, 1969, 1970) and to discover the caravels sunk when Columbus was stranded there in 1503 (Smith, 1985; Smith *et al.*, 1982).

Major excavations at the site have been carried out under the direction of Professor Lorenzo Lopez y Sebastian of the University of Madrid since 1980 and are still under way (Lopez y Sebastian, 1986). No data from these excavations are currently available, although preliminary results are discussed by Wynter (1984).

Sevilla la Nueva contains some of the best-preserved contact-period archaeological remains in the region. Projects over the years have located and tested the central plaza, with a fortified structure known as the "castle," areas of brick paving, the church, remains of public buildings, and a sugar mill. Twenty-five other clusters of masonry remains were suggested to have been domestic structures (Smith *et al.*, 1982; Cotter, 1970; Goodwin, 1946, pp. 155–173). The castle site yielded a group of elaborately sculptured stone columns which feature Spanish and Amerindian motifs (Cotter, 1948). These columns represent some of the earliest renaissance-grotesque art motifs in the New World and, certainly, the first-known that incorporate Amerindian imagery.

None of the material remains from any of the excavations at Sevilla Nueva have been reported yet in detail, however, those data that are available (Cotter, 1970) indicate that a wide range of European utilitarian and luxury items was present, in association with nearly equal amounts of Taino materials. Analysis of a sample of dietary remains from the castle site indicates that

although—as at Puerto Real—local marine species were used, European domestic animals dominate the dietary assemblage (McEwan, 1983).

The Pearl Islands. The Spanish occupation sites discussed in the preceding pages were all initially intended not only as bases from which to control and exploit the Antilles, but also as permanent colonies. The site of Nueva Cadiz, on Cubagua island off the coast of Venezuela, represents quite a different type of early Spanish settlement, in that it was a single-resource, extractive venture to harvest pearls. It was also one of the earliest Spanish contact sites in the Caribbean to be archaeologically investigated. Early work included that of Alfredo Boulton (1952) and of Jose Cruxent, John Goggin, and Irving Rouse in 1954 (Willis, 1976, 1982; Goggin, 1968, p. 24; Rouse and Cruxent, 1963; Cruxent and Rouse, 1958).

Pearl beds were discovered by Columbus in 1498, near the island of Margarita off the coast of Venezuela. This led to the establishment of the colony of Nueva Cadiz on the desert island of Cubagua in 1503. The desert location forced the Spaniards to depend entirely upon imports for everything from food and water to labor. At its peak the colony was occupied by about 300 Spaniards and 1200 Indian and African slaves. The Indian slaves were imported from relatively distant areas, particularly the Lucayan Islands, where the Indians were renowned for their diving abilities. It appears that the Spaniards intentionally left the Indians in the immediate vicinity of Nueva Cadiz in relative freedom, because they depended upon them for food, water, and fuel (Boomert, 1984).

The cruel treatment of the pearl divers at Nueva Cadiz was frequently noted, most graphically by Bartholome de las Casas (1974, pp. 109–111); and there can be no doubt that the lives of these people were indeed miserable. Indians and Africans of different social groups were thrust into contact in a harsh and alien setting and forced to labor under crippling conditions. At least one manifestation of this was indicated in the archaeological record, and that is the evidence for rapid disintegration of the traditional material cultural patterns of the various Indian peoples who were relocated and recombined at Nueva Cadiz. Rather than pottery known to have been associated with any Caribbean or South American people at the time of contact, the local wares used at Nueva Cadiz were crude, simple, and undecorated, with few traces of previous indigenous elements (Willis, 1976; Rouse and Cruxent, 1963, p. 138). The appearance of such ceramic wares after contact is consistent with the ceramic trends noted above for other early sixteenth-century Caribbean sites where slavery was implemented.

