

SALADOID ARCHAEOLOGY ON ST. VINCENT, WEST INDIES:
RESULTS OF THE 1993/1994 UNIVERSITY OF MANITOBA SURVEY

BY

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A Thesis
Submitted to the Faculty of Graduate Studies
in Partial Fulfillment of the Requirements
for the Degree of

Master of Arts

Department of Anthropology
University of Manitoba
Winnipeg, Manitoba, Canada

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A Thesis/Practicum submitted to the Faculty of Graduate Studies of the University of Manitoba in partial fulfillment of the requirements for the degree of

MASTER OF ARTS

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DEDICATION

TO DR. I.A. EARLE KIRBY
O.B.E., J.P., D.I.C.T.A., D.V.M., V.S.



ABSTRACT

The Saladoid period (ca. 200 B.C. - ca. 600 A.D.), on the island of St. Vincent in the West Indies is not well understood, despite the fact that it is well represented on other islands in the Lesser Antilles (especially Martinique) and on the South American mainland, particularly the lower Orinoco and the coastal regions of Guyana. The appearance of Saladoid ceramics in the West Indies is associated with both the introduction of agriculture and the introduction of ceramic technology. During a survey conducted on St. Vincent in 1993 and 1994, six archaeological sites were located that yielded ceramic remains that are primarily associated with this period.

The analysis of these ceramics, using an attribute analysis method, is presented in this study. Attributes of lip shapes, vessel shapes, decoration are examined, as well as technological characteristics. As a result, two definitive archaeological styles, Kingstown Post Office and Brighton, can be identified within the period in which the island chain was initially colonised by Saladoid peoples (Horizon I). The Arnos Vale style, characteristic of Horizon II, exhibits less variability, and seems to best represent a region-wide increase in stylistic elements in the pottery that can be traced to the Barrancoid series on the South American mainland. Evidence for agricultural activities during the Saladoid period is suggested in light of the appearance of clay griddles and perhaps large open-mouthed vessels, both of which are used in the preparation of manioc.

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CHAPTER I

INTRODUCTION

Statement of the Problem

The objective in this thesis is to further enhance knowledge of the Early Ceramic, or Saladoid, period (ca. 200 B.C. - ca. A.D. 600) on the Lesser Antillean island of St. Vincent in the Eastern Caribbean (Fig. 1). The significance of this period from the point of view of St. Vincent is that it represents both the introduction of ceramic technology and agriculture to the islands. This period also represents the first peopling of many of the islands in the Lesser Antilles.

Archaeological research on other islands in the Lesser Antilles, such as Grenada (Bullen 1964; Cody 1990), Martinique (Petitjean Roget 1975; Mattioni 1979, 1980; Allaire 1989), Barbados (Drewett 1991), St. Martin (Haviser 1993), Montserrat (Petersen and Watters 1991b), Anguilla (Petersen and Watters 1991a), Nevis (Wilson 1989), Antigua (Rouse 1976, 1992), and Puerto Rico (Roe 1989; Rouse and Alegria 1989), has greatly contributed to our understanding of the nature of this early ceramic period. St. Vincent has remained conspicuously absent from this list.

The only archaeological activities conducted on St.

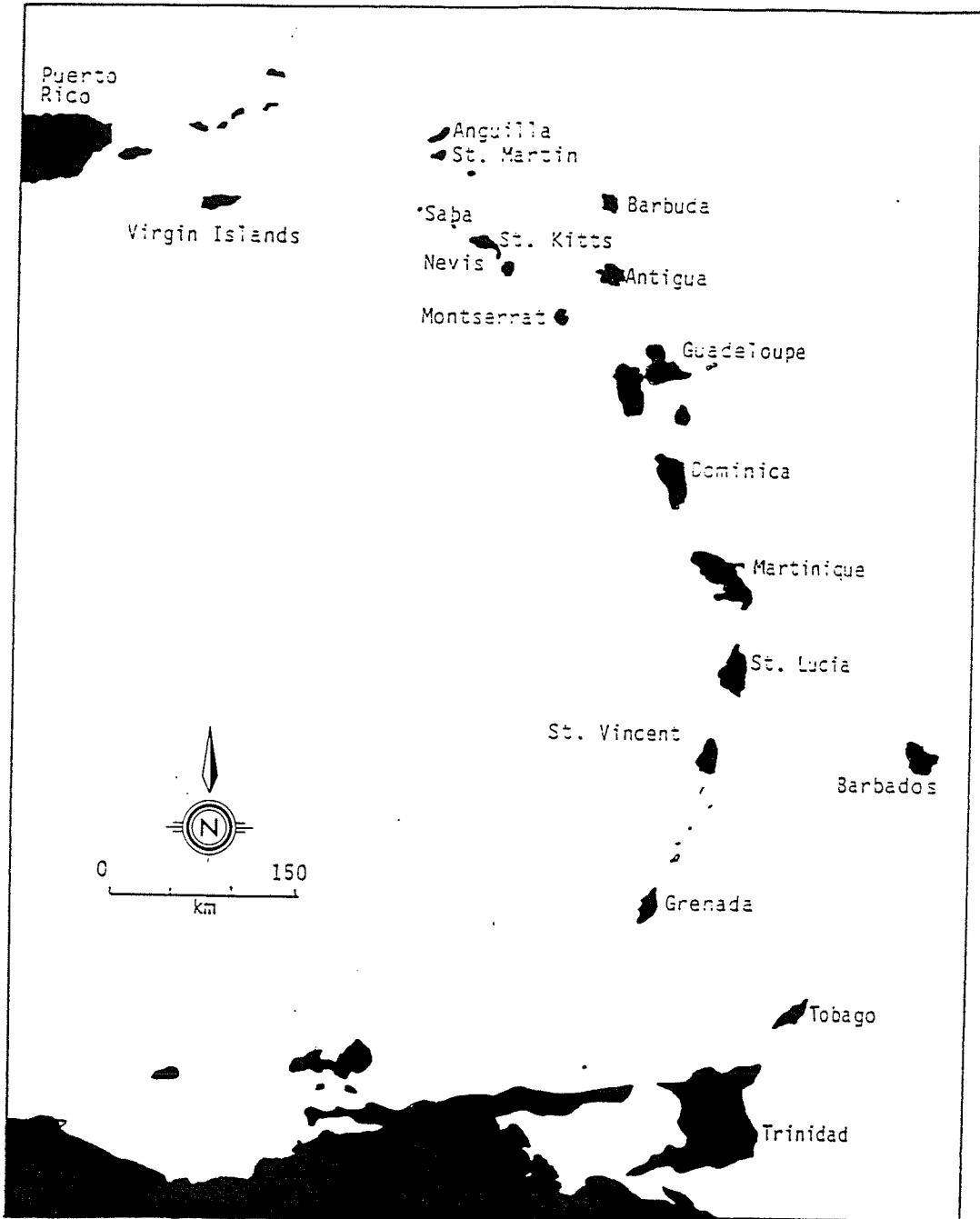


Figure 1. Map of the West Indies.

Vincent were directed by Ripley and Adelaide Bullen in the late 1960s and reported in their 1972 monograph Archaeological Investigations on St. Vincent and the Grenadines (Bullen and Bullen 1972). Other significant contributions, however, have been offered by Dr. Earle Kirby, Director of the St. Vincent National Trust and founder of the St. Vincent National Museum (1969,1975). Our knowledge of the Saladoid period in the Lesser Antilles has increased substantially since the publication of the Bullens' report.

My contribution in this thesis is to report on a collection of 561 ceramic sherds from the island which was recovered from six archaeological sites during surveys conducted by Dr. Louis Allaire (University of Manitoba) carried out in May and June of 1993 and June of 1994 in which I acted as a field assistant.

Three central issues are addressed in the study: (1) the nature and classification of the early Saladoid ceramics on St. Vincent; (2) Saladoid adaptation as reflected in prehistoric agricultural activities and settlement patterns; and (3) the context of Barrancoid influences from the South American mainland.

1) *The nature of the early Saladoid ceramics on St. Vincent.* The central focus of the study is a description of the morphological, technological, functional, and stylistic

attributes exhibited within the ceramic collection. A major consideration is how these attributes compare to those which have been established from other islands in the Antillean chain, particularly those in the Windward Islands, which are comprised of Grenada, St. Vincent, Barbados, St. Lucia, Martinique, and Dominica.

2) *Saladoid adaptation as reflected in prehistoric agricultural activities and settlement patterns.* This aspect of the study examines the potential for prehistoric agricultural practices on St. Vincent. This is accomplished in two ways: (1) examining ecosystems on St. Vincent; and (2) the functional implications of ceramic artifacts, especially an ceramic griddles, which provide the most conclusive evidence for the cultivation of bitter manioc, a root crop common to northern South America, and introduced to the West Indies with the expansion of Saladoid peoples.

The locational analysis of the six sites encountered during the survey will help establish settlement strategies, as well as contextualise inferences made regarding prehistoric agriculture. While there have not been any significant settlement pattern studies focusing directly on this early ceramic period, some preliminary assessments have, nonetheless, been offered for Puerto Rico (Siegel 1991a) and especially Nevis (Wilson 1989). One aspect which is briefly addressed in this study is the nature of

settlement systems on St. Vincent and their potential relation to environmental factors.

3) *The context Barranroid influences from the South American mainland.* As shown, around A.D. 350 distinctive patterns of design elements and motifs become more common in the ceramics in the Windward Islands. These can be positively traced to the South American mainland, especially the Barranroid culture, which is discussed in Chapter II. It is after ca. A.D. 350 that an increase in the number of Saladoid sites in the Lesser Antilles is observed. On Martinique, for example, the number of archaeological sites in which Saladoid pottery exhibiting Barranroid influences is found increase in number. Later chapters will examine any Barranroid elements in the ceramics from St. Vincent.

Previous Archaeological Research

The earliest reference to archaeological remains from St. Vincent dates to the turn of the century, when Thomas Joyce published Central American and West Indian Archaeology (1916). In his section on West Indian 'material culture', Joyce mentions very little of the prehistoric archaeology of St. Vincent, although he does describe some pottery fragments from the Grenadine island of Carriacou. Illustrations are noticeably scant in Joyce's monograph,

with no more than one stone axe depicted from St. Vincent (1916:Fig. 57). Instead, the central focus of Joyce's account is the historic Island Caribs, whom he discusses at great length by focusing on general considerations of their appearance, dress, and oral history (1916:210,236,225).

In his 1913-1914 survey of the Greater Caribbean area, J. Walter Fewkes spent six weeks on St. Vincent investigating what he called "kitchen middens" along the Leeward and Windward coasts. Fewkes subsequently published his results in his Prehistoric Island Culture of America (1922), discussing at length the numerous stone axes found on St. Vincent, many of which are presently housed in the National Museum.

The occasional sherds of pottery that Fewkes was able to find were, for the most part, fragmentary and in generally poor condition, thus preventing him from drawing any cultural associations (1922:118). In his report, however, Fewkes mentions fragments of bowls, cups, bottles, griddles, vases, and effigy vessels, most of which are painted red (1922:118-119).

Sven Loven also wrote of the archaeology of St. Vincent in his 1935 monograph Origins of the Tainan Culture, which sought to provide a pan-Caribbean assessment of the material culture and archaeology. Following Fewkes, Loven presents a comprehensive study of stone artifacts housed in the Heye Museum (1935:145-147).

Loven had limited accessibility to ceramic remains from St. Vincent. As a result, he (along with Fewkes and Joyce) lumped all prehistoric ceramics from the southern region of the Antillean island chain (including Grenada, the Grenadines, and St. Vincent) as belonging to one prehistoric culture group.

Prior to Allaire's survey, the only comprehensive publication of archaeological research on St. Vincent was the Bullen and Bullen monograph (1972). The objective of the Bullens' investigations on St. Vincent was twofold. First, they attempted to improve upon the scant archaeological knowledge that was available for the island. Second, the Bullens attempted to use their results of the surveying activities to further support and contextualise the archaeological chronology of the Windward Islands in light of their research on the neighbouring islands of Grenada (Bullen 1964), St. Lucia (Bullen and Bullen 1968), and Barbados (Bullen and Bullen 1968). The classification system that was initiated by Bullen (1964) and subsequently applied by Bullen and Bullen to St. Vincent in order to achieve this second objective is reviewed in Chapter IV.

In their report for St. Vincent, the Bullens describe (in little detail) the locations of and the artifacts recovered from 59 archaeological sites on St. Vincent. They were also able to survey and locate sites on the Grenadine islands of Carriacou, Union Island, Mayreau, Cannouan,

Mustique, Petit Nevis and Isle à Quatre, Balliceaux, and Bequia (Bullen and Bullen 1972).

The Bullens also conducted various test pits at numerous sites during their survey of St. Vincent, yet fail to mention why certain sites were chosen for such tests. For the most part, their 1972 monograph is adequately illustrated showing the stylistic nature of the ceramic sherds recovered. It does not, however, include any vessel or rim sherd profiles. Fortunately, some isolated characteristics of their typology (primarily stylistic or decorative) of the ceramics recovered by the Bullens are useful in tracing relationships to other Windward Islands in light of recent work.

More recently, Boomert (1986) has completed a study on the Cayo complex on St. Vincent. This Cayo complex may represent a definitive correlation to Island Carib pottery, and similar pottery was recovered during Allaire's survey (Allaire and Duval 1995).

Fieldwork

A three-week field season in May of 1993 and a four-week field season in June of 1994 was conducted on St. Vincent. The goal of this preliminary survey was to assess the archaeological potential of the island in order to plan future, more extensive archaeological projects. Indeed, our

survey was one in which the focus was of site discovery and surface collection (MaManamon 1984:225).

The survey involved a general surface reconnaissance, primarily using the Bullens' 1972 report, in addition to the valuable suggestions of Dr. Kirby, as guidelines. Due to transportation limitations, only the most diagnostic sherds were brought back to Winnipeg, courtesy of the St. Vincent National Trust and Dr. Kirby. Those sherds left behind were first counted and then stored in the National Museum.

Aside from relying on the Bullens' report for site locations, many other localities were also surveyed where soil was exposed as a result of recent work. Occasionally, information from local residents was utilised. Sites were plotted on 1:25 000 scale map, videotaped, photographed, and annotated. Artifact remains consist exclusively of ceramics. No faunal, botanical, or human skeletal material was found. Very few lithics were recovered, but it cannot be definitively suggested that they are human-made and they are not considered in the present study. Ceramic sherds recovered by Dr. Kirby over the past three decades and housed in the National Museum were also examined, but are used for this thesis only for general comparative purposes.

In all, 26 sites were located on St. Vincent (Allaire and Duval 1995), six of which revealed substantial concentrations of ceramics that can be directly attributed to the Saladoid period. Only those sites in which Saladoid

period pottery was dominant are considered in this study. All other identified sites found yielded either late prehistoric or early historic remains, or a mixture of various periods in the prehistory of the region.

Environment

The island of St. Vincent (13 N, 61 W) is a small, rugged, and mountainous volcanic island in the Windward Island group of the Lesser Antilles (Fig. 2). At its greatest width, the island measures approximately 17.5 km, while the greatest length is approximately 29 km. In all, the island occupies approximately 214 km².

St. Vincent lies approximately 160 km west of Barbados, 80 km north of Grenada, and 40 km south of St. Lucia. The active volcano on the island, La Soufrière, last erupted in 1979, but is more commonly known from its deadly eruption of 1902, the same year as the eruption of Mt. Pelée in Martinique (Richardson 1989). Eruptions of La Soufrière have had unquestionable effects on the physical geography of the island. Indeed, pyroclastic flows and large mudflows have contributed to much of the topography of the northern third of the island (Aspinall et al. 1973).

St. Vincent is properly associated with the humid tropical marine type of climate, which is the dominant climatic type at the latitudes in which the island lies



Figure 2. Map of St. Vincent and the Grenadines.

(Caribbean Conservation Association 1993:7). Two seasons are represented on the island: a rainy season (from May or June until December) and a dry season, which occurs in the winter months.

A consequence of its highly rugged topography, St. Vincent, like other mountainous islands in the Windward chain (such as Grenada, St. Lucia, portions of Martinique, Dominica, and Guadeloupe) is largely responsible for its own weather systems. Orographic precipitation systems dominate the Leeward and central interior regions of the island, as westerly trade winds gather warm moist air in the mountainous interior, producing generous rain-bearing cloud formations (Tempary and Grist 1958). At sea level, the annual mean temperature is 26.7 degrees C, but can often climb as high as 31 degrees C (Caribbean Conservation Association 1993:7). In coastal areas, the annual rainfall ranges from 170 to 203 cm a year and increases significantly as one moves inland (Caribbean Conservation Association 1993:82-83).

While coastal margin vegetation generally consists of small scrub brush communities, the central mountainous interior consists of primary and secondary rain forest vegetation. Fertile soils in the coastal areas allow for contemporary agriculture or animal husbandry operations (Caribbean Conservation Association 1993). Interior areas of the island were, and still are, occupied by moist

tropical rainforest. Coastal areas were most certainly forested in prehistoric times, although agricultural activities since colonial times have since cleared much of this forest cover away. Offshore reefs are limited around St. Vincent, and mangrove swamps (common on Martinique) are virtually non-existent. Terrestrial fauna on the island consists of small animals. Numerous bird species are found, which, like the local fauna, likely originated on the South American continent.

Native Inhabitants and Early History

The date of first European contact with St. Vincent is not clearly known. Columbus did explore the northeastern coast (including Trinidad) during his third voyage (1498-1500) (Rouse 1992), although it is not clear if he sighted St. Vincent during this same voyage.

At the time of contact, the native inhabitants of St. Vincent (IouIoumain [Breton 1665]) were the Island Caribs, who may have only recently entered the Windward Island chain in the early to middle part of the fifteenth century (Allaire 1977,1984). They originated in the northeastern areas of South America and, despite their name, spoke an Arawakan language (Rouse 1992). St. Vincent (along with Dominica) subsequently became an Island Carib stronghold, which was often described by French missionaries (see La

Borde 1660; Rochefort 1658). Permanent European settlement was not successful until the first few decades of the seventeenth century.

By the middle of the seventeenth century, the increase in population numbers of runaway black slaves from other colonised islands allowed for their interbreeding with the Island Caribs. The results of this admixture was the creation of a new ethnic group, the Black Caribs, which were genetically and culturally distinct from their Island Carib predecessors (Gonzalez 1988).

By the time commercial sugar production was introduced to St. Vincent in the late seventeenth and early eighteenth centuries, St. Vincent had alternated between French and English governments on no fewer than two occasions. Today, the island is politically independent, but still retains British influences in its governmental and educational structures.