The circumstances of the Spaniards at Nueva Cadiz were considerably different from those of the Indians. Despite the nearly complete absence of local resources, they were able to reproduce a relatively comfortable life-style that retained many familiar Iberian elements and luxuries. They built houses

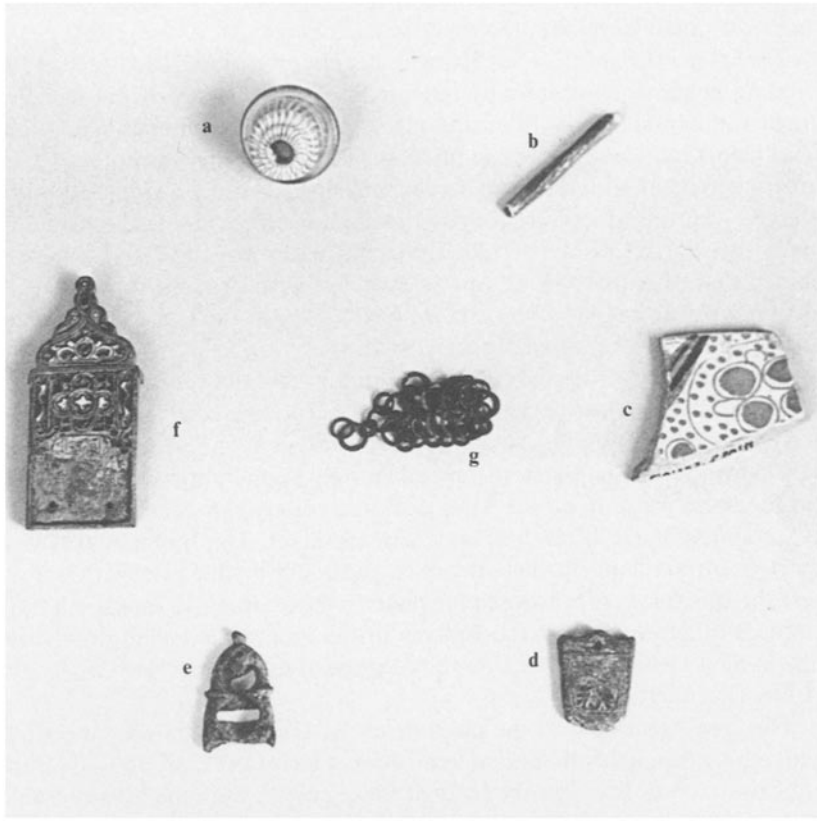

Fig. 10. Early sixteenth-century Spanish items from Caribbean sites. (a) *Latticinio* glass lid finial (max. diameter, 3.5 cm) (Nueva Cadiz; FSM type collection) (b) Nueva Cadiz twisted turquoise glass bead (length, 5 cm) (Nueva Cadiz; FSM Cat. No. A11123) (c) Spanish lustreware pottery (height, 4 cm) (FSM type collection) (d) gilded belt tip (length, 3 cm) (Concepcion de la Vega; FSM type collection) (e) copper alloy scabbard tip (height, 3.5 cm) (Concepcion de la Vega; FSM type collection) (f) gilded, enameled book hardware (length, 86 cm) (Puerto Real, Haiti; FSM Cat. No. PR3217). Center (g) Chain-mail links (Nueva Cadiz; FSM type collection).

of stone and constructed elaborately decorated public buildings, churches, and monasteries (Rouse and Cruxent, 1963, p. 136). Household furnishings —ceramics, glassware, utensils, furniture, and book hardware—as well as personal ornaments were ornate and of Spanish origin (Fig. 10). The fragile and elaborate glass assemblage at Nueva Cadiz is particularly notable in its abundance and luxury (Deagan, 1987a, pp. 140–142; Willis, 1976, p. 66).

The diet of the Spaniards at Nueva Cadiz also differed markedly from that of the Indians, which was comprised largely of oysters (Rouse and

Cruxent, 1963, p. 135). Although fish and turtles appear to have made an important contribution to the European diet, domestic pigs, cows, and chickens were also included along with such wild terrestrial mammals as deer and rabbits (Wing, 1961, p. 163). This pattern differs somewhat from that found at other early Spanish sites on Hispaniola (see above), where European domestic animals dominate the faunal assemblage to the near-exclusion of local species. The assemblage at Nueva Cadiz may reflect the proximity of the colony to the South American mainland, the supply of foodstuffs largely through the Arawak Indians of the region, and the "monocultural" nature of the economy.