CHAPTER II

SALADOID ARCHAEOLOGY IN THE LESSER ANTILLES

Terminology

The term 'Saladoid' represents an archaeological manifestation, known locally as a 'series', that extends for approximately 970 km along the northern coast of South America, from Guyana to the Orinoco basin and Margarita Island, and throughout the West Indian island chain, often as far north as the Dominican Republic and Puerto Rico (Rouse 1992:77) (Figs. 3 and 4). When constructing an archaeological chronology of Venezuela in the late 1950s, Cruxent and Rouse (1958-1959) adopted the concept of series to represent a particularly distinctive group of ceramic styles that vary both chronologically and geographically, one of which is known as Saladoid. Cruxent and Rouse's initial use of a ceramic series has been almost completely adopted by archaeologists working in the West Indies, including Venezuela. A series, then, is a group of "[c]ultural complexes or ceramic styles, together with the peoples and cultures they define, that are known to have descended from a common ancestor - a site unit..." (Rouse 1992:183-184). Furthermore, an archaeological series may be comprised of "...pottery types that are known to have

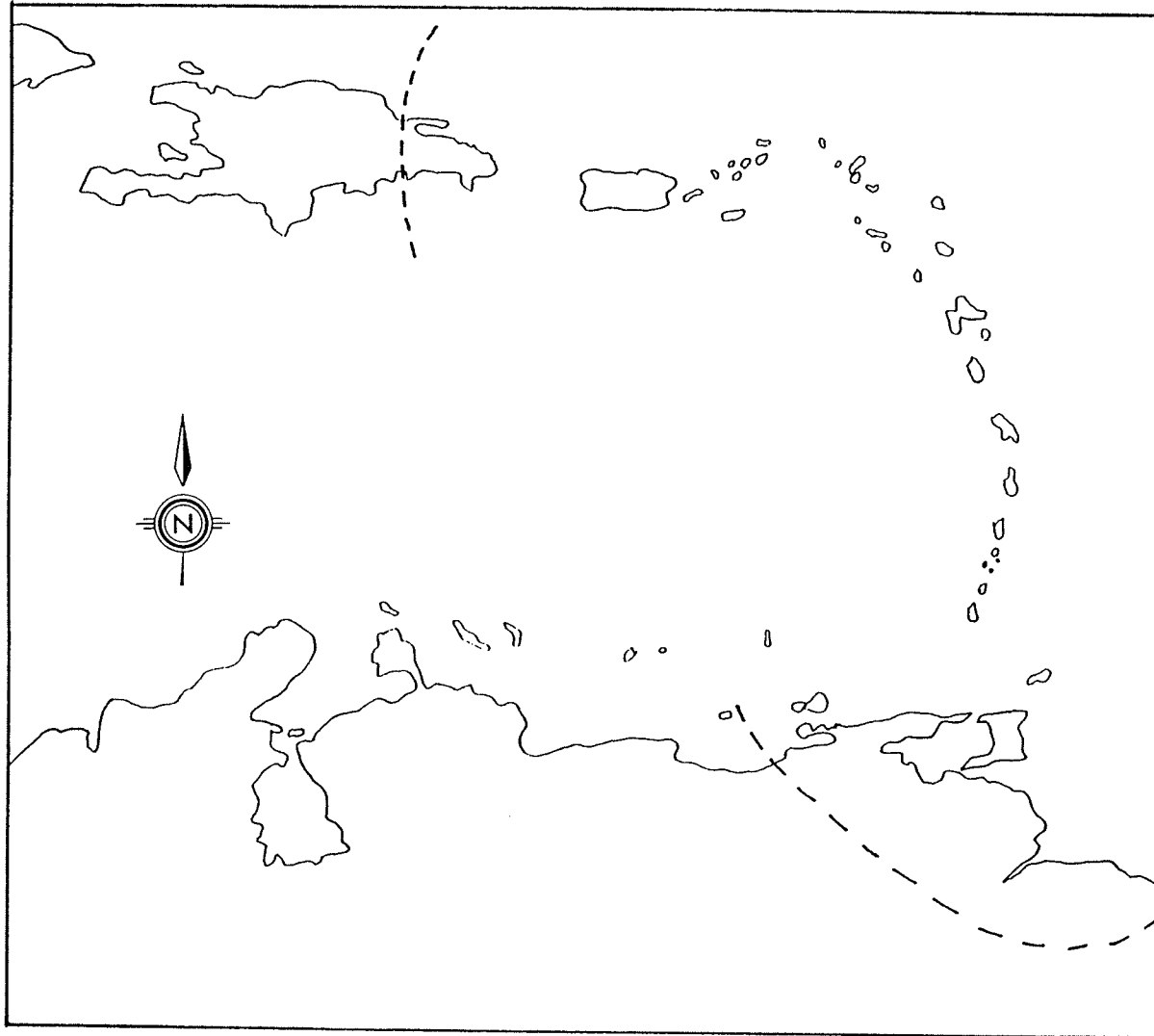


Figure 3. Map of the West Indies showing the geographical extent of Saladoid remains.

descended from a common ancestor - a trait-unit" (Rouse 1992:184). In essence, the definition of a ceramic series formulated by Cruxent and Rouse is a classification of cultural associations based on aspects of material culture, especially style.

We can assume that an archaeological series (in this case Saladoid) is essentially a cultural representation, and minor variations in the material culture may reflect cultural differences. Any association with ethnic units would, at present, be sketchy. As Rouse (1992) has noted, we can define ethnic groups using material culture, linguistic traits, and biological characteristics. As we know so little about Saladoid 'culture', we cannot, as of yet, impose an ethnic classification on the Saladoid series. While archaeologists working in the West Indies commonly assume that the Saladoid series represents a cultural unit, it is not yet clear, in the absence of definitive linguistic and biological studies, if this is indeed the case. The variability within the Saladoid series, however, is deserving of attention, and may in fact represent cultural or social differences.

When Cruxent and Rouse used the suffix *-oid* to denote a ceramic series, which is usually named after a type style, or "trait-unit" (Rouse 1992) (in this case, the Saladero style of Venezuela), it believed by the authors to be a cultural classification as it refers to cultural

characteristics (Rouse 1972). The establishment of ceramic series in the West Indies is described in detail in Chapter IV.

A series, as a classification unit, is roughly equivalent to the use in the United States (and Peruvian South America) of the unit of 'tradition' or 'horizon'. In addition, 'styles' and 'subseries', as they are utilised in the Caribbean region, are somewhat analogous to the 'phases' and 'foci' established in the Midwestern Taxonomic system (Rouse 1972).

Within certain ceramic series there exist localised cultural developments, which appear as variations in decorative styles. These are given special consideration and designated as a subseries (Vescelius 1980; Rouse 1986). Like its parent ceramic series, a ceramic subseries is specified by a type site to which the suffix of *-an* is added for nomenclature purposes.

Establishing distinct subseries of ceramic styles (analogous to 'phases' or 'styles') was initially proposed by Vescelius (1986) and subsequently adopted by Rouse for both the Antillean island chain and the mainland of South America. Since Vescelius' suggestions were first proposed, any characterisation of Saladoid ceramics within the Windward Island chain and northeastern South America (including other Antillean ceramic series) has followed this archaeological terminology.

Origins and Distribution

Northeastern South America. Our understanding of the nature of prehistoric cultural developments in northeastern South America, especially those associated with the early ceramic period, is best known from two subareas: the middle and lower Orinoco River Valley and the eastern coast of Venezuela. Despite continuing controversy over calendrical dates associated with Saladoid period sites along the lower Orinoco Valley, the construction of a local sequence of archaeological phases and complexes associated with the Saladoid series has been well established (Cruxent and Rouse 1958-1959; Rouse and Allaire 1978; Roosevelt 1980). This sequence provides unequivocal evidence for a lengthy development of tropical adaptation, including manioc cultivation. Along the coastal margins of northeastern Venezuela (the Carupano and Paria areas), local sequences indicate direct influences from cultural groups along the lower and middle Orinoco Valley (Oliver 1980).

The Orinoco Valley. The earliest Saladoid ceramics in the middle and lower Orinoco Valley have been assigned to three separate phases or complexes, based primarily on chronological positioning within archaeological sites but also on stylistic and decorative elements as manifested in the ceramics (Rouse 1992; Rouse, Allaire, and Boomert 1985).

The La Gruta and Ronquin complexes (along with a later Ronquin Sombra complex) have been distinguished as a sequence of early Saladoid occupations along the Orinoco (Rouse, Allaire, and Boomert 1985:18; Roosevelt 1980). Because of this long sequence and the large geographic extent of associated archaeological sites, it is assumed that this area is the original homeland of the Saladoid series.

La Gruta and Ronquin are associated with what Sanoja and Vargas term the Ronquin Tradition (1983:230). Rouse (1992), however, prefers that Ronquin be considered a separate subseries of the Saladoid series. Diagnostic Ronquinan ceramics are found from the head of the Orinoco River (near the Rio Apure) to the top of the delta, and have been dated from 2140 B.C. to 620 B.C. (Roosevelt 1980:195).

Typically Ronquinan ceramic vessels are inverted bell-shaped, exhibiting geometrically-painted designs in either all-over red or white-and-red. Short curvilinear incisions are common as are wedge-shaped lugs on the lips of vessels (Barse 1989:30). The evidence for agricultural production is supported by the presence of large, flat ceramic griddles, which were likely used for the cooking of manioc.

Around 1500 B.C. a new ceramic series, known as Barrancoid, evolved in the lower-middle region of the Orinoco Valley (Rouse 1992:77). While the Ronquin Sombra Complex exhibits early forms of characteristic Barrancoid

traits, it is the Los Barrancos and Barrancas styles from the same area which heavily emphasise a distinct Barrancoid occupation (Rouse, Allaire, and Boomert 1985; Roosevelt 1980).

At the beginning of the first millennium B.C., these Barrancoid peoples moved into the delta region, thereby pushing the Saladero people toward the northern coast of South America (Rouse 1992:77). Interestingly, the timing of the divergence of Barrancoid and Saladoid groups in the lower reaches of Orinoco Valley correlates well with the divergence of two linguistic groups, Maipuran and Proto-Arawakan (Rouse, Allaire, and Boomert 1985).

Northeastern Venezuela. For present considerations, the coastal area of northeastern Venezuela geographically includes the Carupano and Paria Peninsula areas, as well as the island of Trinidad. The presence of Saladoid ceramics along the eastern coastal areas of Venezuela occurs much later (ca. A.D. 500) than the lower portion of the Orinoco Valley (Rouse 1992:Fig. 9).

Sanoja and Vargas (1983), however, suggest that it was continuous contact with pottery-making groups from the middle and lower Orinoco that influenced these coastal groups to begin producing ceramics. It is more likely, however, that with the movement (or even displacement) of Saladoid peoples, both agriculture and ceramic technology

were introduced into the coastal areas of eastern Venezuela (Rouse, Allaire, and Boomert 1985).

Around the beginning of the first millennium B.C., a new, Cedrosan subseries (named after the type site of Cedros on Trinidad) of the Saladoid series developed along the northeastern coastal margins of the mainland and southern Trinidad (Rouse 1992:72). It has been suggested (Rouse 1992; Rouse, Allaire, and Boomert 1985) that ceramic styles associated with this new Cedrosan subseries may have arrived from the east, as Cedrosan Saladoid ceramics have been found in the Wonotobo Valley in Guyana, and are dated earlier than those along the northeast coast of Venezuela (Boomert 1983).

Early Saladoid series ceramics are also represented by the Cuartel phase and the Puerto Santo Phase (Sanoja and Vargas 1983). Cuartel is dated roughly to A.D. 250 or A.D. 300 and is characterised by bichrome and polychrome-painted vessels with broad incisions, modelled incised adornos, and zoned-incised crosshatching (ZIC) (see Sanoja and Vargas 1983). Cruxent and Rouse (1958-1959) indicate that the El Mayal style, also on the east coast of Venezuela, is very similar to Cedros on Trinidad, and thus also represents an early Saladoid presence on the coast. The later Chuare phase on the northeastern coast of Venezuela is characterised by incised flanges and stylised ceramic adornos (Vargas 1976). Polychrome-painted designs (in white, red, and buff) also appear. This style is dated roughly to

the late sixth century A.D. Cruxent and Rouse (1959:Figs.97-98) also draw comparisons between the Irapa style and the Palo Seco style on nearby Trinidad.

Due to its geographic location, we would expect the island of Trinidad to accurately reflect the manifestation of Horizon I ceramics in the Windward Islands and therefore clearly illustrate the spread of mainland Saladoid groups out into the Antilles. The work of Harris (1978) has greatly contributed to establishing the role of Trinidad in a regional chronology, which includes coastal Venezuela. Harris has shown that Trinidad may have functioned as a divergence point in the prehistoric spread of Horizon I ceramic styles (see also Allaire 1995).

The site of Cedros is perhaps the most well known Horizon I site on Trinidad as well as throughout the Antilles (Fig. 10). Cedros is located on the southwestern coast of Trinidad and, as discussed earlier, functions as the type site for the Cedrosan subseries in the Antillean chain. Early Saladoid ceramics have also been found at the St. Catharines site on the southeast coast, and the Whitelands site on the west central coast (see Harris 1978).

The West Indian Islands. The Saladoid series, dating approximately from 200 B.C. until about A.D. 600, represents the introduction of both ceramic technology and agriculture to the West Indian island chain. More importantly, perhaps,

is the fact that on some islands, such as St. Vincent, St. Lucia, Barbados, and Grenada, the emergence of pottery-making peoples appears to represent the initial migrants, as conclusive preceramic remains have yet to be discovered.

The manifestation of the Saladoid series in the West Indies is usually discussed as two separate and chronologically distinct periods. The differences between these two periods are primarily stylistic and exhibit chronological differences, which are particularly evident in stratigraphy at the Vivé site on Martinique. In the French Islands (especially Martinique), these two periods have been referred to as 'Horizons' and designated as Horizon I and Horizon II (Mattioni 1968).

Outside the French Islands, the term 'Horizon' was not used, even though the differences that defined these Horizons have been recognised by archaeologists. Instead, classification methods have followed the system established by Mattioni and Bullen (1970), which designated the French 'Horizon I' as the Insular Saladoid period. 'Horizon II' on the French Islands was represented on other islands as Modified Saladoid (Mattioni and Bullen 1970). More recently, however, Horizon I has been termed "Cedrosan Saladoid" and Horizon II has been termed "Cedrosan Saladoid with Barrancoid Influences" (Rouse 1992).

As outlined below, ceramic styles of Horizon I are stylistically associated with early phases of the Saladoid

series from the mainland, but more accurately associated with the Cedrosan subseries. Horizon II refers to a period when stylistic influences from the Barrancoid series on the mainland become more common in the decorative techniques manifested in the pottery.

Ceramic styles associated with the Saladoid period begin to disappear around A.D. 600 (Allaire 1977; Rouse 1992). At this time, Troumassoid and subsequent Suazoid series ceramics appear in the Windward Islands, and various subseries of the Ostionoid series appear in the Greater Antilles.

Chronology in the Lesser Antilles

Despite its use only on the French Islands, the use of separate ceramic Horizons in this study is chosen because they reflect prehistoric developments more closely than the system established by Bullen and Mattioni (1970) and even Vescelius (1986) and Rouse (1992). While the term 'Cedrosan Saladoid' subseries is still preferred by most archaeologists for classifying early Saladoid period ceramics in the Windward Islands, ceramic 'horizons' are perhaps better suited in defining more precisely and in greater detail the Saladoid series in the Windward Islands as they represent particular ceramic styles in a broad geographical and temporal distribution. Formally, a

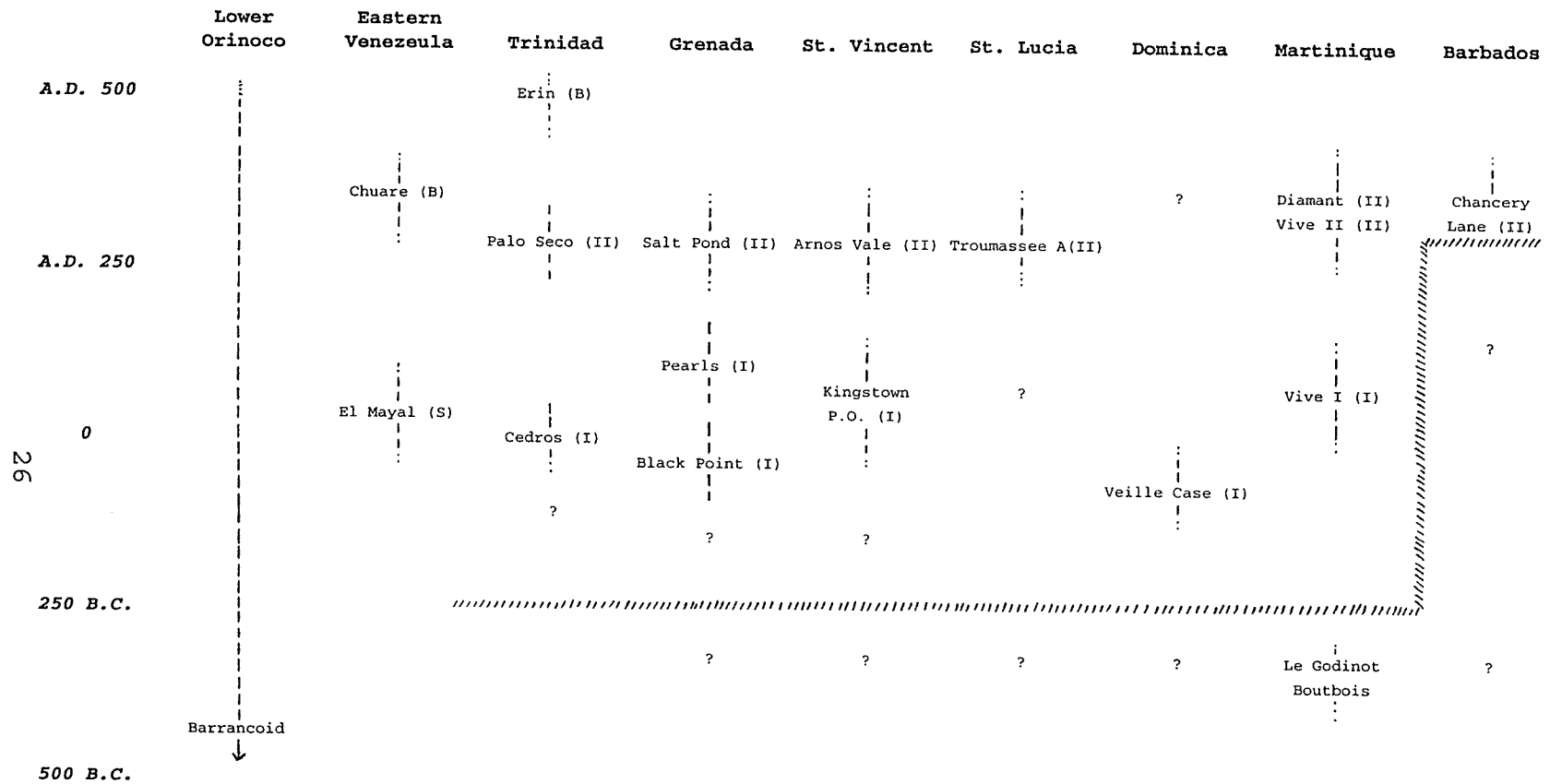


Figure 4. Chronological chart of the Windward Islands and the Lower Orinoco and Eastern Venezuelan regions of South America. (S=Saladoid; B=Barrancoid; I=Horizon I; II=Horizon II; Hatchured line denotes the approximate date of colonisation).

Horizon, or Horizon style, is a complex of "...modes, types, and other cultural norms that have a relatively horizontal distribution..." (Rouse 1972:130).

By referring to ceramic periods in the Antilles as members of Horizons within a larger ceramic series, this method therefore reduces the number of classification levels that are imposed upon material remains. In this case, ceramic Horizons allow for the occurrence of diverse manifestations of style on either single islands or groups of islands. While the designation of a Cedrosan subseries may necessarily allow for similar differentiations to be recognised, it nonetheless implies that all ceramics are members of this subseries first, which in turn is a member of the larger Saladoid ceramic series. A summary of the archaeological sites associated with the Saladoid period in the Windward Islands and Eastern Venezuela is presented in Figure 4.

Horizon I - (ca. 200 B.C.- ca. A.D. 350)

Horizon I is characterised by diagnostic Cedrosan (to use Rouse's terminology system) ceramics which first appear in the Antillean island chain around the second century B.C., which is the more conservative estimate (Rouse and Allaire 1978; Allaire 1995). Radiocarbon dates have been obtained from Martinique (530 B.C. [Rouse 1992:77]), St.

Martin (4th century B.C. [Haviser 1989b]), and on the eastern coast of Venezuela (Rouse, Allaire, and Boomert 1985:Table 4), suggesting a somewhat earlier occupation.

An important aspect of the Saladoid period in the West Indies is the speed at which the islands were colonised. As the migration of Saladoid peoples from the mainland to the island chain properly represents a migration or even re-peopling (Rouse 1992), it would not be wrong to assume that absolute dates associated with this period would exhibit a natural slope, with each island having successively later dates and thus reflecting a gradual movement north from the mainland. In reality, however, the absence of such a gradual slope in the absolute dates, instead replaced with a cluster of early radiocarbon dates around the time of Christ, suggests an extremely rapid population dispersal. A more proper characterisation of this even may be termed a population dispersal (Duval, in press).

As mentioned, this ceramic style was at one time distinguished as the 'Insular Saladoid' period by Mattioni and Bullen (1970), Bullen and Bullen (1972), and Mattioni (1976), but is more commonly referred to as the Cedrosan Saladoid subseries in the current literature (Rouse 1992). Ceramics associated with Horizon I are characteristically very thin and hard. Common bell-shaped or carinated vessels may be decorated with simple negative white-on-red (WOR) paint, although white-and-red negative-painted designs are

more common. Modelled-incised decorations are particularly diagnostic. In addition, overall red paint is fairly common. Rim and side body lugs (sometimes called 'nubbins') are usually simple, and may be outlined by incision.

Vessel surfaces are usually not polished, thus leaving a typical finish that is rather chalky in appearance. Linear and curvilinear incisions on almost all vessels shapes do occur, but are not as frequent as those in Horizon II. Zone-incised-crosshatching designs are also especially diagnostic of Horizon I.

Paste is typically very dense, with tempering material consisting of sand, quartz, or other calcareous inclusions. Because of this uniformity in paste constituents, Bullen (1964, 1965) initially characterised all early Saladoid ceramics into what he called the Pearls series, after the type site of Pearls on Grenada. Bullen's Pearls series ceramics share morphological and stylistic attributes of what is referred to here as Horizon I.

It is important to note that the presence of typical Horizon I (or Cedrosan Saladoid) ceramics has not been accepted by all archaeologists working in the greater Caribbean area as being representative of the first ceramic age migrants in the Lesser Antilles. Recent discussions have emphasised a possible earlier migration from the mainland, based primarily on the presence of a distinct pottery style.

For example, Rodriguez and Rivera (1991:46) claim that the arrival of the first agriculturalists in the Antilles took place a few centuries earlier than the conservative second century B.C date. Their interpretations are based on the presence of fine zoned-incised crosshatching designs. Haviser (1993) states that this decorative element is separate from the hallmark white-on-red painted ware that is so characteristic of the Saladoid series in the Lesser Antilles.