This relatively European way of life, with few apparent adjustments made to the local environment, was sustained almost completely through the overexploitation of natural and human resources. This pattern persisted until about 1540, when the pearl beds were depleted and the Indian labor force was annihilated. A hurricane struck Nueva Cadiz in that year, and the settlement was abandoned.

Natural Resources Exploitation. Nueva Cadiz is the best-known archaeological manifestation of initial Spanish efforts to exploit the natural resources of the Caribbean. These endeavors, although limited in comparison to the industries of later colonial powers, impacted Caribbean ecology to a considerable extent. Certain resources were quickly depleted, including precious metals, pearls, and human labor as discussed above. Other extractive industries had a less immediate impact, such as the harvesting of medicinal plants (sarsparilla, lignum vitae) and lumber (brazilwood and dyewoods) (Chaunu and Chaunu, 1957, Tome 7, pp. 142–143; Sauer, 1966, pp. 99–100). Vegetation was probably more severely impacted, however, by the prehistoric swidden agricultural practices of the Taino, and it is likely that the period between the demise of the Indians and the initiation of intensive cultivation of sugar in the seventeenth century saw a period of reforestation in the Greater Antilles, in much the same way that it occurred in thirteenth-century Europe following the plague (Gottfried, 1983, pp. 135–136).

Animal resources in the Caribbean were also impacted by the arrival of Europeans, although it is apparent that mammal populations of the islands had already been greatly reduced by the Indians long before 1492 (Morgan and Woods, 1986). The absence of mammalian quadrupeds was consistently commented upon by the early explorers (see Gerbi, 1985, pp. 15, 32–33, 72). The introduction of European carnivores (cats and dogs) to the carnivore-poor islands of the West Indies made additional severe inroads into the mammal population (see Sauer, 1966, p. 59; Woods, 1988), resulting, for example, in the probable extinction of the Antillean barkless dogs and some rodent species within a few decades of contact (Sauer, 1966, p. 59; Woods, 1988).

The introduction of domestic European fauna into this vacant niche quickly resulted in a phenomenal expansion and radiation of cattle, goats, and especially pigs (Reitz, 1986, 1988; Sauer, 1966, p. 189; Harris, 1965, pp. 80–81). This had the effect not only of impacting the vegetation in the Caribbean, but also of providing an abundant source of domestic meat to the Spanish colonists. This was in contrast to the situation in contemporary Spain, where meat was desirable, but scarce (Defourneaux, 1966, p. 152). This was a significant difference between the lives of Spanish colonists in the Americas and those of their compatriots in Spain.

It appears in general that Spanish presence in the circum-Caribbean established exploitive practices (mining, lumbering, sugar production, livestock, turtling) that were continued and intensified by later colonists. The greatest impact to the region, however (other than the depletion of mineral and human resources), was not during the sixteenth century but, rather, during the later periods (post-1650) of European presence in the Caribbean.

Early African Presence in the Caribbean. The presence of Africans in the early sixteenth-century Caribbean has been one of the most archaeologically neglected aspects of the contact period. The entry into the Caribbean of large numbers of Africans did not take place until the second decade of the sixteenth century, when the island economy shifted from mining to plantations and the depletion of the native populations of the islands had reached an extreme level. There were, however, both slave and free Africans in the Caribbean from 1492 onward, beginning with Juan las Canarias, a Black sailor on the crew of the *Santa Maria* (C. Varela and J. Gil, personal communication, San Salvador, 1986; see also Arrom and García Arévalo, 1986, p. 37; Price, 1979; Sauer, 1966, pp. 207–207, 263).

Agricultural activities in the Antilles depended primarily upon African slave labor, and the slaves were largely self-sufficient in their subsistence. In the earliest decades of the sixteenth century, African food staples such as yams, guinea fowl, and beans were imported for the slaves to grow as food (see Sauer, 1966, pp. 210–212). Indian agricultural products such as manioc and peanuts were also used, as well as Amerindian farming and preparation techniques (Sauer, 1966, pp. 210–212). This admixture of Amerindian and African traits can be seen today in kitchen gardens and cuisine throughout the Caribbean (see Armstrong, 1988).