Both Haviser and Rodriguez and Rivera, however, follow the repeated assumptions forwarded by Luis Chanlatte (1981), who states that a certain ceramic style, distinct from those associated with the Cedrosan Saladoid and which includes ZIC ware, is found in certain sites in both Puerto Rico and the neighbouring island of Vieques. While decorative elements such as cross-hachured incisions and labial flanged vessels are represented, Chanlatte Baik has identified elements such as post-fire crusting and highly plastic outlined crosshatching as representative of what he has called the La Hueca Cultural Complex or even the Huecoid series from the type site of La Hueca on Vieques (Chanlatte Baik 1981).

Rouse (1992) has recently suggested that La Hueca may indeed represent a distinct subseries within the broad Saladoid series. Recently, Chanlatte Baik (1995) has even identified a Huecan component at the Hacienda Grande site on Puerto Rico, a site and style commonly associated with

ceramics from the Cedrosan subseries (Rouse and Alegria 1990). Chanlatte Baik (1995) seems to be correct in his suggestion, as many "banded zic" decorative styles (as Allaire, pers. comm., calls them) are found at Hacienda Grande (Rouse and Alegria 1990:Plate 4).

Consequently, using the results of excavations at the Hope Estate Site on St. Martin, Haviser (1989b) shares Chanlatte Baik's views by implying that ZIC decoration represents either a parallel or pre-Cedrosan Saladoid movement from South America to the Lesser Antilles. Rather than a designation of a La Hueca Culture Complex, Haviser (1993) refers to this manifestation as the "Early Ceramic Culture".

In addition to ZIC ware, Haviser's "Early Ceramic Culture" complex includes zoomorphic lugs and curvilinear incisions (Haviser 1989b), both of which occur in Horizon I contexts throughout the Lesser Antilles. According to Haviser, the inter-mixing of Saladoid and this Early Ceramic Culture was the catalyst that spawned zoned-incised crosshatching. Rouse has suggested that the Hope Estate site may necessarily be the divergence point of Huecan and Cedrosan Saladoid cultures (Rouse 1992; see also Siegel 1991a).

Upon reaching the Leewards, early Saladoid peoples were faced with the choice of two routes: (1) to the north via the Virgin Island chain; and (2) to the west via the Dutch

islands of St. Maarten, Puerto Rico, and Vieques (Rouse 1992). La Heuca (or Chanlatte Baik's La Hueca Complex), then, may explain this westward movement of early Saladoid peoples, who developed a separate and highly distinctive ceramic style upon reaching the southern coasts of Puerto Rico (where the La Heuca site is situated).

Furthermore, while ceramic traits associated with what may be a Huecan sub-series are indeed quite distinct from the "painted ware" (Rouse 1992) or white-on-red pottery of Cedrosan subseries, ZIC has been found on numerous Windward Islands, including St. Vincent. This therefore counters the claim that artifacts associated with the Huecoid series may represent a direct migration from the Rio Guapo in Venezuela to the island of Vieques, as originally suggested by Chanlatte Baik (1981).

The concept of a separate Huecoid series in the early ceramic period of the Lesser Antilles is indeed problematic. Roe (1988) was not convinced that this 'complex', as identified by Chanlatte Baik, was particularly representative of an earlier movement of peoples into the Antilles prior to the arrival of groups associated with Saladoid series ceramics.

Instead, Roe's (1988) and Allaire's (1995) suggestion may be correct in that this highly distinctive style may actually be representative of a distinct ethnic group that arrived with Saladoid potters. This perhaps best

characterises the dynamic nature of population movements within the entire eastern Caribbean.

Radiocarbon dates certainly support this hypothesis, as many sites exhibiting these traits occur within early Saladoid contexts (Roe 1988). In addition, despite the fact that Rouse (1992:81-83) emphasizes this dichotomy of decoration by noting that vessels decorated with ZIC are more hemispherical and made from darker paste (which may or may not be culturally selected), this may in fact only represent morphological and stylistic variances within the ceramics of the Saladoid series and independent of La Hueca.

For purposes of this study, ZIC designs are included under the designation of Horizon I. If subsequent evidence is presented suggesting otherwise, it may be necessary to alter this designation of two distinct horizons in the Windward Islands.

St. Vincent. In the literature, Horizon I (or Cedrosan Saladoid) is best represented on St. Vincent by the Kingstown Post Office site on the southern coast of the island (Rouse and Allaire 1978; Bullen and Bullen 1972). A fragment of *Strombus* shell from the lower levels of this site was dated to A.D. 160 (Bullen and Bullen 1972:153), although this date may not be entirely reliable, possibly due to unmentioned contamination. In his latest published chronological chart, Rouse (1992) assigns Cedrosan Saladoid ceramics from St. Vincent to the Kingstown Post Office site.

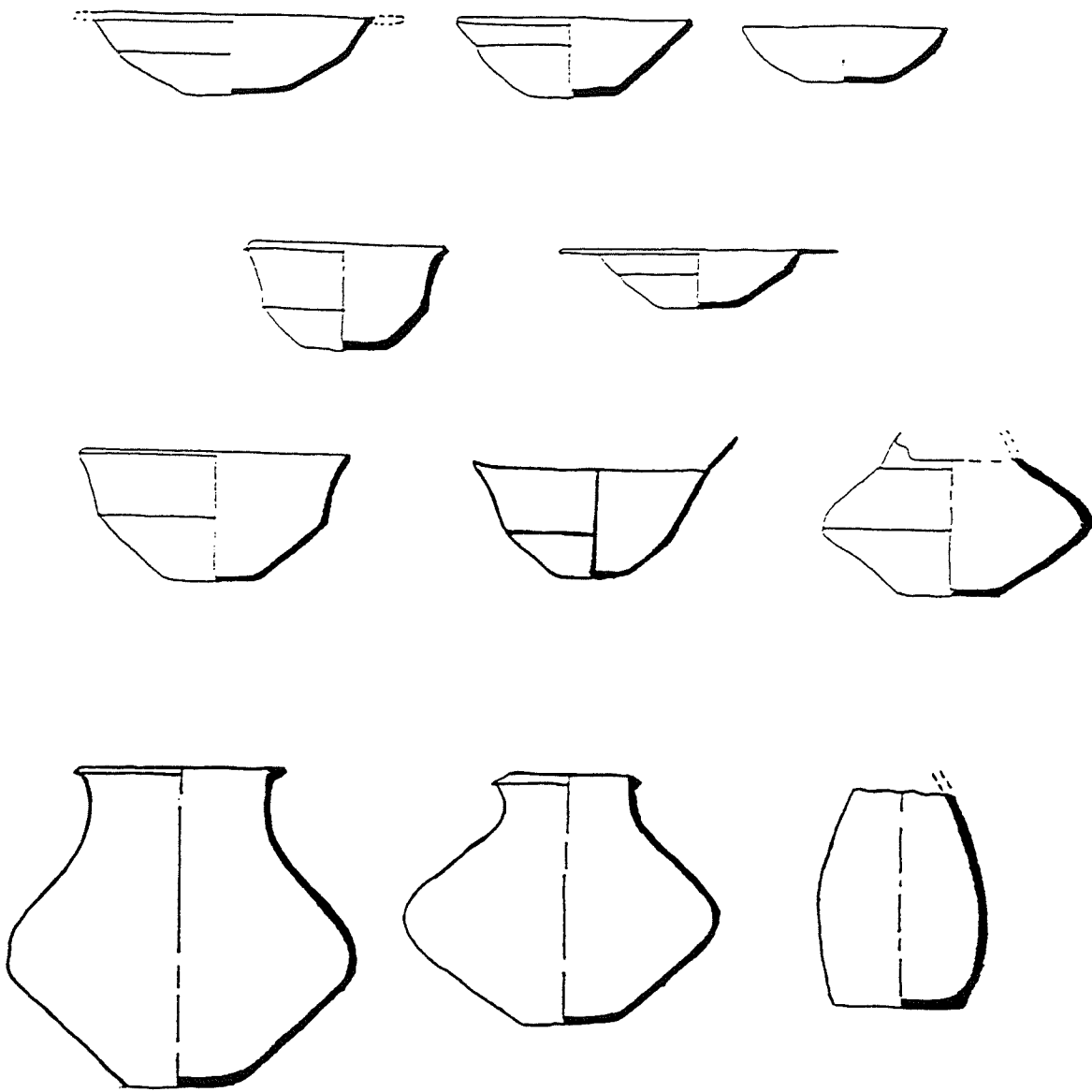


Figure 5. Saladoid vessel shapes from Martinique
(from Mattioni 1979, 1982). Not to scale.

The Kingstown Post Office site is discussed in detail later with relevance to the present study.

Martinique. Horizon I in the Windward Islands is perhaps best known from the island of Martinique, from the sites of Moulin l'Etang, Vivé, Fond-Brule, Adoration, and La Salle, which are exclusively located in the fertile northern coastal areas of the island (Allaire 1989). Assigning early Saladoid style ceramics to a particular Horizon was first established on Martinique by Jacques Petitjean-Roget (1970) and Henri Petitjean Roget (1975) and re-affirmed by excavations by Mario Mattioni (1979, 1980). As a result of Mattioni's investigations, the nature of Horizon I ceramic styles on Martinique is best represented by the site of Vivé, which is located on the northeastern coast of the island and dated to approximately A.D. 220 (Mattioni 1979:14).

Following his excavations at Vivé on Martinique (discussed below), Mattioni (1976) was able to identify nine vessel forms that comprised the "grandes familles" of Horizon I: "marmites" (cooking pots), "platines à manioc" (griddles), "Bouteilles" (bottles), "Brule-parfum" (incense burners), "Vasques" (basins) (see Fig. 8), "Coupes gravées" (small pedestal bowls), "Vases à Ouicou" (beer-brewing vessels) (Fig. 7,b), as well as vessels decorated with geometrically zoned white-and-red paint (Fig. 7,a), and vessels decorated in all over red paint (Figs. 5, 6, and 7).

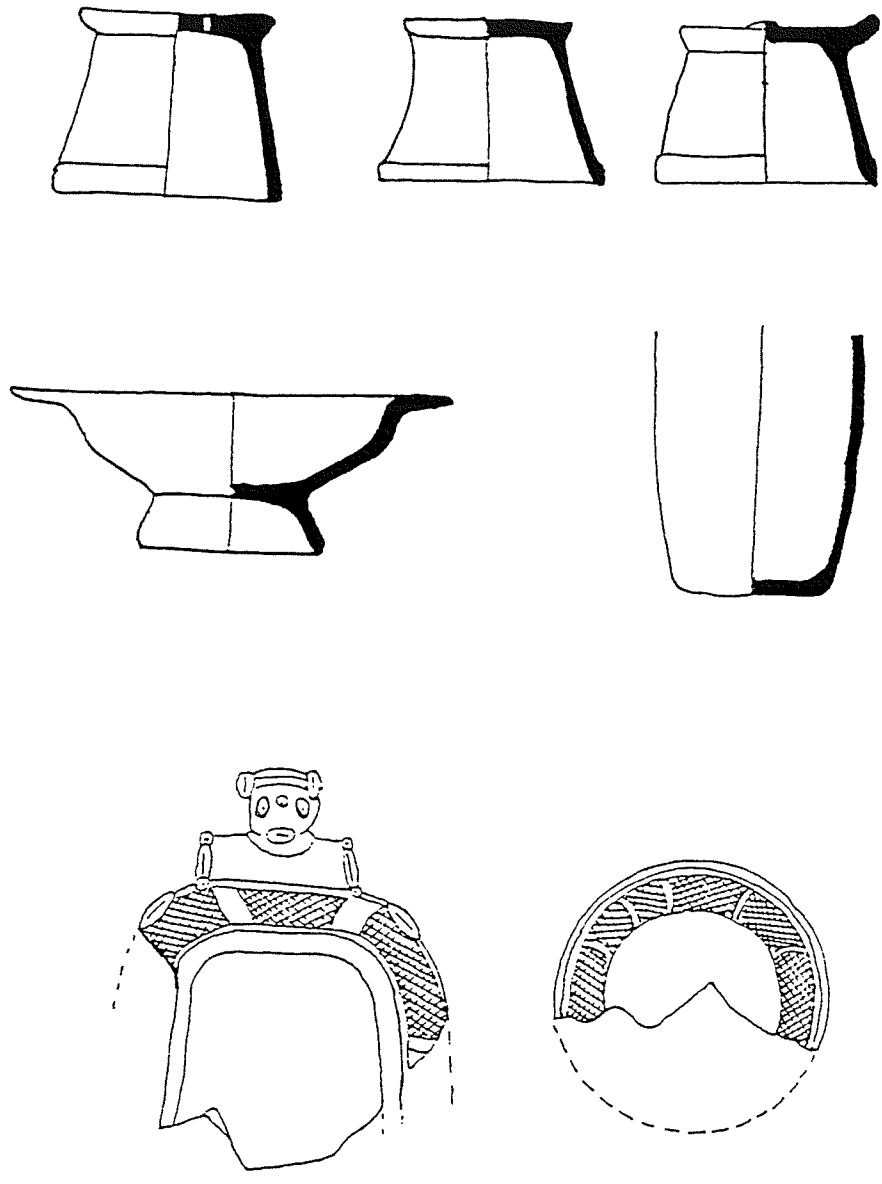


Figure 6. Salacoid vessel shapes from Martinique (from Mattioni 1979, 1982). Not to scale.

Perhaps the most significant feature of the Vivé site is the occurrence of two stratigraphic zones that were found separated by a layer of sterile volcanic tuff (Mattioni 1979). The lower zone (Vivé I) was represented by typical Horizon I ceramics, exhibiting features such as zoned-incised-crosshatching and abundant thin, hard sherds, many of which exhibit white-on-red painted designs. The upper zone (Vivé II) contained ceramics diagnostic of Horizon II and will be discussed separately below. Using geological associations, this volcanic layer at Vivé is tentatively dated to about A.D. 350 (Allaire 1989).

Yet another significant feature from Vivé is what appears to be a living floor and heavy grinding stones, which were found during Mattioni's excavations. Interestingly, large milling stones were found in close proximity to a hearth feature on this living floor. Very few sherds were recovered in this area, which Allaire (1989) suggests was used for food production.

St. Lucia. Our knowledge of the presence of Horizon I ceramics on St. Lucia is quite limited. One of the most recent contributions is the little known, although extensive excavations by an Austrian team, which were carried out in the early 1980s at the site of Pointe de Caille on the southeastern coast of the island (Friesinger 1986). While most of the ceramics recovered at the Pointe de Caille site by Friesinger appear to date to later periods in the

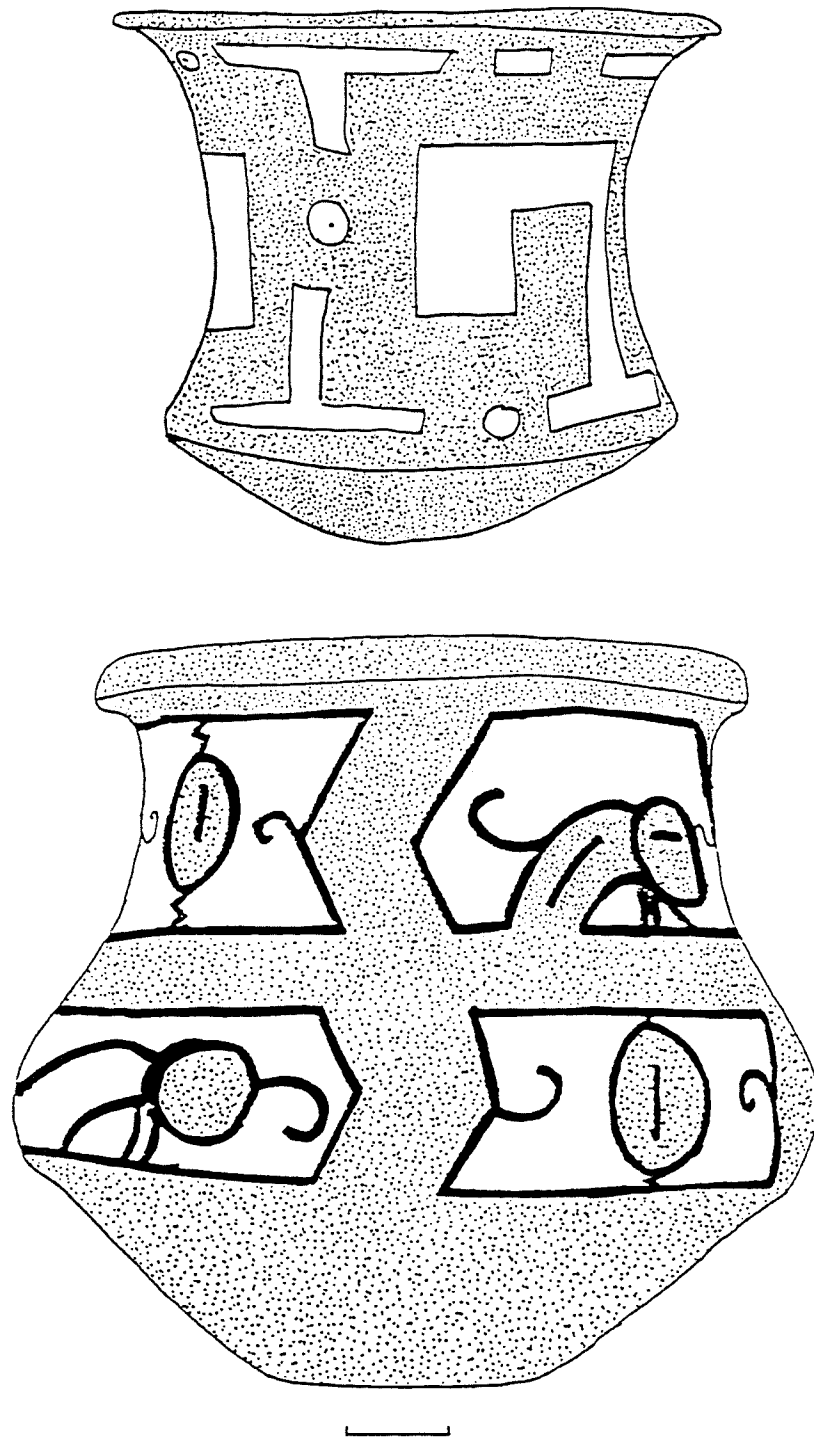


Figure 7. Saladoid vessel shapes from Martinique (adapted from Guide des Collections, Musée Départemental, Martinique). Scale is 5 cm.

prehistory of the Windward Islands, the report illustrates numerous early period ceramics sherds found at the site of Canelles during "rescue dig" operations in 1976 under the direction of Robert Deveaux (Fig. 9). Deveaux found rim sherds from inverted bell-shaped vessels, of which one exhibits zoned-incised-crosshatching. As a result, despite the fact that in 1968 Bullen attributed the lack of "Pearls" series ceramics on St. Lucia to an "unevenness in population density" in the region, we know now that a definitive Horizon I was indeed present on St. Lucia. It is noteworthy that Horizon I ceramics were not mentioned by McKusick in his early study of the archaeology of St. Lucia (McKusick 1960).

Barbados. The island of Barbados appears to be an anomaly, in that Horizon I artifacts continuously fail to show up in either surface surveys or controlled excavations, the latter of which have been quite extensive in the past 10 years (Drewett 1991). Because they are poorly represented, it is often suggested that the first agriculturalists from the South American mainland may have initially bypassed this flat, dry island (Boomert 1987; Drewett 1991; Rouse 1992).

Despite the lack of definitive Horizon I ceramics on Barbados, Harris (1991:48) indicates that a few unprovenienced finds have been found. One sherd from the Harrison's Cave site is decorated with white-on-red paint, while an adorno from an unknown location exhibits

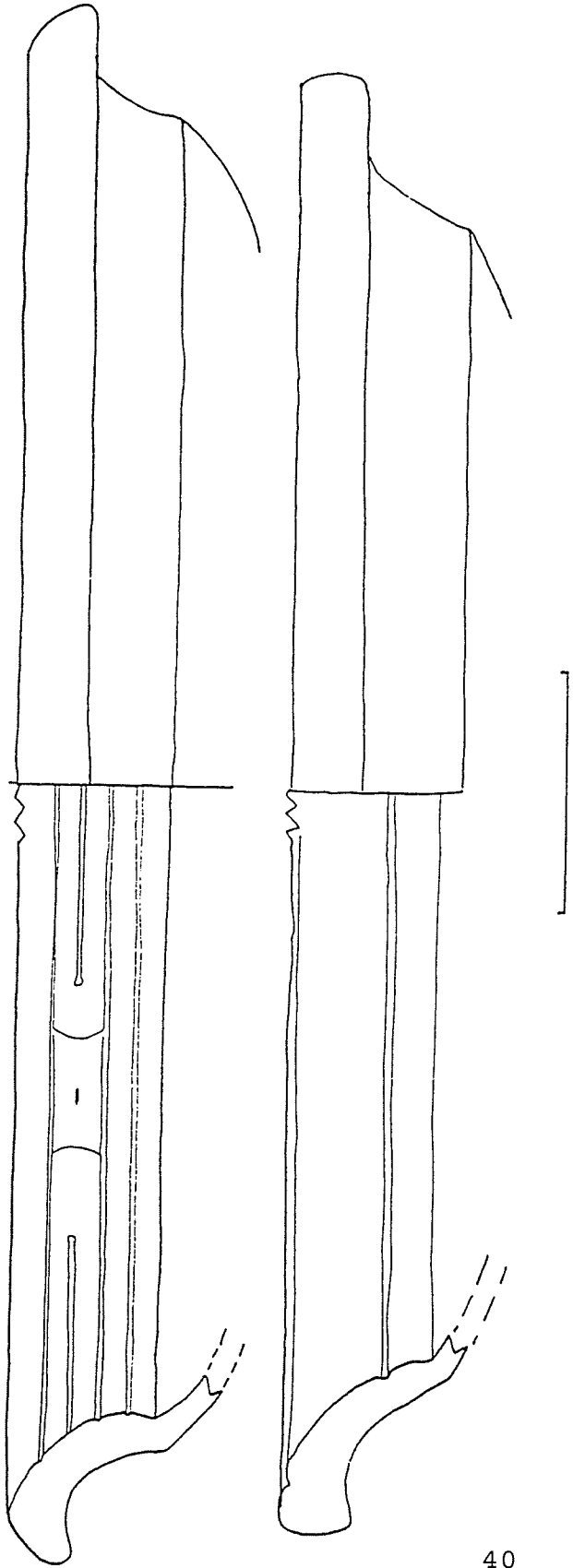


Figure 8. Vasque vessels from Martinique. Scale is 5 cm.

some zoned-incised-crosshatching. Finally, one rim sherd from the site of Chancery Lane has a flared concavo-convex shape, which may represent the typical inverted bell-shaped vessel that is so characteristic of this Horizon (Harris 1987:48). This evidence, however, is still inconclusive.

Grenada. No substantial archaeological work on Grenada has been undertaken since the work of Ripley Bullen in the early 1960s (1964). While excavations by Keegan and Cody at the site of Pearls were conducted in the late 1980s, the full results have yet to be published (see, however, Cody 1990), and as a result, Bullen's 1964 publication remains the most significant contribution to Saladoid archaeology on the island.

Prior to Bullen and Bullen's report for St. Vincent (1972), Bullen (1964) established what was then assumed to be a definitive chronological sequence for Grenada, which was subsequently applied to the other Windward Islands. The investigations on Grenada by Bullen demonstrated that early Horizon I ceramics (then known to Bullen and others at the time as Pearls series ceramics) are primarily found at the sites of Pearls and Black Point. The Pearls style is considered typical of what Mattioni and Bullen (1970) have termed the "Insular Saladoid" period, and what can be here included under a Horizon I designation.

While the site of Pearls was associated with the earliest ceramic styles on Grenada, Bullen (1964:35)

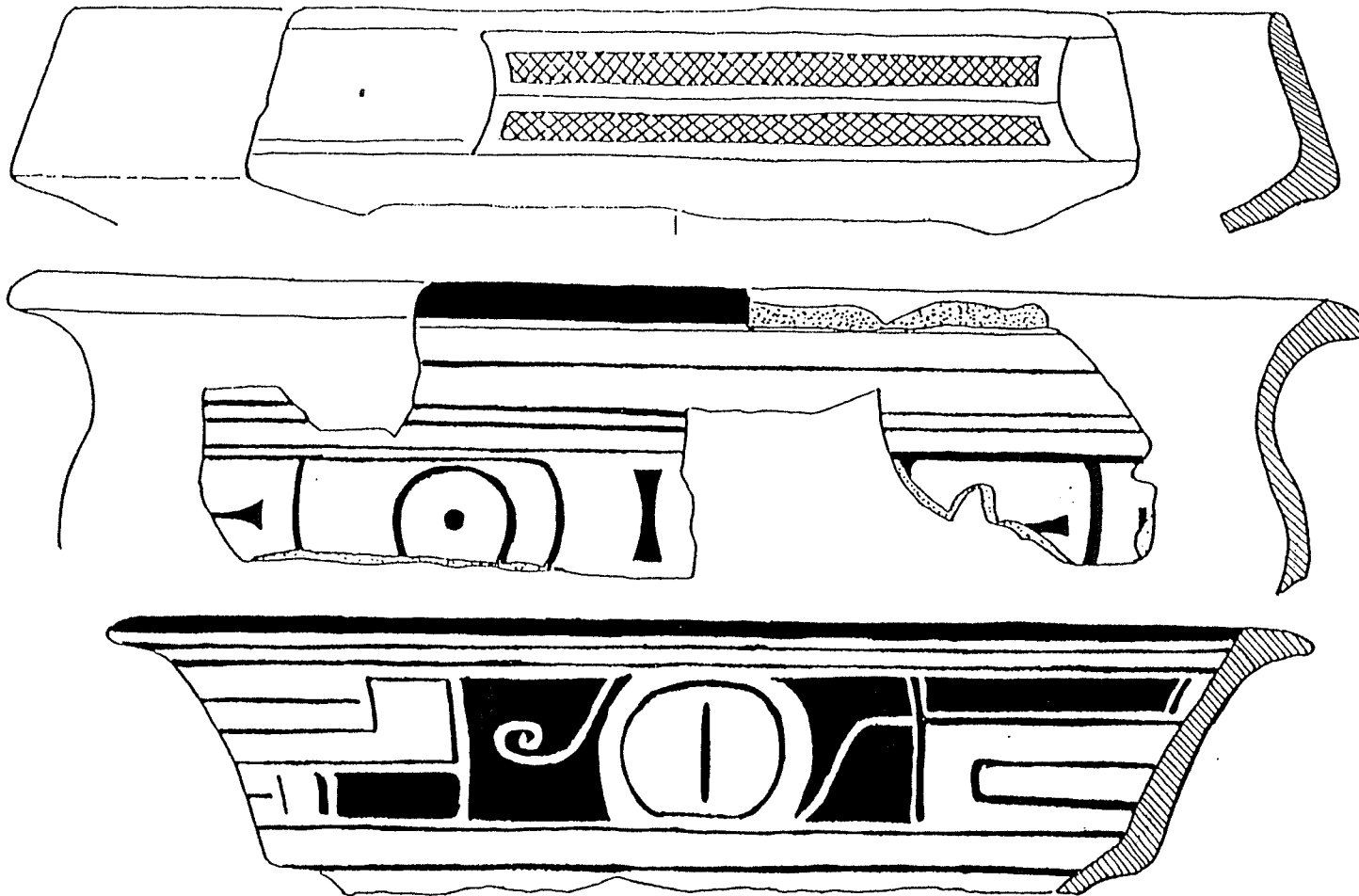


Figure 9. Saladoid vessel shapes from St. Lucia (from Friesenger 1986).
Scale is 5cm.

assigned ceramics from the Black Point site to a separate and even earlier phase in the prehistory of the island itself. His rationale for this was based on seriation evidence, particularly the high frequency of plain and zone-incised-crosshatched sherds from this site. Therefore, according to Bullen, the traits associated with the Black Point phase are earlier than the lowest levels he encountered at Pearls, despite the fact that he did not acquire any definitive radiocarbon dates for the Black Point surface finds.

Beyond the southern Windward Islands. Though not the prime focus of this study, a brief examination of Horizon I Saladoid ceramics beyond the southern Windward Island chain (that is Grenada through St. Lucia) allows for a contextualisation of the extent of this ceramic series. For most of the Leeward Islands, a definitive early Saladoid occupation is fully recognised. Ceramic styles associated with an early occupation on Puerto Rico and the island of Vieques are also known.

The most conclusive association with Horizon I on the island of Dominica is the Veille Case site on the southeastern coast. The results have not been formally published, although Allaire (pers. comm.) was able to examine some material housed in the Yale Peabody Museum.

Further north, the lowest levels of the well known

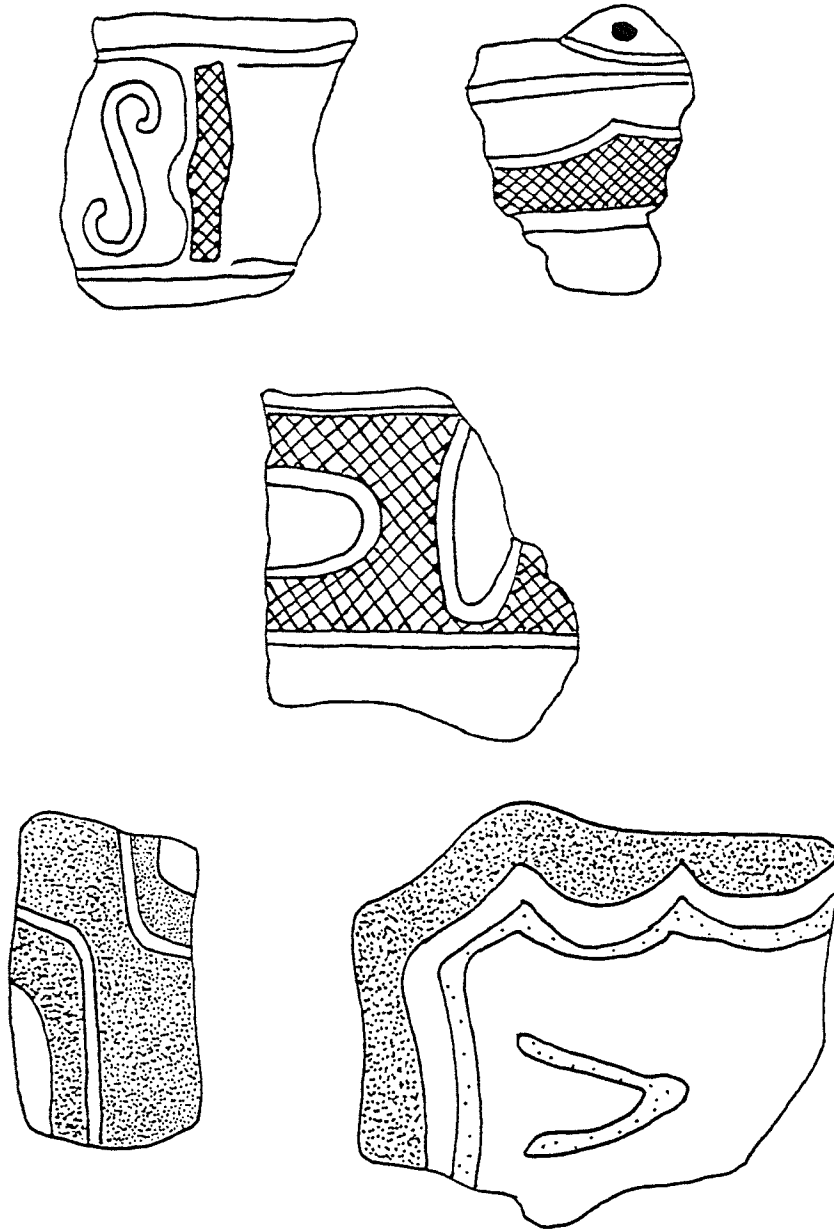


Figure 10. Body sherds from the site of Cedros, Trinidad (from Olson 1974). Not to scale

multi-component site of Morel on Guadeloupe have also yielded ceramics which can properly be associated both with Horizon I styles (Clerc 1968) as well as Rouse's Huecan Saladoid styles (Rouse 1992). Charcoal from this lower level was dated to A.D. 220 (Bullen and Bullen 1972:153).

On Antigua, Horizon I ceramics were found at some of the deepest stratigraphic levels at the site of Indian Creek, which have been dated to A.D. 97 and A.D. 185 (Rouse 1974, 1976). This early Indian Creek phase (as defined by Rouse) is characterised by zone-incised crosshatching, white-on-red painted decoration, inverted bell-shaped vessels, and small tabular lugs with light incised lines (Rouse 1976:35). Early Horizon I Saladoid sites have also been found on Montserrat (Watters 1980), Nevis (Wilson 1989), and St. Eustatius (Versteeg 1989, 1991).

In the Greater Antilles, where they had arrived by A.D. 100, characteristic Horizon I ceramics are best known from the Hacienda Grande site on the northern coast of Puerto Rico (Rouse and Alegria 1990). Thin, hard white-on-red painted pottery was recovered in early excavations by Rouse (1963 [Bullen and Bullen 1972]). As well, banded zoned-incised-crosshatching was also recovered (Rouse 1963 [Bullen and Bullen 1972]; Rouse and Allegria 1990). Indeed, Rouse (1992:90-92) has suggested that the Saladoid peoples on the eastern coast of Puerto Rico formed a frontier with the Casimiroids, a non-ceramic manufacturing group who occupied

Hispaniola and Cuba from about 2000 B.C. to about A.D. 500.

At the site of Sorcé on the island of Vieques, few utilitarian and painted vessels are present, yet abundant ZIC ware was found (see Rouse and Allegría 1990:83-85). Rouse and Allegría conclude that this high frequency of ZIC ware may indicate a separate religious group that "...decided to concentrate on the rites in which zic ware was employed" (Rouse and Allegría 1990:84). Rouse and Allegría further suggest, in their attempt to separate La Hueca styles from Cedrosan (Horizon I) styles, that the occurrence of a distinct Huecan component at Sorcé may be explained as a distinct "sociopolitical" group (1990:84).

Horizon II

Barranroid Influences (ca. A.D. 350 - ca. A.D. 550)

The degree to which Barranroid influences penetrated the West Indian island chain is important in understanding the nature of Horizon II in the Lesser Antilles. While a pure Barranroid manifestation is not present on any island in the West Indies (aside from Trinidad), the full extent of these influences is not presently known. They are distinctly expressed in the pottery (primarily decorative elements), which is so widespread throughout the island chain, including the Greater Antilles.

Yet another consideration that should be addressed is

the actual processes by which these influences were manifested during this second Horizon in the Windward Islands. As such, a number of possibilities can be considered. First, under the assumption that a relatively high degree of mobility existed, we could therefore further assume regular or sporadic contact between island groups and Barrancoid peoples occupying the northern coast of the South American mainland. As an alternative, actual migrations of Barrancoid peoples might have occurred, but for whatever reason, no pure Barrancoid manifestation was never achieved in the islands. This is perhaps the case for Trinidad, but the situation is not clear to the north. Third, the increase in Barrancoid features in Saladoid ceramics could be explained as the result of warfare (and perhaps associated raiding for women or captives) between the islands and the South American mainland. Whatever the case, it is important to note that characterising how these features arrived in the island is difficult, as any number of circumstances must be considered.

Horizon II has been referred to by various terms. "Modified Saladoid" was used by Bullen and Bullen in their St. Vincent report (1972) and ceramic remains associated with this period were referred to by Bullen as belonging to the Simon series, which he also identified on Barbados, Grenada, and Martinique (Bullen 1964, 1976). As Bullen and Bullen (1976) have stated, Simon series ceramics are

generally thicker, yet continue to be tempered by fine grained sand with occasional small pebbles.

Rather than characterising Horizon II as 'Modified Saladoid' such as Bullen and Mattioni have done, the expression "Developed Saladoid", as suggested by Allaire (1995), better reflects the overall nature of these stylistic influences and changes from the mainland. We might in fact be dealing with what could be termed a 'Barrancoid of Saladoid Tradition' (Allaire 1995).

Two distinct differences in the ceramics from the Windward Islands allow for a characterisation of this second archaeological horizon in the Saladoid period.

Chronologically, we distinguish between Horizon I and Horizon II based on stylistic and morphological differences. This is best known from Martinique, which is discussed in detail below. Second, ceramics associated with Horizon II reflect a particular stylistic florescence (exhibited as elaborate decorative elements in the ceramics) that can be considered to have been firmly established in the Windward chain by ca. A.D. 350.

The increase in stylistic influences as manifested in ceramic styles potentially suggests a regional interaction sphere that not only included the coastal margins of South America (primarily Venezuela), but also the Windward Islands. It is not known if this change in decorative elements is attributed solely to the presence of an

interaction sphere or whether it may actually represent movements of groups from mainland to the Antilles.

Sometime after ca. A.D. 350, unique and more baroque characteristics begin to appear in the ceramics of the Windward Islands (Allaire 1995). Decorative styles represented in the ceramics associated with this Horizon become more abundant and elaborate, polychrome-painted decorations (consisting of orange, purple, yellow, brown, and frequent use of white-red-black) are introduced. Although a continuation of geometric-painted areas is present in this Horizon, more intricate forms of areal painting become common.

Overall, vessels generally become thicker and sturdier. Broad flanges on vessel lips also begin to appear, and are often decorated with incisions, both linear and curvilinear. Horizon II is also regarded as the apex of white-on-red painted design. Like vessels from Horizon I, those from Horizon II are frequently decorated in red paint. As demonstrated at the Vivé site in Martinique, however, a darker red colour becomes more common (Musée Départemental, 1991).

Diagnostic incised styles include spiral or scroll motifs, as well as linear or curvilinear incisions ending in a point. Generally, incisions become more elaborate, and are often deeper and wider than those of Horizon I. Areal incised patterns are also found. Modelled incised

decoration also become more elaborate and stylised, emphasising particular features (such as the common 'pug' nose) on frequently found zoomorphic adorns. Zoned-incised-crosshatching motifs continue to be applied to vessel surfaces.

The inverted bell-shaped vessel associated with Horizon I transforms into more varied forms on the same composite principle. Four vessel types become increasingly emphasised in the Windward Islands during Horizon II. One of these, the Vase Mario, is a large vessel, often referred to as a "vase à ouicou", or beer-brewing vessel (Mattioni 1976), which may indicate the increased importance of this practice.

While present to some degree in earlier Horizon I contexts (as seen the Musée Départemental), the Vase Mario likely reached its florescence in Horizon II. Earlier Horizon I Vase Mario vessels are usually non-uniform in shape and generally do not take the characteristic form of the larger, more graceful and sturdy Horizon II examples.

Shallow, open, basin-shaped vessels, known as 'vasques', become common in Horizon II contexts, although they are also found in Horizon I sites,. Vasques are essentially shallow bowls or basins and are often painted in the typical dark red colour and usually decorated with either linear or curvilinear incision on the inside of an outflaring rim.

Third, cylindrical incense burners seem to reach their apogee during this Horizon. While Mattioni (1976) indicates that incense burners are found in earlier Horizon I sites, this has yet to be firmly established in definitive chronological contexts from other islands in both the Windward and Leeward groups. Incense burners are not common outside the islands and are not typical of eastern Venezuela.

Finally, an increase in the frequency of effigy vessels is associated with this Horizon. These vessels are represented in the form of an animal, and are usually heavily decorated with various incised or painted styles. Often, the head of an animal is represented by an over-sized adorno on the edge of a low vessel or bowl. Stylised incisions characteristic of Barrancoid styles in Venezuela also complement these adornos, and often represent animal legs, such as the frog (Petitjean Roget 1977; Allaire 1981) or other body parts.

Indeed, the unique decorative traits associated with Horizon II in the Windward Islands are reminiscent of those which define the Barrancoid tradition of the Lower Orinoco in South America (Cruxent and Rouse 1958-1959; Rouse and Allaire 1978). This tradition is characterised by ceramic styles such as Barrancas and Los Barrancos along the middle-lower Orinoco, and the Mabaruma Phase in Guyana (Cruxent and Rouse 1958-1959; Meggers and Evans 1960). While a true

Barrancoid manifestation is not represented in the Lesser Antilles, these influences nonetheless indicate that some degree of interaction was present.

In Guyana, the Mabaruma Phase, as defined by Meggers and Evans (1960), is dated to about A.D. 500 and includes vessel shapes and, to some degree, decorative elements which are often similar to those which are evident in Horizon II ceramics in the Windward Islands. Sanoja (1976) points out that the Barrancoid stylistic nature of the Mabaruma phase is reminiscent of ceramic decorative styles from Barrancas on the lower-middle Orinoco River rather than the Los Barrancos style which is later than Barrancas (Cruxent and Rouse 1958-1959; Rouse 1964).

Trinidad. Boomert (1987) offers a different theory about these mainland influences in the Windward Islands. As he sees it, the Palo Seco style or complex in Trinidad (typical Horizon II) bears heavy similarities to mainland Barrancoid ceramics, and has therefore referred to this sub-series as the Palo Secan Saladoid (1987). There is no doubt that Palo Seco represents some degree of mainland influence; broad, thin flanges are present, often emphasising broad incisions (Rouse 1947:95). Some polychrome paint is present, but no zone-incised-crosshatching has been observed in any Horizon II contexts so far.

A pure Barrancoid manifestation can be attributed to the Erin style ceramics found on Trinidad (Allaire 1995;

Harris 1978; Rouse 1947). Erin style ceramics are the thickest on the island (Rouse 1947:95). They are usually smoothed on the interior with a coarse gritty interior. Incision and modelled-incised decoration is also found, usually on the rims or handles of some vessels (Rouse 1947:95). The spiral, or scroll, motif is particularly common (Rouse 1947:95).