Social and material interaction among African, Amerindian, and European populations also occurred quite early and quite extensively in the contact period. Although the resulting Afro-Caribbean tradition has been studied in detail (e.g., Price and Price, 1980; Crahan and Knight, 1979; Deive, 1978; Mintz, 1974; Armstrong, 1988), its origins in the Spanish contact period have been given little archaeological attention (see Posnansky, 1982).

Exceptions include Arrom and García Arévalo (1986), Smith (1986), Vega (1979), and Veloz Maggiolo (1974).

One important aspect of this interaction was the stance of resistance to enslavement taken almost immediately by the relatively powerless African peoples, resulting in the Black (and Indian) *cimarron* communities found throughout the Spanish Caribbean during the sixteenth century (see Arrom and García Arévalo, 1986; Chapeaux, 1983; Deive, 1980; Price, 1979; Schelle, 1906, Vol. 1). Interaction between Indians and Africans was apparently an important element in this pattern of resistance, and legislation was issued in 1518 to prevent interaction between the two groups (Hanke, 1964, p. 31).

Sites of *cimarron* communities (*manieles*) in the Dominican Republic have been archaeologically studied and reported (Arrom and García Arévalo, 1986; Vega, 1979). These sites contained clear evidence for the use of both African and Amerindian ornamental and other material elements, as well as modified European items. Metallurgy was apparently practiced, and locally made pipes, metal armbands, shell implements, and ceramics show evidence of African form and decoration (Arrom and García Arévalo, 1986, pp. 60–73). The inhabitants of the *manieles* apparently subsisted through the hunting of feral pigs. Such archaeological sites of early African occupation in the Caribbean offer the potential of providing a more detailed and realistic assessment of the African contributions to New World cultural development than is presently possible.

CONCLUSION

Archaeological research in contact-period circum-Caribbean sites has been carried out with increasing frequency over the past decade. This work has included sites of Amerindian occupation, Spanish occupation, and African occupation, as well as sites occupied by all three groups. The results of such investigations have been most successful in the areas of reconstructing Amerindian lifeways at the time of contact, elucidating the responses of Amerindian peoples in the Caribbean to initial European contact, and revealing the ways in which the Spaniards altered their traditional Spanish cultural patterns in order to adapt successfully to New World circumstances.

The overriding anthropological theme of this era in this part of the world is that of acculturation and cultural crystallization (see Foster, 1960). Despite the rapid and tragic decimation of the native Caribbean peoples and their consequently short historic occupation, there are traces in the archaeological record of acculturative adjustment in both Amerindian and European contexts. In general it appears that the Caribbean Indians adopted European materials and, in some cases, design motifs but incorporated them into

already existing aboriginal cultural categories. The production of aboriginal vessels with European formal elements may reflect changes in food practices during the postcontact period but may also represent directed change in a craft industry intended for European consumption.

The pattern emerging from archaeology on European sites of the contact period shows an incorporation of Amerindian elements in nonsocially visible, infrastructural areas, such as diet and food preparation. Visible symbols of social identification remained rigidly Spanish. The exploitation of natural and human resources in the Caribbean apparently made it possible for the first Spanish settlers to reproduce and maintain a relatively familiar, European pattern of life, particularly in their material world. In the Caribbean, this pattern of extraction and replication lasted for only about 25 years, by which time the resource was depleted and attention turned to the mainland areas.

Less clear, but nevertheless present in the archaeological record is evidence for African contributions to the circum-Caribbean cultural patterns of the contact period. This is seen primarily in ceramics, foodways, and possibly architecture but will require considerably more archaeological investigation to be understood.

The Caribbean region in the early contact period provides us with a rich arena in which to study the processes by which the post-1500, global new world developed. These processes—acculturative adjustment and adaptation, dominance and resistance, social disintegration and hybrid cultural formation, and *mestizaje*—shaped the world as we know it today and continue to serve as important agents of change. There can be few more appropriate observations of the quincentennary of the events that sent these processes into motion than the archaeology of the first places in which they occurred.

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