Consequently, while the Erin ceramics may represent a true Barrancoid manifestation on the island, those from Palo Seco seem to exhibit ceramic elements that allow their placement into Horizon II of the Windward Islands. In this sense, Harris' suggestion (1978) of a Barrancoid/Saladoid tradition (Palo Seco) and a true Barrancoid tradition (Erin) perhaps confuses the nature of these influences and raises the question as to why Trinidad was the only offshore island near the continent to witness direct Barrancoid migrations. Allaire (1995) has suggested that the Cedros - Palo Seco continuum directly emulated the developments within the Windward Islands, but the Erin style appears to be unique, appearing around A.D. 500.

It is very possible, as suggested by Rouse (1992), that Trinidad may have been at the centre of a large region of interactions, which could therefore explain the presence of these diverse styles from the mainland. If this were true, this could serve to illustrate the fact that instead of definitive migrations of Barrancoid peoples into the island

chain, selective interaction with groups on Trinidad and the mainland ultimately allowed for the spread of ideological values and cultural traits. These are particularly noticeable in the change in decorative styles during this period. It is also possible that intra-regional trade networks were responsible for these influences.

St. Vincent. Horizon II ceramics on St. Vincent are best characterised in the Arnos Vale style, from the Arnos Vale Swamp site (Bullen and Bullen 1972). Rouse's recent chronological chart (1992) indicates that "Cedrosan Saladoid with Barrancoid influences" are best known from this site on the southern coast of the island. Charcoal from the Arnos Vale Swamp site was dated to A.D. 410 (Bullen and Bullen 1972:153), which is consistent with radiocarbon dates for Horizon II.

Other sites on St. Vincent described by Bullen and Bullen (1972) that yielded "Modified Saladoid" (Horizon II) ceramics include the lower levels of the Buccament West Rockshelter site, Queensbury, Stubbs, the Texaco Tank site (near Arnos Vale), Camden Park, and Lot 14. The significance of these sites are discussed in the next chapter.

Martinique. Like Horizon I in the prehistory of the Windward Islands, Martinique has provided the best examples of Horizon II ceramics, both in style and morphological attributes. Sites on Martinique in which Horizon II

ceramics were recovered include Diamant and Vivé. Horizon II is well represented by ceramics from level II at Vivé (Lehouillier 1974). In the upper layers of Vivé I, however, an admixture of Horizon I and Horizon II ceramics was found by Bullen and Mattioni (1972:225).

In addition to the research by Petitjean-Roget (1975) and Mattioni (1979; 1980), surface collecting and limited test excavations carried out by Allaire and Mattioni in 1983 at the Séguineau site (1989). As yet unpublished, Allaire's field notes indicate that the majority of ceramics encountered are attributed to Horizon II, based on decorative and morphological characteristics.

St. Lucia. One of the better known Developed Saladoid sites on St. Lucia is Troumassée, from which an early phase (A) was established by Marshall McKusick (1960). The description of Troumassée A ceramics provided by McKusick are identical to the typical ceramic styles associated with Horizon II. Incised flanges are present as are white, red, and black-painted zones. McKusick also notes (1960:110) boat-shaped vessels and effigy vessels from this particular phase at Troumassée. Some of the materials recovered by Deveaux at Cannelles can also be considered diagnostic of Horizon II (Friesenger 1986; see also Fig. 9).

Barbados. Very few sherds that exhibit stylistic elements that would place them in an Horizon II context have been found on Barbados. Summarising the results of research

conducted by Drewett (1991), Harris (1991) states that some of Bullen's types, such as 'interior incised' and other fine incisions, are found at Chancery Lane on the southern coast. In addition, some sherds which exhibit a cream slip have been found at the site of Hillcrest on the southern coast. Harris attributes this slip colour "Saladoid/Barrancoid times" (1991:89), although this is not yet conclusive. The lack of Horizon I ceramics and the presence of Horizon II ceramics suggests that the island may have been initially populated in Horizon II times.

Grenada. For Grenada, Bullen (1964:53-54) established a chronologically distinct Salt Pond phase, which is later than the previous middle and Black Point phases. However, while Bullen attributed this Salt Pond phase to a later development of the Pearls series ceramics, the ceramics described by Bullen (1964:54) from Salt Pond are typically Horizon II in nature. For example, the wide, incised flanges Bullen encountered at the site are quite diagnostic of this second Horizon.

Beyond the Southern Windward Islands. On Guadeloupe, Horizon II decorative styles are best represented at Morel, particularly in level II (Clerc 1968). For Dominica, Petitjean Roget's 1978 report of his reconnaissance of the island once again provides the only reference to the presence of Horizon II ceramics on Dominica. Near the village of Soufrière on the extreme southern coast,

Petitjean Roget was able to find typical Horizon II ceramics.

Direct Barrancoid stylistic influences are recognised north of the Windward Island chain (in other words, beyond Dominica) at the site of Hacienda Grande on Puerto Rico (Allaire 1995). In between, the Mill Reef phase on Antigua has some distinctive elements that share with the Mabaruma Phase in Guyana and certainly within the Windward Islands (Hoffman 1976).

Morse and Rouse (1995) have recently concluded that the Indian Creek site on Antigua, once thought to be representative of the early, or Cedrosan, Saladoid period, is in fact "late Saladoid", based on the presence of Barrancoid (Horizon II) traits in the ceramic collections. The authors indicate that "[l]imbs and spiral motives [sic] decorate the interior of bowls and head lugs are prismatic in shape rather than rounded..." (1995:6).

At the Golden Rock site on St. Eustatius, many of the vessel shapes are typical of Saladoid series vessel shapes (Versteeg and Schinkel 1992). Decoration in painted styles is also typical of Horizon II, especially complex red-on-white and broad incisions. As well, black-painted designs are reported, but these are not discussed in any detail by the authors.

At the site of Sorcé on Vieques, some elements can be observed that may in fact be traced to these Barrancoid

influences in the Windward chain. A particular bird pendant illustrated is particularly suggestive of these mainland influences, as pointed out to Rouse by Jose Oliver (Rouse 1992:87).

This Sorcé style of Saladoid ceramics, which is represented by the presence of polychrome-painted decoration (in red, orange, and white) and complex positive white-on-red-painted designs, supports the assumption that Barrancoid influences occurred past the Lesser Antilles (Chanlatte Baik 1983).

If these influences did in fact penetrate the Lesser Antilles and some of the Greater Antilles, this Barrancoid stylistic expansion may have been, as Allaire (1995) has pointed out, one of the greatest stylistic florescent phases in the prehistory of the region. A better understanding of these influences must necessarily include more detailed investigations in their suggested homeland along the northern coast of South America.

Summary

The early Saladoid period in the prehistory of the Windwards Island can best be characterised as two distinct archaeological 'Horizons', based almost entirely on stylistic differences. The distinct differences between these two Horizons has always been known, but have been

referred to as the Cedrosan Saladoid subseries and the Cedrosan Saladoid subseries with Barrancoid influences. The term Horizon, however, seems to better reflect the precise nature of these differences.

The stylistic differences between these two Horizons are most noticeable on Martinique, but are also manifested on other Windward islands. Changes in decorative traits on ceramics vessels beginning around the middle of fourth century A.D. can be likened to either regional influences or actual migrations of groups from the mainland of South America, particularly Guyana, but perhaps the lower Orinoco River valley as well.

CHAPTER III

SALADOID SITES ON ST. VINCENT

Of the 26 sites encountered during the survey in 1993 and 1994 (Allaire and Duval 1995), six were located in which the majority of the ceramics recovered exhibit stylistic and/or morphological attributes that are characteristic of the Saladoid period in the Lesser Antilles. These were: (1) Sandy Bay; (2) Spring; (3) Escape; (4) Brighton; (5) Arnos Vale; and (6) the Buccament site cluster (Fig. 11). Three of these sites (Sandy Bay, Escape, and Spring) are located along the windward coast of the island while only one (the Buccament cluster) is located on the leeward coast. Two sites (Brighton and Arnos Vale) were found on the south coast, facing the small island of Bequia. Bullen and Bullen (1972) located eight further Saladoid sites (see Fig. 11). Three of these (Kingstown Post Office, Arnos Vale Swamp and Field, and Texaco Tank) are on the southern coast, while two (Stubbs and Lot 14) was located along the windward coast. Three sites (Queensbury, Buccament West Rockshelter, Camden Park, are located on the Leeward coast, although Queensbury is located approximately 3 km inland in the Buccament Valley. Lot 14, like Queensbury, is of special interest in that it is found inland, which is unusual for Saladoid sites in the Lesser Antilles.

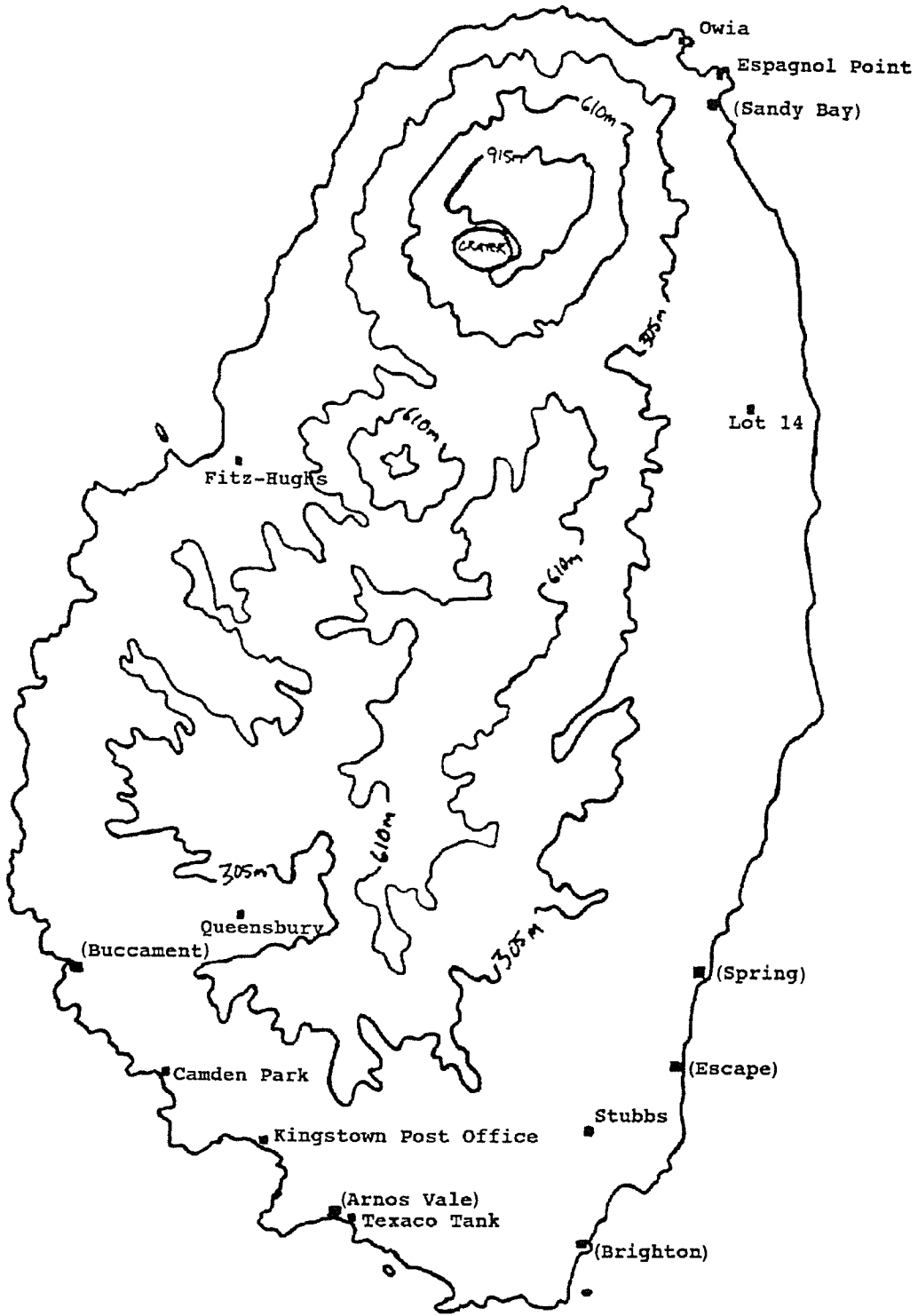


Figure 11. Map of St. Vincent showing Saladoid sites. Parentheses represent those sites surveyed in 1993-1994.

During the 1993-1994 surveys, an attempt was made to relocate the sites mentioned by the Bullens in their 1972 report. Of the eight Saladoid sites mentioned by the Bullens, three were relocated: Arnos Vale, Camden Park, the Buccament West Rockshelter. The site of Queensbury could not be relocated. Time restrictions prevented the relocation of the Stubbs and Lot 14 sites. The Texaco Tank site has since been destroyed through construction activities. Camden Park has also been disturbed due to the construction of industrial plants and shipping facilities

Site Descriptions

Sandy Bay. The site of Sandy Bay (**SBY**) was originally located on a plateau around the modern school in New Sandy Bay Village on the north Windward side of the island (Fig. 12). The small Cayo River flows immediately south of the site. The Bullens vaguely described the site they called New Sandy Bay, but it is likely the same site visited in 1994 in the company of Dr. Earle Kirby. In their report, the Bullens had stated that

...there is a steep eroded bank separating the higher land by the road from the lower or beach area. A drainage ditch has been dug down this bank while construction near the road has resulted in an accumulation of dirt and debris at the crest of the eroded bank (Bullen and Bullen 1972:66).

The site is occupied, as they are so often on St. Vincent, by a school and adjacent asphalt-covered

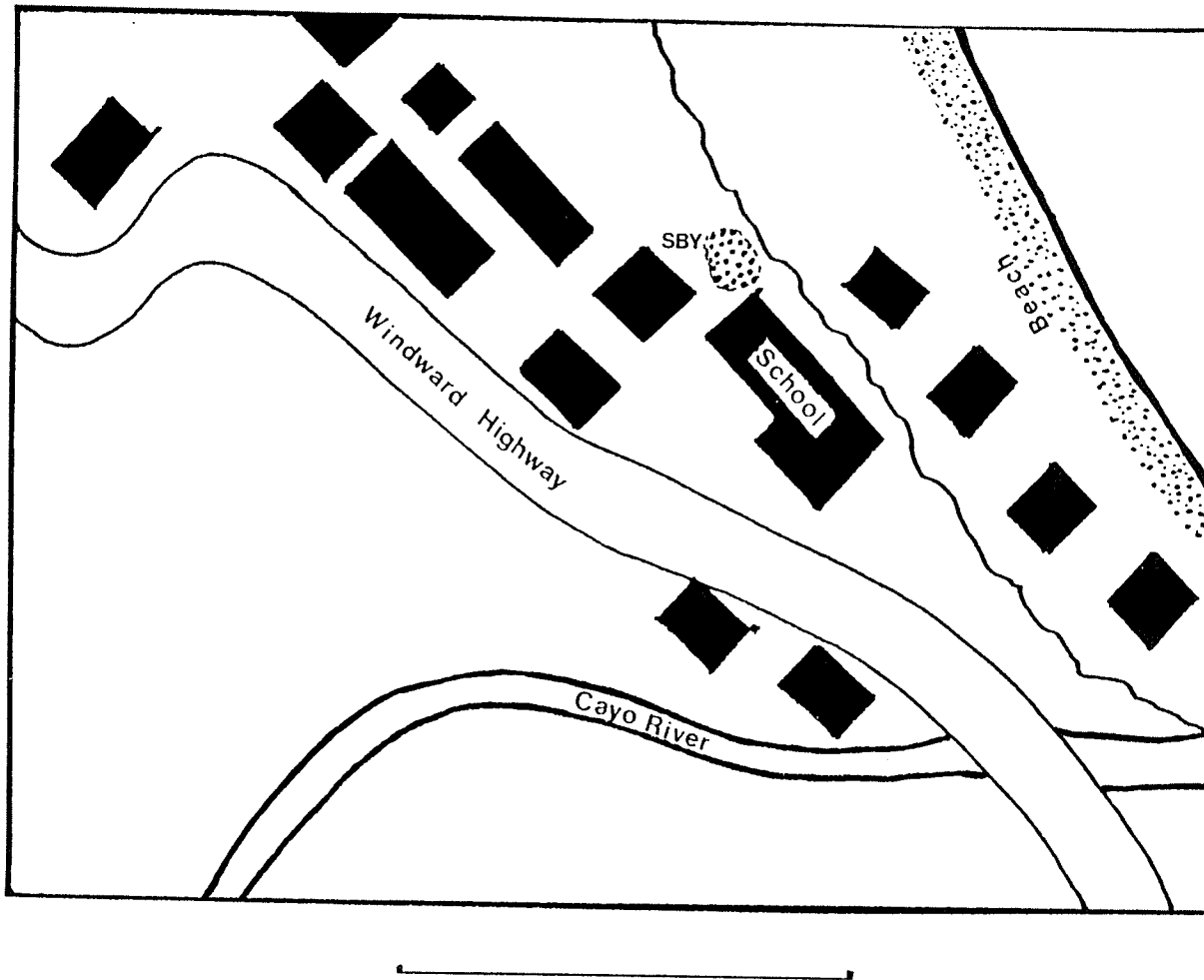


Figure 12. Map of the Sandy Bay site. Scale is 100m.

playground. Abundant sherds below the school on a steep slope were recovered, which undoubtedly arrived there during construction activities in the surrounding area and were forced down the slope itself. The small plateau on which the school sits slopes down to an extensive beach area (30-40 m away) and small drainage ditch at the base of the slope.

The drainage ditch mentioned by the Bullens runs immediately to the east of the school along the lower part of the embankment on which the school stands. It appears, however, that the large accumulation of soil and backfill, which was formed as a result of the construction of the Windward Highway, and where the Bullens recovered most of their material, has since been either destroyed, hauled away, or eroded. It is reasonable to assume that the area from which we recovered the sherds in this collection is in very close vicinity to the area mentioned by Bullen and Bullen (1972:66) as a result of the very abundant remains.

Very little vegetation cover is present on the site itself. The extent of the site was difficult to determine as modern residential development is considerable. As the site is in the immediate vicinity of both the Cayo River, it may be assumed that the entire area (some 200 m²) may have been occupied.

Pottery recovered at the Sandy Bay site not only includes typical Saladoid sherds, but also sherds from later

prehistoric periods (Suazoid) and historic materials (Cayoid) (Allaire and Duval 1995). Only the Saladoid material, however, is considered in this study.

Spring. The site of Spring (**SPG**) is located on the central Windward coast of the island, approximately 60 metres inland from the Atlantic Ocean and immediately to the west of the Windward Highway (Fig. 13; Pl. 5 and 6, 8). A small river lies immediately to the south edge of the site. The site lies on a small terrace near the river above a small cove. Like the Escape locality, the site lies approximately 10-20 m above sea level. Surrounding vegetation consists of cultivated land (bananas), areas of grass and tall shrubs, and occasional palm trees.

The Bullens (1972:69) describe the site as "...situated in the high bank or second terrace of a river a little north of Spring [the village]" (Bullen and Bullen 1972:69). They further note that the site is "a little west" of the coastal road (the Windward Highway). It is likely that this is the same area encountered during our survey.

When visited in 1993, an apparently recent small paved access road was observed to the west and perpendicular to the Windward Highway. To achieve a level surface (with the Windward Highway) for this access road, approximately ten meters of earth had recently been cut into the sloping terrace at the north edge of the site. As a result, layers of soil are clearly exposed alongside the access road,

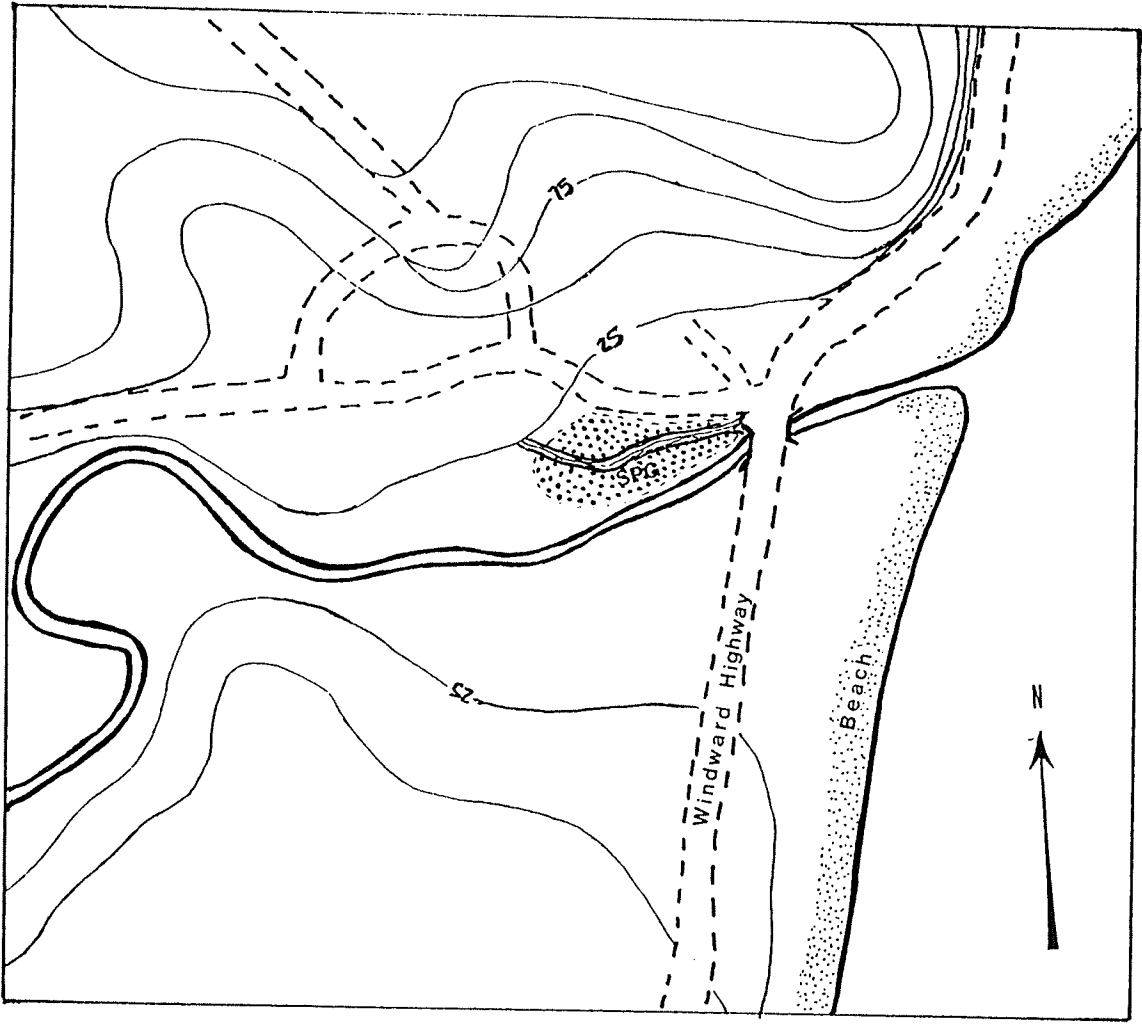


Figure 13. Map of the Spring site. Scale is 100m.

yielding pottery throughout the road cut to the Windward Highway. A clear stratigraphy was observed, however, and sherds were observed eroding to a depth of 30 cm (see Pl. 5).

Sherds were observed eroding out of the road cut on both sides of the road. Sherds on each side were kept separate when collected (designations of Spring 1 and Spring 2 were used). The area on the south side of the road yielded primarily Saladoid series ceramics, while the area on the north side of the road yielded later period ceramics, including a Cayoid component and historic materials.

The Escape Locality. The Escape site is located on the central windward coast of St. Vincent and immediately north of the 1994 excavations at the Argyle site (Allaire and Duval 1995). Although the site is known to Dr. Kirby (with some collections housed in the National Museum), it was re-discovered in 1993. Curiously, no mention is made by Bullen and Bullen (1972) to this area. The Escape locality is subdivided into three extensive concentration areas (Fig. 14).

The area in which the three Escape concentration areas are located is a low plateau only 10-20 m above sea level, and approximately 200 m from the coast. This flat area land extends toward the interior for approximately 2-3 km. The area where the Escape cluster is located is unique as it is one of the few areas on the island where

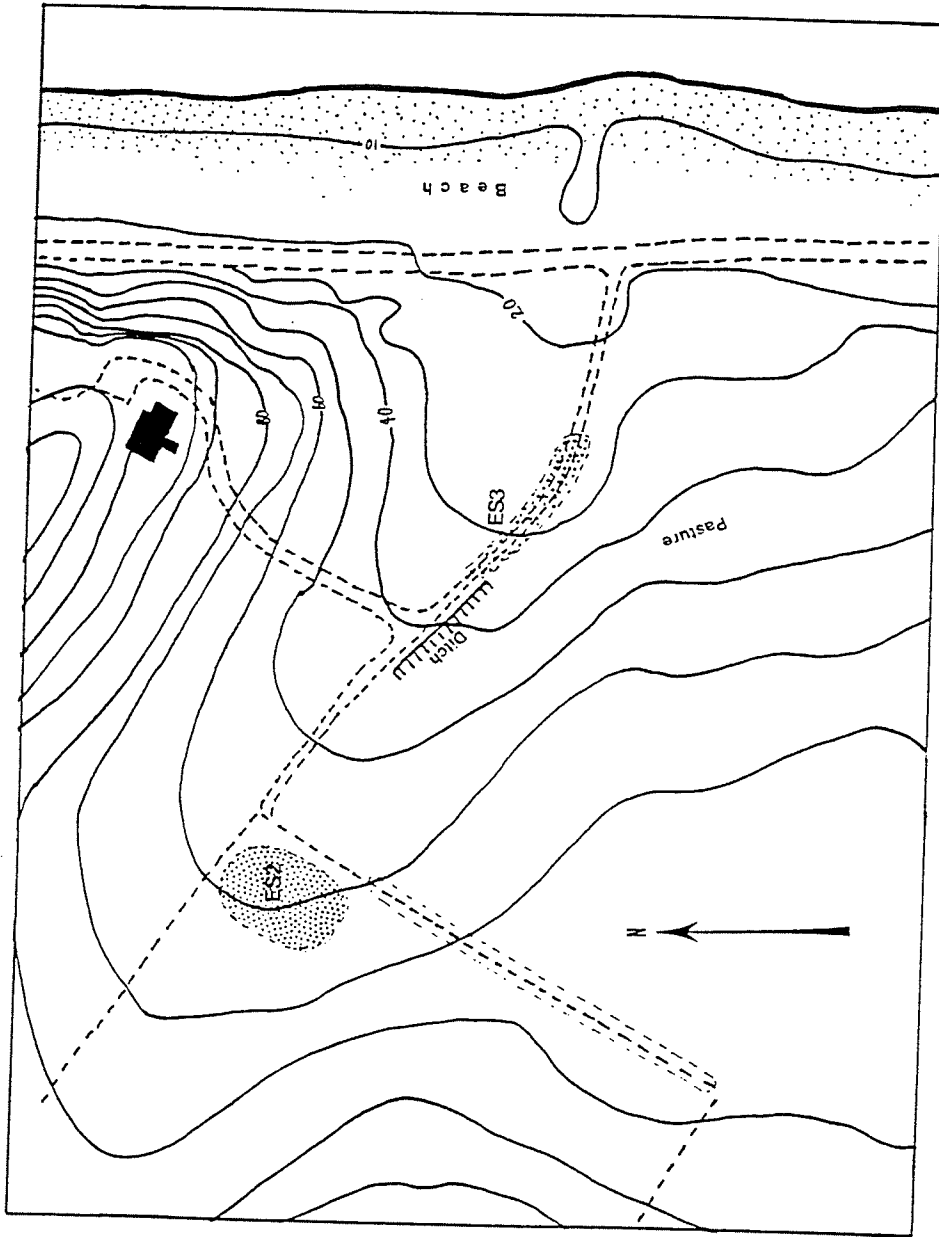


Figure 14. Map of the Escape Cluster. Scale is 100m.

relatively extensive flat land is found. Sherds were spread over wide areas, likely the result of agricultural activities in the area. As mentioned in Chapter I, precipitation amounts in this area are lower than the leeward coastal areas, as the effects of orographic precipitation provides most of the moisture on the rugged mountainous leeward side (Caribbean Conservation Association, 1993).

At this time, it is not clear if the entire Escape area can be considered as a single site. Due to the lack of exposed soil throughout much of the area to the south of a nearby school, it is not known if any cultural material is located there. It may be tentatively suggested, however, that this entire area of flat land may have been a habitation area throughout prehistory. If this were indeed the case, then the extent of the site could approach 200-250 m².

The current vegetation cover consists primarily of short grass used for cattle grazing, along with a few small agricultural plots. At the time of the surveys, peanuts and bananas were being cultivated in the immediate vicinity of the site cluster. Our survey recovered sherds primarily from ditch areas and road cuts.

Escape 1. Concentration area **ES1** is a ditch embankment that is located approximately 80 m from the Windward Highway and approximately 120 m from the coast (Pl. 4). This ditch

embankment runs parallel to the access road from its origin at the Windward Highway. The ditch embankment varies in height, ranging from a few metres high to virtually level with the field which lies to the south. Sherds were observed eroding out of the embankment itself, as well as at the bottom of the ditch.

The highest level of the embankment occurs immediately opposite of the school access road, which runs perpendicular to the primary access road, allowing access to interior housing developments and agricultural land. The embankment is situated directly south of a large school (constructed in the nineteenth century as an Anglican church) and was likely constructed at the same time as the road that services both the school and the few residential homes to the west. This road likely follows the course of an old stream, the presence of which is suggested by the topography of the area and early maps produced by the Directorate of Overseas Surveys in England.

The extent of this concentration appears to run the entire distance of the ditch itself, which in 1993 was approximately 40-50 m. As well, some sherds were recovered in areas of exposed soil immediate above the ditch on the flat land used for cattle grazing.

Escape 2. Concentration area **ES2** is a small field west of concentration area ES1. With the help of Morrison Baisden (who also accompanied the Bullens during their

survey in the late 1960s), we investigated the field in 1993. It is located approximately 200 m from the Windward Highway and approximately 240 m from the coast. This field is a gently sloping parcel of land that was being used in 1993 to cultivate peanuts. In 1994, an access road that splits several cultivated fields to the south was investigated, yielding a few more sherds. The road eventually turns west and leads to a small hotel. Only a few sherds were recovered from this access road, and these were included in the ES2 designation.

The extent of the site is difficult to determine, as the area between concentration area ES1 and ES2 is covered in grass, thus allowing very little exposed soil where sherds could be observed on the surface. As mentioned, it is possible that concentration ES2 could be part of the ES1 concentration area and form one site.

Escape 3. Concentration area **ES3** is the area along both the access road immediately below the school and the rough road that leads directly to the school, which lies on the top of low hill. Numerous sherds, most of which were very small, were observed eroded out of the road track itself. A small field (currently being used for the cultivation of bananas and some sugar cane) at the bottom of the hill but to the west of the school access road was surveyed, but yielded no artifacts.

Brighton. The site of Brighton (**BRT**) is located on the southeastern shores of St. Vincent on a gently sloping plain, immediately south of Ribishi Point and north of the Milligan Cay islet (Fig. 15). The site itself is located only slightly above sea level. The Bullens (1972) indicate that their site of Brighton is located on a "...terrace beside the southern bank of the Brighton River." As with most sites mentioned in the Bullens' text, we were not able to precisely locate the area to which they refer, but it is very likely the same area where we collected sherds.

When the Bullens investigated the site during their survey, they recovered very few sherds, most of which were representative of later prehistoric periods in the "cultivated field" near the Brighton River. "Simon-Pearls" ceramics were recovered by the Bullens eroding from the "terrace", whose exact location could not be determined.

The Brighton site was first visited in 1993. The site lies immediately west of the mouth of the Diamond River where it enters the Atlantic Ocean. A small access road carries the occasional vehicle from Brighton Village to a black sand beach area. Most sherds were recovered along fence embankments which form a soil ridge perpendicular to the road. These embankments range in height from a few metres to the same level of the road. Some sherds, however, were recovered from the road surface itself. During our survey, sherds were recovered from approximately a 60-80 m²

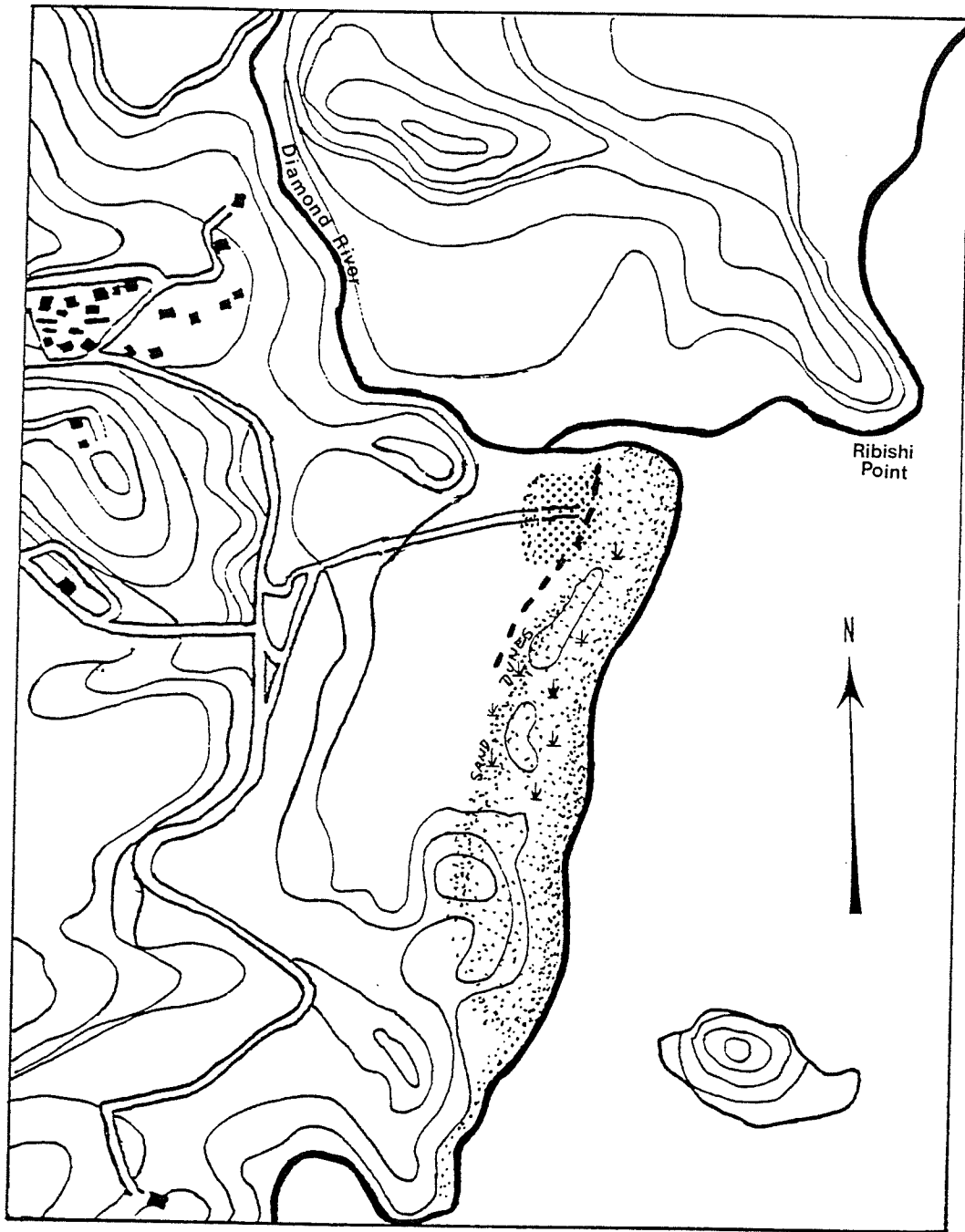


Figure 15. Map of the Brighton site. Scale is 100m.

area. The true and exact size of the site is not known, although it likely extends to the pastured land inland from the shore, which could not be investigated during the surveys.

Despite the fact that the area in which the site is located appears relatively dry, it does exhibit patches of alluvial, fertile soils. The entire beach area is occupied by extensive sand dune formations, which seem to be some of the largest on the island (Deane 1985:193-194). Localised patches of grass have covered these dunes. Today the area around the site supports a vegetation cover consisting of various crops grown by local farmers, small shrubs, and pasture land. Trees line the Diamond River and the beach areas. The immediate area is likely to have changed significantly since prehistoric times, especially with regard to sea levels. As a result, parts of the Brighton site may be covered by these dunes.

Arnos Vale locality. Arnos Vale is perhaps the most extensive site locality on St. Vincent, as it occupies a broad bay south of Kingstown near the present site of the E.T. Joshua airport (Fig. 16; Pl. 3). This flat alluvial plain is drained by the Greathead River. Today, the area has been extensively disturbed, with the construction of not only the airport, but the Arnos Vale Sports Complex and other industrial and residential buildings.

In their 1972 report, the Bullens mention two sites in

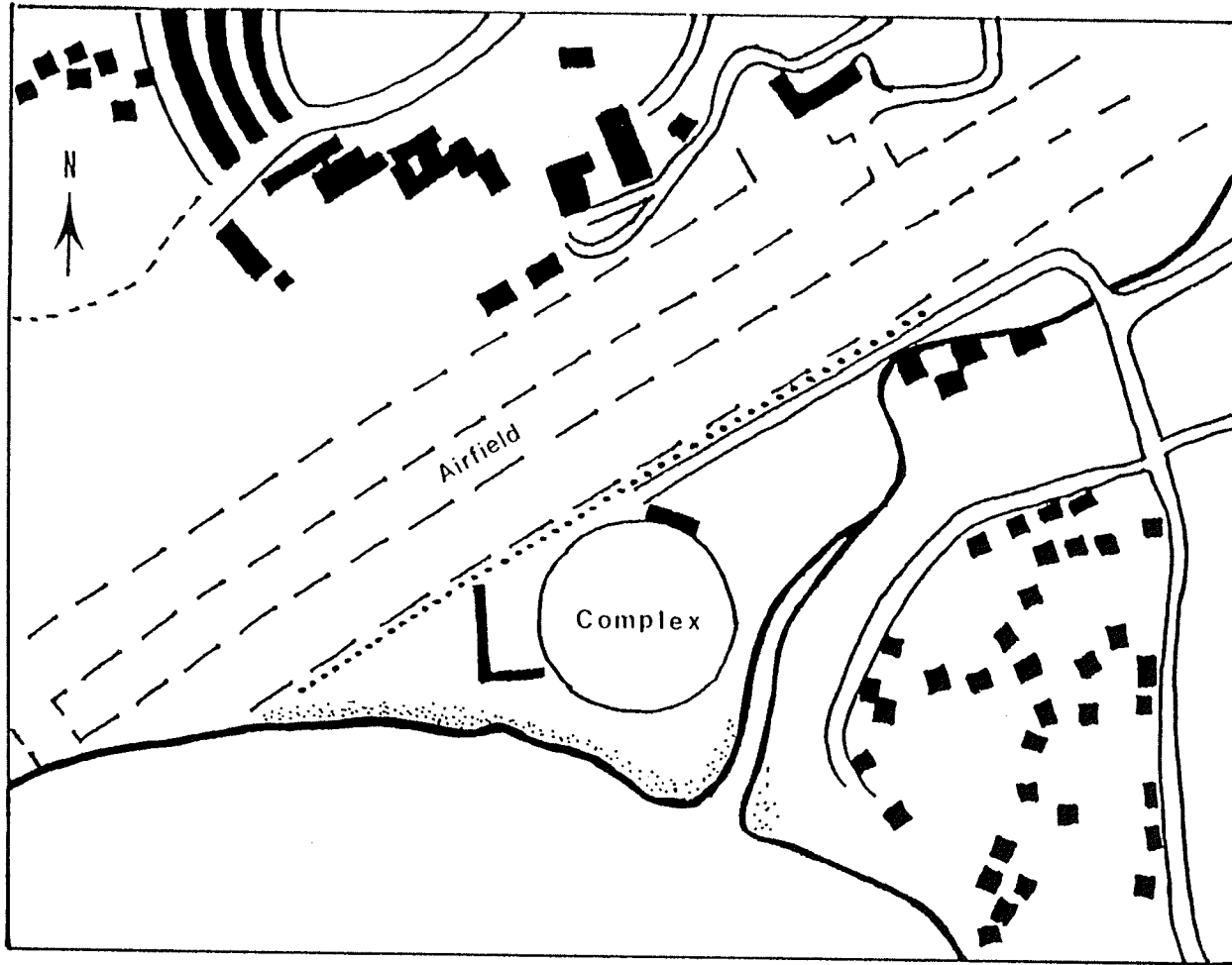


Figure 16. Map of the Arnos Vale site. Scale is 100m.

the Arnos Vale area, which itself is located immediately east of the modern E.T. Joshua airport: the Arnos Vale Swamp site and the Arnos Vale Field site. Although the exact locations are not clear in the Bullens' report, the Arnos Vale Swamp site refers to the large swamp area to the immediate north of the playing field. The Arnos Vale Field site refers to the low level area "south of the airstrip and west of the southernmost part of the Greathead River" (Bullen and Bullen 1972:85).

The "swamp" has since disappeared, and is now covered with grass and small shrubs, with no exposed areas of exposed soil in this area. The area therefore did not yield ceramic remains when surveyed in 1994. Likewise, the field to the west of the Greathead River (or Warrowwarrow River) was covered in light grass vegetation with some small shrubs and trees toward the coast. No sherds were recovered from this area.

The site area designated as Arnos Vale (**ARV**) was investigated during the survey is located essentially along the fence that borders the eastern boundaries of the airfield of the E.T. Joshua airport on the southern coast of the island (Fig. 16). It lies only slightly above sea level on a large, flat plain. At the time, workmen were in the process of digging a large trench, some 1.5 m deep, along the fence for about 1.5 km toward the Caribbean Sea. The backfill of this trench was searched, and abundant ceramic

sherds were recovered here.

The area in the immediate vicinity of the Arnos Vale Sports Complex was also surveyed, but yielded no ceramic material. The construction date of this complex could not be determined, and could thus stand on what the Bullens identified as the Arnos Vale Field site. Because detailed maps were not provided in the Bullens' report, this is not certain. Some areas along the banks of the Warrowwarrow River were surveyed, but again, no ceramic remains were recovered. Kirby (pers. comm.) suggests that the course of the river has been extensively altered due to modern construction activities.

Two nearby sites described by the Bullens (1972:73,87), the Coconut Oil Factory site and the Texaco Tank site, were not relocated during the survey. Both have since been destroyed as a result of either industrial or residential development.

The Buccament Locality. The Buccament Valley is located on the western, or Leeward side of the island, lying immediately south of the village of Layou. The valley is known to be very fertile, which is indicated by the presence of extensive agricultural activities observed during visits in 1993 and 1994. Three days in 1993 and two days in 1994 were spent surveying the site, which is famous for the petroglyphs in the nearby East Rockshelter (Kirby 1969). A number of distinct pottery concentration areas were

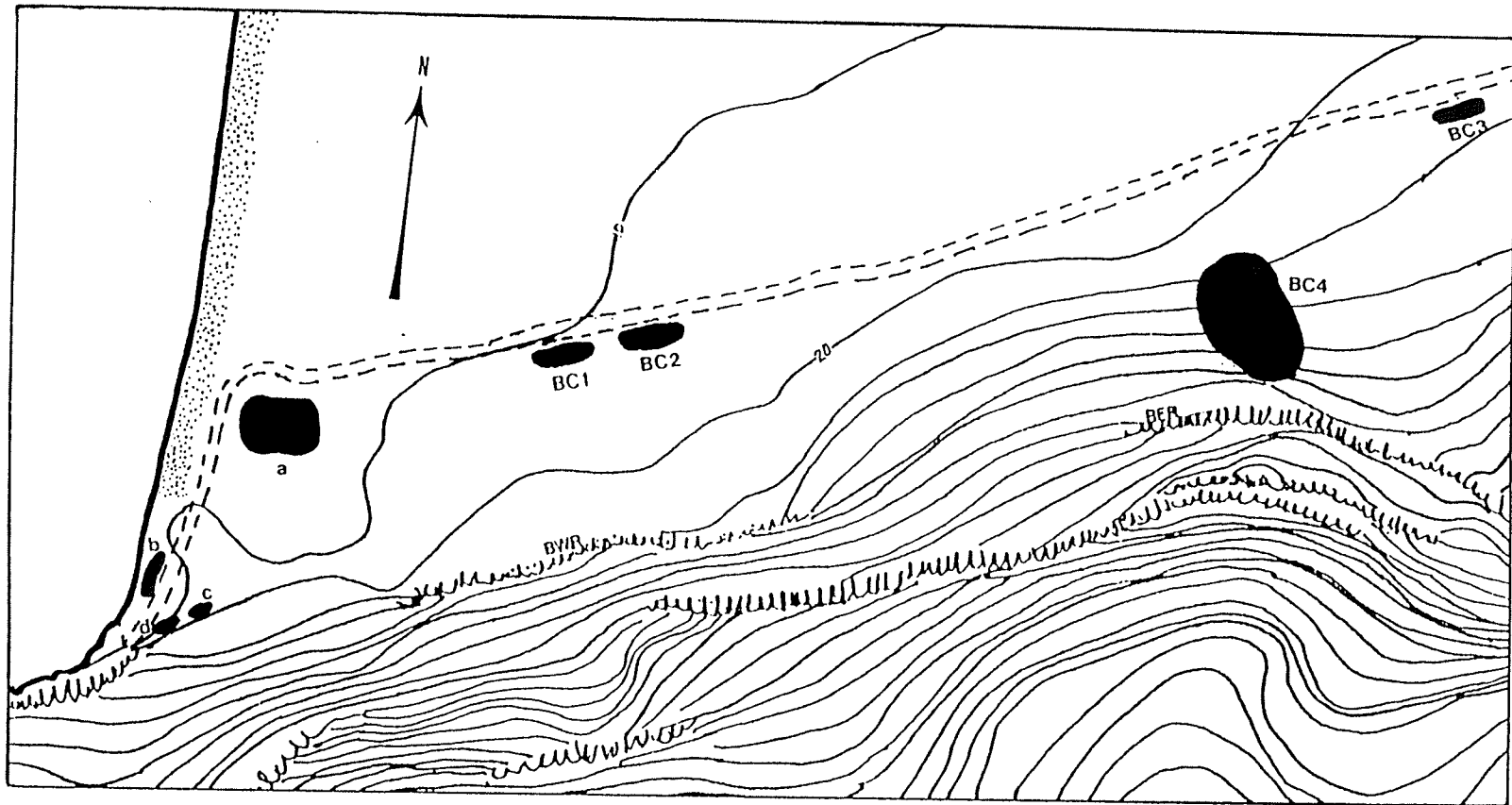


Figure 17. Map of the Buccament sites cluster. Scale is 100m.

located within the valley itself (Fig. 17). These concentration areas are either road cuts (as in BC1, BC2, BC3), field areas (BC4), exposed cuts along cliff embankments (BCC area), or the rockshelters (BER and BWR). At this time, however, the spatial extent of the sites encountered in the valley is not known. All concentration areas lay at or slightly above sea level, as the valley floor is fairly level with both the Buccament River and the Caribbean Sea. The only site areas investigated by the Bullens were the West and East Rockshelters. All other areas located during our survey are not mentioned by the Bullens in their report.

I. Buccament West Rockshelter. The focus of our survey in the Buccament Valley during the 1993 field season was initially the Buccament Valley West Rockshelter, as this was the location of several test pits conducted by the Bullens during their survey (1972) and others (see Bullen and Bullen 1972) (Pl. 7). During their tests at the west shelter, the Bullens recovered significant amounts of Saladoid period ceramics. "Modified Saladoid" and "Insular Saladoid" ceramics were recovered to a depth of 150 cm and remain consistent throughout their pit. It could therefore be expected that any sherds recovered on the surface of the shelter might reflect an early Saladoid occupation. During our survey, abundant sherds were recovered from the surface of the West rockshelter, but most of these date to later

prehistoric periods. No Saladoid series sherds were recovered on the floor of the Buccament West Rockshelter itself.

The Bullens (1972:103-115) indicate that the west shelter was "...eroded from a soft stratum of tuff, probably by wave action during a warm period of the Pleistocene when the oceans had a higher stand than at present" (Bullen and Bullen 1972:103). From the floor of the West rockshelter, they note that the land gradually slopes down and north to the floodplain level of the Buccament River. At the time, the Bullens (1972:103) were able to locate sherds along this slope. In both 1993 and 1994, this same slope was used for cattle grazing. As a result, very little exposed soil was evident and thus no ceramic fragments were recovered from this area.

The Bullens also note (1972:103) that this gradual and then steep slope below the shelter may indicate an "underlying midden or occupational dump deposit." No evidence of a midden or any other "dump deposit" was found during surveying activities in 1993 and 1994.

II. Buccament East Rockshelter. The Buccament East Rockshelter (**BER**), the location of numerous petroglyphs (see Kirby 1969), was not as profitable in terms of ceramic concentrations as the Buccament West Rockshelter. On the slopes of the East shelter however, a path leads from the access road to the east shelter itself. Sherds were

recovered from this path. Bullen and Bullen (1972:116) note that sherds were found in the same area. No sherds were recovered from the floor of the East shelter, either during our survey or by the Bullens (1972:116).

III. Road Cuts and Ditch Embankments. The following concentration areas lie along the gravel access road that links the lower end of the Buccament Valley (near the coast) to the Leeward Highway. Sherds from the following three concentration areas were recovered eroding out of a ditch embankment. The concentration area of BC4 lies on a gently sloping parcel of land to the south of the same access road. As mentioned, a separate area of sherd collection took place along the access road from the Leeward Highway to the coastal area.

Buccament 1. The concentration area BC1 lies 120 m west of the shoreline in the Buccament Valley. A small ditch embankment averaging .65 m thick is exposed along the south side of the access road to the beach area. Most sherds were recovered from this embankment. This concentration area is separated from the BC2 concentration area by a sterile 'gap' area of about 20 m in length.

Buccament 2. This concentration area is a separate area found along the same ditch embankment as BC1. The combined area of both BC1 and BC2 is about 60-70 m along the road. The extent of the site to the south and north of the road could not be determined.

Buccament 3. The concentration area designated as BC3 is located 360 m from the beach on the south side of the access road that leads to the rockshelters and continues for approximately 20 m. As the valley has been repeatedly cultivated in recent times, it is unlikely that any sherds recovered here were still in situ.

Buccament 4. During the 1994 field season, this concentration area (BC4) was located immediately south of the access road along a gentle slope that leads to the same cliff embankments that flank the valley (Pl. 1). Sherds were found eroding out of soil that was being disturbed by root action of small bushes along the slope.

IV. Buccament Construction. This concentration area (BCC) was first surveyed in 1993, when sherds were observed and collected along a small area immediately to the southwest of the beach at the meeting of an access road and beach proper (Pl. 2). When the Buccament Construction area was visited again on 3 June, 1994, four separate areas of artifact concentration were subsequently observed. As all four areas are in close proximity to the original site, they were designated as belonging to the broad Buccament Construction site area but given further sub-aerial designations of A, B, C, and D.

Area **A** is bordered to the north by the access road that leads to the beach and to the west (i.e., toward the Caribbean Sea) by a recent road used for construction

equipment and leads uphill to the top of the cliff embankment.

Area **B** lies to the west of the steep access road. Sherds were recovered along the side of the this road, especially in the fill used in its construction. Areas **C** and **D** are located along the towering cliffs that flank the valley. During the 1993 survey season, these two sub-areas were designated as BCC. In 1994, however, two distinct artifact concentration areas were observed, separated by approximately 20 m of sterile surface.

Other Saladoid Sites on St. Vincent

Perhaps the most significant and certainly well known early Saladoid period site on St. Vincent is the Kingstown Post Office site in downtown Kingstown (see Fig. 11). The site was extensively investigated during the Bullens' survey (1972:87-95). Prior to the Bullens' survey, Kirby had an opportunity to investigate excavation units created as a result of construction immediately behind the Post Office (Bullen and Bullen 1972:88). Unfortunately, the Kingstown Post Office site is no longer accessible. Extensive construction in downtown Kingstown now prevents any further testing at this and perhaps many other undiscovered archaeological sites in the greater Kingstown area.

Other Saladoid sites on St. Vincent are mentioned in

the Bullens' report that include substantial amounts of Saladoid period ceramics. The site of Fitz-Hughs is located "about a half mile [.8 km] east of [the town of] Chateaubelair... [and] situated on a small irregular parcel of land at an elevation of over 100 feet and about 100 yards from Chateaubelair Bay" (Bullen and Bullen 1972:51). When the Fitz-Hughs site was visited in 1993, a school had been built on what appears to have been the site mentioned by the Bullens.

The Queensbury site is an example of an inland site that exhibits Saladoid period ceramics. The Bullens (1972:54) note that it is located some 1.2 km inland near the bank of a small tributary of the Buccament River. Test excavations were conducted by the Bullens at Queensbury. Insular and Modified Saladoid remains were recovered from all levels.

Other sites that the Bullens mention include Stubbs, located on the southeast coast, in close vicinity to the site of Brighton. One zone-incised-crosshatched sherd was found by the Bullens (1972). The site of Camden Park is located on the southwest coast of the island. Two test pits were dug by the Bullens. The majority of Insular Saladoid and Modified Saladoid ceramics were recovered at depths of 76-137 cm (Bullen and Bullen 1972:100). A total of 4 zone-incised-crosshatched sherds were recovered from the site. The likely area where the Bullens conducted tests at Camden

Park was surveyed in 1993, but yielded ceramics associated with later ceramic periods.

Near the Sandy Bay site lies the Owia site, as described by the Bullens (1972:63-63). The site rests on a small point on the northern end of Owia Bay. Saladoid ceramics were also recovered by the Bullens at the sites of Espagnol Point South and Espagnol Point North, which are located at the south end of Owia bay.

CHAPTER IV

THE ST. VINCENT COLLECTION: ANALYTICAL METHODS

Previous Work

In the last 50 years, numerous methods have been utilised by a variety of scholars from diverse academic backgrounds. By critically examining the strengths and weaknesses of these methods, the methodological applications employed in this study for ceramic analysis can be more fully justified.

There is no current, established, or traditional method by which ceramics in the West Indies are classified, and various methods of ceramic analysis largely depended on the preferences of individual archaeologists. Due to the heterogeneous backgrounds of researchers working in the region, the resulting classification methods are equally variable.

There have been, however, three general classification approaches which have been applied to ceramic remains from the West Indies: (1) the French 'art-historical approach'; (2) the 'modal' method; and (3) the typological method (Goodwin 1979). Most archaeological classification systems in the West Indies favour either the establishment of ceramic types and the emphasis on ceramic modes. Apart from

the stylistic, art-historical approach offered by archaeologists on French islands, both the modal and typological methods were developed previously in the United States. All three methods, however, have had a significant impact on ceramic classification within the West Indies.

1. The art-historical approach. Research carried out by Mario Mattioni (1980) and Henri Petitjean Roget (1975) in Martinique, among others, followed an approach to ceramic classification that can be considered 'art-historical' (Goodwin 1979). Goodwin (1979:80) describes their method as

...an eclectic, art-historical approach that treats decorative motifs in terms of ideological structures attributed to the potters that usually are derived from myth.

A strong point of this system, as pointed out by Goodwin (1979:81), is that it is holistic in nature; that is, their ceramic classification often sought to bridge the gap between material remains and the ideological structures of a prehistoric society. Decorative and stylistic features of material remains (primarily ceramics) are thus considered to be definitive representations of social constructs.

2. The Modal Concept. The concept of a ceramic mode is an analytical technique which was first utilised by Irving Rouse in his 1939 publication of the ceramics from Ft. Liberté in Haiti. This method is, to some degree, modelled after the Midwestern Taxonomic system of classification which was prevalent in the United States around the time of Rouse's study (Goodwin 1979:82).

A mode is a "pattern of features which are characteristically associated with a group of artifacts" (Rouse 1972:56). In the West Indies, modes are more commonly associated with stylistic patterns on ceramics (such as paint and incisions), but may include morphological or even technological attribute patterns (such as body thickness or the presence of a flange). Each feature, or mode, can be either a culture trait (Rouse 1939:10-11,15), a mental construct (Taylor 1948:118), or a "...*cultural paradigmatic class of attributes of discrete objects*" (Dunnell 1971a:155; italics in original). Thus, as types characterise the most prevalent attributes present in groups of artifacts, modes can be single attributes or clusters of attributes which may (or may not) appear in all or some artifact groups.

Modes are said to be directly reflective of community standards, and may as such be passed down from generation to generation within a social group (Rouse 1960:313). In one sense, this assumption is not reflected in the construction of a type, which itself is a "...cluster or pattern of attributes that distinguishes a group of specimens and that defines them as a class" (Rouse 1972:48).

Ceramic modes clearly separate characteristic features based on their inherent appearance from those which are subjectively determined (such as the ceramic 'type'). Where the formation of types represents a taxonomic classification

system, the focus on the identification of modes is considered analytical (Rouse 1960:315). Modes are not always "type-specific", that is, certain modes will not always appear in association with frequently occurring decorative or morphological categories (see Rouse 1939:11-12).

The study of modes in ceramic analysis has been the dominant approach used by Irving Rouse in his West Indian studies. An important consideration in the use of modes within West Indian ceramic classification schemes is the usefulness which they have provided. As opposed to types, modes are not initially described for chronological purposes, but rather to demonstrate distributional patterns (Dunnell 1986:169). With his introduction and development of the modal analysis, Rouse sought to define these distributional characteristics in the West Indies. Rouse's use of a modal analysis, then, functions to trace the movements of ceramic patterns, which would then imply the migration of peoples, a major concern in earlier archaeological research in the West Indies (Siegel 1991b:79).

3. The Typological Method. Within the West Indies, the method of ceramic classification employed by researchers such as Ripley Bullen (1964), William Haag (1964), and Charles Hoffman (1979) closely followed the typological scheme developed in the United States (Goodwin 1979:80). In

this system, types exist almost exclusively for the purpose of historical reconstruction. Bullen and Bullen's 1972 report for St. Vincent, or the construction of the Pearls series from Grenada, are good examples of the use of the typological method in ceramic analysis strategies in the West Indies.

The Bullens' typological system, first established following the surveying activities of Ripley Bullen on Grenada (1964:38), utilised the terms series, complex, and tradition, which closely followed definitions provided by Wheat, Gifford and Wasley (1958) and Phillips (1958) of a ceramic 'complex' and 'tradition'. Bullen's use of the term 'ceramic series' is not at all similar to the intended use provided by Cruxent and Rouse (1958-1959). While Cruxent and Rouse established an archaeological series in order to trace relationships based on chronology and ceramic types, Bullen's use of the term is one in which a ware, or fabric, is a foremost representation. Thus, Bullen's definition of a series includes all ceramic types that exhibit similarities of at least one attribute - in this case paste. Bullen's 'complex' (similar to Phillip's (1958) definition) denotes all types found at a particular site or within a stratigraphic zone. Bullen's ceramic 'tradition' involves certain ceramic wares manufactured for a specific length of time and which "...frequently exhibit internal modification which correlates with time" (Bullen 1964:38).

Bullen's system of naming ceramic types utilised a binomial or trinomial system for the description and assigning to cultural series. For example, the type Pearls Inner Rim Incised refers to sherds with inner rim incisions made of Pearls paste. Bullen justified his nomenclature system by claiming that it "...seems better to have too many types at first, even if some are eliminated later, than to have to split a type at a later date" (1964:6). However, as seen in many of Bullen's reports, including the one for St. Vincent, very few of the types that were previously defined were later "eliminated".

Ceramic Typology from St. Vincent

Despite the limitations of the type system utilised on St. Vincent by the Bullens, but first established on Grenada by Ripley Bullen, the system itself must be considered more closely for its relevance to the ceramics from St. Vincent which are analysed in this study. As mentioned, the procedures whereby the Bullens classified their ceramics from St. Vincent and the Grenadines directly followed the system established for Grenada (Bullen 1964).

During their initial survey, pottery from all prehistoric periods was recovered and ultimately assigned to particular series (or "wares") based on paste differentiations, as Bullen (1964) had done for Grenada.

The series defined by the Bullens on the basis of morphological and stylistic attributes, which are characteristic of the Saladoid period, include the Pearls series and the Simon series, representative of Horizon I and Horizon II, as described above.

For the Pearls series, the Bullens identified 15 types, which represented the Insular Saladoid period (Bullen and Bullen 1972:130-134). The Bullens' Simon series, generally regarded as diagnostic of Horizon II in the Windward Islands, is represented by 13 types (1972:135-137). Attributes associated with the types defined by Bullen and Bullen (1972) for St. Vincent are somewhat limited to paint, incisions, appendages, and other features. Those types which pertain to either paint or incisions will be discussed here in order to facilitate comparisons to the collection analysed in this study. A summary of these types is provided below, which were obtained from Bullen and Bullens' report for St. Vincent (1972:129-142).

Pearls Series

Pearls White-Painted. This type is generally represented by white geometric patterns applied to overall red or unpainted vessel exteriors, and forms the hallmark of the Saladoid period in the West Indies. No incision is found, nor are large thick flanges on the rim. This type

was regarded by Bullen (1968) as the classic white-on-red style.

Pearls Polychrome. This type is characterised by the presence of white, red, and black paint. Curvilinear incisions are often found, usually surrounding button-shaped lugs on vessel rims. Bullen and Bullen note that black paint is often applied over the incisions.

Pearls red-painted. These are generally red-painted sherds of Pearls paste. No incisions are found.

Pearls Cross Hatched. Currently known as "Zone-Incised Crosshatching" (ZIC), Bullen and Bullen note that this decorative trait is normally found on the upper exterior of shallow, open-mouthed, or flaring vessels. Like white-on-red-painted pottery (the Bullens' Pearls White-Painted), this type is very diagnostic of the Saladoid period in the West Indies. Occasional red paint is applied over the crosshatching incisions.

Pearls Inner Rim Incised. This type is characterised by fine incisions on the upper interior surfaces of flaring vessels. Some of these incisions are patterned as either scrolls or repeating designs with alternating blank spaces.

Pearls Incised Bowl. Like Pearls Inner Rim Incised, this type is also characterised by incisions on the upper interior surfaces. Occasionally, these incisions occur as multiple parallel lines.

Pearls Plain. These are essentially undecorated sherds

from either undecorated vessels or undecorated portions of decorated vessels. Bullen and Bullen do note, however, that if certain Pearls Plain sherds are found to be part of an otherwise decorated vessel, they should be classed as a member of that vessel type. This, of course, is often difficult to determine.

In their St. Vincent report, Bullen and Bullen also identify other more specific types for the island and the Grenadines which were not recovered from the site of Pearls, where the above types were initially defined and ultimately applied to St. Vincent (Bullen and Bullen 1972:137-138).

Grande Anse Interior Incised. This type was first identified by William Haag for St. Lucia (1964:12). Incisions occur on small, low bowls with "complicated fine line incisions" on the interior surfaces. The incisions are normally a series of parallel lines which may often connect "pendant semi-circular motifs" which themselves occur in a repeating fashion and divide the interior surface into "quadrants" (Bullen and Bullen 1972:138). This type is also similar to what Bullen and Bullen refer to separately as Pearls Incised Bowl.

St. Lucia Zoned Incised. This type is generally associated with shallow "basins" which are long and narrow. The decoration consists of curvilinear incisions over which red paint is applied. These incisions may occur on either the interior or exterior surface. The Bullens note that the

opposite surface to the incised surface is normally painted red.

St. Vincent Black Lined. This type is also associated with shallow bowls where fine incisions are found on either the interior or exterior surface just below the end point of the rim. However, what distinguishes this type from others is the application of black paint to the incisions only.

St. Vincent Black Zoned. This type is characterised by overall red-painted vessel which exhibit particular zones (normally triangular in shape) of black paint.

Simon Series

Simon White-Painted. Aside from paste, thicker walls, and poorer surfaces, this type is identical to Pearls White-Painted. Bullen and Bullen note that incision does not separate white and red areas of paint.

Simon Black-and-Red Painted. This type is characterised by areal black and red painting that is not separated by incision.

Simon Neck Decorated. This type is associated with large, heavy flanged vessels with everted mouths and incision or geometric red or white paint, in a repeating manner, on the neck.

Simon Zone-Painted. This type is similar to Simon White-Painted and Simon Black-and-Red Painted except that

incision outlines the zoned areas of paint.

Simon Red-Painted. This type is characterised by sherds of Simon paste which are painted red only. The following types, like some from the Pearls series, are grouped separately by Bullen and Bullen (1972:139-142), yet are considered members of the Simon series.

Soufriere Incised. This type was first mentioned by Haag (1964:12) and is characterised by a very wide incised line "pressed into the surface when the clay is still pliable so that a low ridge is raised on the opposite of inside of the vessel" (Bullen and Bullen 1972:139).

Queensbury Interior Incised. This type is characterised by interior incisions which consist of a single "involute" line expanding "outward from a central area" (Bullen and Bullen 1972:139). Incisions are also observed paralleling the rim of the shallow bowls which are associated with this decorative type. Bullen and Bullen also note that incised scrolls divide the interior surfaces into quadrants.

Arnos Vale Incised. This decorative type is characterised by interior incisions on the neck area of the vessel. These incisions are characterised by linear lines inside rectangular areas "having rounded ends" (Bullen and Bullen 1972:141). Occasionally, some linear incised lines end in a point.

St. Lucia Flanged Incised. This type is characterised

by a thin flange that extends outward from the end point of vessel. It is frequently decorated with rectangular areas of incisions, often with "curved ends enclosing dots alternating with longer areas enclosing straight lines...ending in dots" (Bullen and Bullen 1972:141). Red paint is common.

Barbados Incised Rim. This type is mentioned in the Bullens' report for St. Vincent, but no sherds were found during their survey exhibiting this type of decoration. Generally, this decorative type is found on the upper portion of casuela vessels and is manifested in the form of zoned-incised-crosshatching incisions.

Numerous problems exist with the classification method used by Bullen and Bullen (1972). First, their reliance on paste characteristics to infer chronological associations is unreliable. Clay sources on St. Vincent, and perhaps most other islands in the West Indies, are relatively scarce (Basil Williams, former Agricultural Officer, pers. comm.). Sources of temper are also limited to either black sand or small pebbles found in beach areas.

Therefore, if the sources of clay and potential temper inclusions on St. Vincent are restricted, accurately assigning their use to any specific time period, as Bullen and Bullen have done, is questionable, as population groups throughout prehistory may not have actually had a choice of temper constituents. It seems more logical to use stylistic

or morphological patterns of attributes rather than technological attributes to assessing chronological associations to a ceramic collection.

Second, the use of paste constituents by Bullen (1964) and Bullen and Bullen (1972) in order to determine relative chronological associations is hardly ever justified in any of their publications, thus rendering their method too broad and simplistic. Rouse (pers. comm.) has suggested that their reliance on the use of paste as a primary attribute stems from their training, which was initially centred in New England, but subsequently refined in the American Southwest.

A third problem with the Bullens' system of typological classification was first noticed by Allaire (1977:127-128), who noted that the Bullens' St. Vincent report ignores "...shapes, rims, appendages, [and] sizes". Instead, what is presented in their report is essentially a listing of decorative and morphological types, which are often ambiguous and broad. As a result, Bullen and Bullen's method tends to ignore stylistic variation in a collection. As demonstrated in the St. Vincent report, any anomalies encountered are assigned either to a "no series" or as miscellaneous features.

The typology established by Bullen and Bullen (1972) for St. Vincent is also problematic in that it may accidentally classify a particular sherd with a particular

stylistic element to a certain type when in fact numerous elements may be present on the same vessel. Thus, the Bullens' system is perhaps too simple and often misleading.

Finally, while the Bullens have conducted test excavations on several other Windward Islands, most of their chronological information is based on weak stratigraphic association (consisting of arbitrary levels, usually 20 cm), "percentage shifts with depth", seriation, and numerous unproven surface finds (Bullen 1970:147). Boomert (1987:17) has criticized this particular aspect of the Bullens' method by noting that the

Bullen's scheme of late prehistoric cultural 'traditions' in the Windwards is not supported by any stratigraphic evidence while it is further blurred by fully unjustified ethnic evidence.

Overall, it can be said that the methodology of Bullen's system was heavily flawed. As it is the only system by which ceramics from St. Vincent have been classified, it must be addressed if any comparisons are to be made.

The St. Vincent Collection:

Proposed Analytical Approaches

The attribute analysis utilised in this study was chosen for two reasons. First, a separate analysis of attributes of decoration, morphology, and technology allows variances within these patterns of attributes to be easily

recognised. Decorative attributes, such as paint and incision, will help draw comparisons to other decorative elements from other islands. The variations expressed within these categories could allow, for example, to identify specific associations of vessel shape, stylistic patterns, and to determine chronological periods.

Second, it was decided that Bullen's ceramic classification system can be neither useful nor accurate for the classification of the ceramics recovered during the survey. As noted previously, the Bullens' use of paste for chronological distinction is simply not precise and reliable enough to be used to place the current collection into meaningful units, especially those based on chronological ordering.

Before the classification system for this study could be used, Saladoid ceramics from the collection were separated from the larger collection on the basis of diagnostic attributes of decoration, lip shape, and thickness. Saladoid ceramics are easily distinguishable in any collection from the West Indies on the basis of their thin, hard nature and characteristic decorative elements, such as white-on-red painting, modelled-incised adorns, zoned-incised crosshatching, and inverted bell-shaped bowls.

The first step in the analysis was a general sorting of the collection into rim sherds, body sherds, griddles, base

fragments, and miscellaneous ceramic features. Decorative elements were, at this time, not included in this initial sorting. Next, each category was then examined independently for specific morphological and technological attribute patterns. The analysis of decorative patterns is examined independently.

While the application of statistical techniques has increased substantially in archaeological research (see Thomas 1978), it has not been extensively employed in studies in the West Indies. As a result, statistical methods of analysis were not utilised in this thesis for two reasons. First, the nature of the goals set out in Chapter I of this study did not warrant the use of statistical analysis on the collection from St. Vincent; second, the use of statistics as an analytical tool in geographical regions where no other statistical procedures have been employed would tend to treat the data as a bounded unit, as it could not be effectively used for comparative purposes.

It is impossible to examine all attributes that are manifested within a collection of ceramics. The attributes chosen were those that were believed to properly address the particular goals of the study, as well as to facilitate comparisons to other Windward Islands. By selecting attributes which have been used in other studies in the region, comparisons of morphology and decorative styles can be made.

For example, Versteeg and Schinkel's work on St. Eustatius (1992), undertaken particularly at the Golden Rock Site, emphasised a similar attribute analysis method to the one utilised in this study (Versteeg and Schinkel 1992). Metric measurements were utilised that ultimately defined differences between "bowls" and "vessels". What emerged was a very rigid but precise assessment shapes of ceramic vessels from the island. Versteeg and Schinkel (1992), however, had the benefit of working with almost complete vessels, which the collection from St. Vincent does not exhibit.

Elsewhere, Allaire (1977) and Petersen and Watters (1991), working in Martinique and Anguilla respectively, utilised a vessel-lot method of classification, which seeks to establish the minimum number of vessels present within a collection. This method is useful if a collection contains numerous whole or even partially reconstructed vessels and large fragments. For smaller fragmentary collections, such as the one examined in this study, however, a certain degree of creativity is required in establishing a minimum vessel count. Furthermore, due to the lack of complete vessels in the St. Vincent collection, vessel and bowl distinctions, like those emphasised by Versteeg and Schinkel (1992), could not be realised.

Description of the Attributes

The attributes examined in this study can be grouped into three categories: morphological; stylistic/decorative; and technological. The separation of these categories is important as it suggests that each contains useful information pertinent to the goals outlined in Chapter I.

Technological attributes. Six attributes with technological associations are selected: (1) temper; (2) body thickness; (3) rim thickness (where applicable); (4) rim length (where applicable); (5) core colour; and (6) surface finish. Temper and core colour was analysed on a random basis by vessel class. Surface finish was recorded for all sherds within the collection. While surface finish may not necessarily be a decorative attribute, it nonetheless is grouped in this category because the majority of the sherds in the collection appear to be smoothed. As well, the full extent of post-depositional effects has yet to be determined. Surface colour was only examined for plain ware sherds (for example, not painted) in the collection.

Morphological Attributes. Four kinds of morphological attributes are selected: (1) orifice diameter; (2) rim form; (3) lip form; and (4) vessel shape. These four were chosen in order to (1) facilitate comparisons to other Saladoid ceramics in the region; (2) infer overall vessel

characteristics from the collection; and (3) potentially infer functions with reference to subsistence and especially agricultural activities. As mentioned, a vessel-lot analysis was not employed here because the fragmentary nature of the collection. It is very possible, although not definite, that each small sherd recovered during our survey may have been from a different vessel. However, by combining the attributes of lip form and orifice diameter for the rim sherds in the collection, some idea of the shape of the vessel can be realised. Vessel shape classes were determined using Allaire's (1977) classification system (based on Shepard's [1960]) for post-Saladoid decorated ware from Martinique.

Stylistic/Decorative Techniques. Three techniques or styles of decoration or style were selected for analysis: (1) painting; (2) incising; and (3) modelling. These are based on colour (where applicable) and positioning on the sherd itself. The extent of decoration on an individual sherd is often difficult to assess due to the fragmentary nature and often eroded condition of many, but not all, sherds in the collection. For example, if traces of red paint were found on the exterior of a certain body sherd that appears to be weathered, it can generally be assumed that the entire surface of that particular sherd exhibited red paint at one time.

Procedures

A total of 561 sherds that can be affiliated with the Saladoid period were recovered during the 1993-1994 surveys. These are tabulated by site and presented in Table 1. It should be noted that from most sites, some plain body sherds were left behind at the National Museum due to weight restrictions on aircraft. These were initially counted and are presented in Table 2. None of these sherds are considered in the present study as they bear no definitive decorative or morphological attributes that would aid the analysis. A total of 191 rims were identified in the collection, of which 76 percent are decorated with either paint or incisions; a total of 327 body sherds were recovered, of which 84 percent are decorated.

Rim sherds in the collection were first grouped on the basis of rim shapes, of which four were identified: (1) direct; (2) outward thickened; (3) inward thickened; and (4) bilaterally thickened. Next, each rim class was sorted on the basis of lip shape, of which twelve were identified (Table 2). Next, measurements of rim length, rim height, and body thickness (where applicable) were observed and recorded. As well, orifice diameters were measured where possible.

Using the orientation of the lip shape, all rim sherds were then grouped on the basis of vessel association (Table

3). Although tentative, seven vessel shapes were identified. These are discussed in detail in the next chapter.

All body sherds were grouped according to the presence of decoration techniques, and were distinguished according to the presence of painting and incising (Tables 3 and 4). Body thickness was measured and recorded for each sherd. Surface finish (exterior and interior) was recorded for all sherds in the collection (Tables 5 and 6). A discussion of the variability of these attributes is discussed in the next chapter.

Independent ceramic features were analysed separately, as they often exhibit diagnostic attributes that allow for temporal characterisations. These features include rim lugs, appendages, handles, bases, and adornos.

CHAPTER V

POTTERY SHAPES AND FUNCTIONS

Introduction

This chapter accounts for the ceramic finds recovered from the surface of the six Saladoid sites surveyed in 1993-1994 on St. Vincent, with special emphasis on shape, technology and functions. The study is based essentially on a total to 191 rim sherds of small to medium size, which likely reflect the same number of individual vessels. Body sherds with structural or functional elements, bases, and appendages are also considered in the analysis.

A total of 146 rims (76 percent) are decorated, while only 45 rims (24 percent) are considered plain ware. Decoration will be discussed separately in Chapter VI. This chapter examines three major types of ceramic artifacts: (1) pottery vessels or containers; (2) incense burners, or hollow cylinders; and (3) griddles. Site associations and chronological implications will be discussed separately in the concluding chapter.

I. Description and Classification: Pottery Vessels

An important aspect of this study of the Saladoid

pottery from the St. Vincent surveys is to describe the morphological and functional characteristics of the assembled collection. In particular, determining vessel shapes (using rim shape and orientation) is necessary in order to facilitate comparisons with other Windward Islands.

Rims and Lips

No whole or complete vessels were recovered from the survey of St. Vincent. Instead, the study is based on the 191 rim sherds, many of which (n [total]=42; 22 percent) were located at the concentration area BC3 from the Buccament site. The Arnos Vale site also produced a significant amount of the rim sample (n=28; 14.7 percent).

Rim sherds were first sorted into rim shape classes based on profile, of which four basic types were identified: (1) direct; (2) outward thickened; (3) inward thickened; and (4) bilateral thickened. Direct rims are those which are not thickened on either the interior or exterior of the lip or end point. Bilaterally thickened rims are those which are thickened on both the interior and exterior of the lip, more or less in a T-shaped manner.

While a total of 56 rim sherds (30 percent) can be considered simple direct rims, 111 rims (60 percent) show a definite preference for the outward thickened shape. Only five rims (3 percent) can be classified as inward thickened,

while 14 (8 percent) are bilaterally thickened.

Many variations in the shape of the lip or end point exist, however, within these four categories of rim shape. As a result, the sample can be further subdivided into 12 distinct lip shape classes, although there is some degree of variability within each class (Table 2; Fig. 18). The variability within each lip class may reflect the skill of different potters, yet it is possible that an overall standard existed, suggested by the 12 lip classes. It is important to note, however, that this a purely etic classification, as it is impossible to determine whether the differences mentioned below were of any significance to the original potters.

Lip Shape Classification

Class 1 - Curved platform with flange (n=40). This class of lip form is a variation on the outward thickened rim class. It is best characterised as a rim with a declining platform (often curved) that functions as a flange (Fig. 18,a).

Class 2 - Outward Taper (n=30). This lip class is also based on the outward thickened rim shape. Outward tapered rims are similar to Class 1 rims in that they both share the presence of a flange that protrudes outward at the end point. In this class, however, the upper portion of the lip

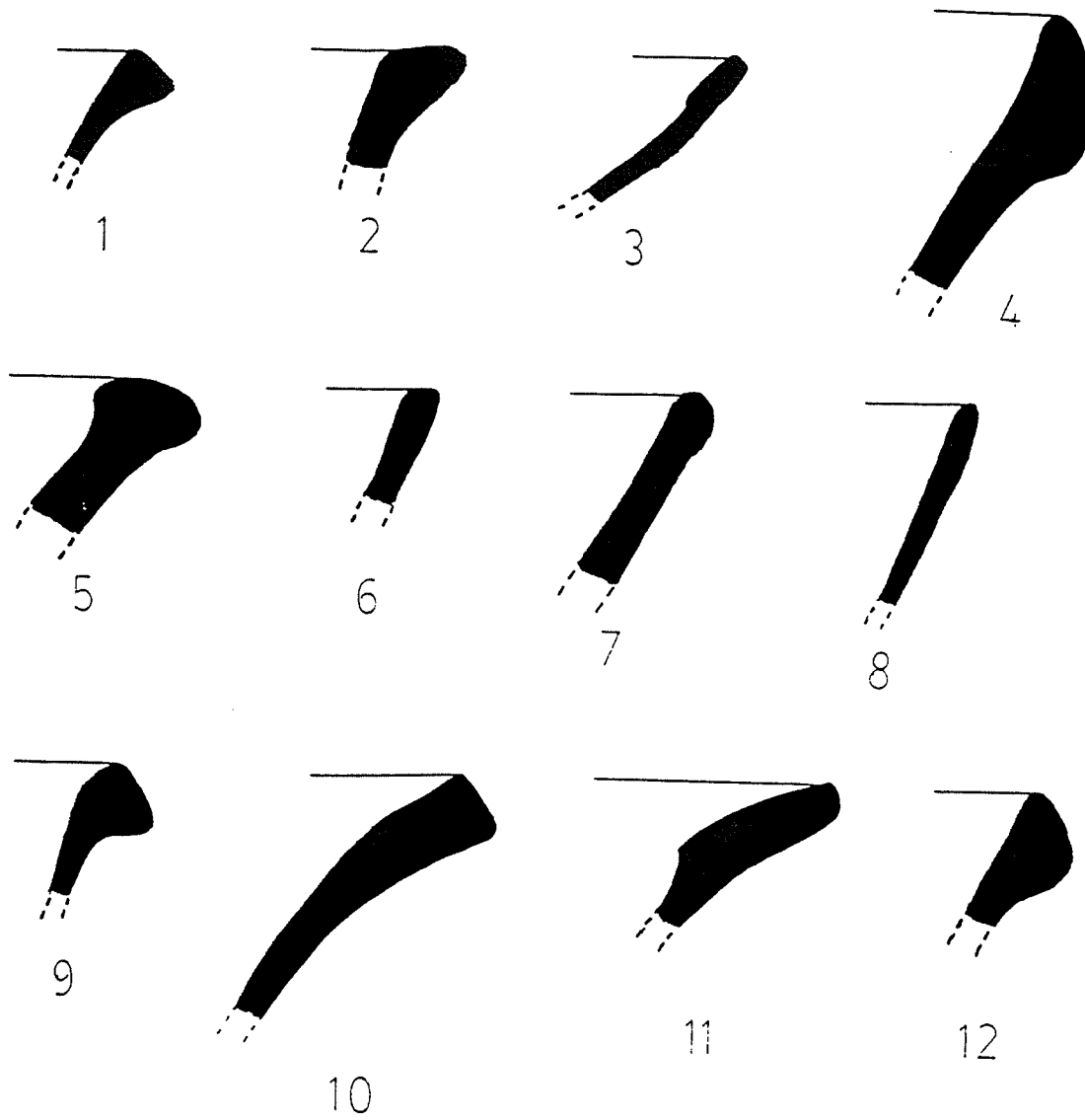


Figure 18. Lip shapes from St. Vincent. Not to scale.

does not appear as a declining curve, but rather a straight platform (Fig. 18,b).

Class 3 - Inward Thickened / Border (Folded) (n=3).

This lip class is categorised under the rim class of Inward Thickened. It is represented as either a rounded or flattened lip that has additional clay matter added to the inside of the rim. As a result, a bordered or folded effect is achieved (Fig. 18,c).

Class 4 - Outward Thickened Taper (n=4). A member of the Outward Thickened rim class, this class is very similar to lip class 1. The distinct difference between the two, however, is that the external thickening of the lip in lip class 4 is gradually tapered toward the base of the vessel (Fig. 18,d).

Class 5 - Canted Platform (n=9). The only member of the Bilaterally Thickened rim class category, this lip class demonstrates thickening of the lip at the end point on both the interior and exterior. The end point of the lip is either rounded or flattened, producing a platform effect (Fig. 18,e).

Class 6 - Flattened (n=40). This lip class is a member of the Direct rim class. It occurs as a plain, unthickened lip that is flattened at the end point of the rim (Fig. 18,f).

Class 7 - Outward Rounded Ledge (n=6). A member of the Outward Thickened rim class, this lip class is characterised

by a small thickened portion situated on the exterior of the end point. In most instances, this added thickening produces a light border or fold, much like lip class 3 (Fig. 18,g).

Class 8 - Rounded (n=30). Like the sixth lip class, lip class 8 is also a member of the Direct rim class category. Rounded lips are not thickened on either the interior or exterior of the lip (Fig. 18,h).

Class 9 - Flared (n=20). Although morphologically complex, the Flared lip class is properly grouped within the Outward Thickened rim class. It is very similar to lip class 1, except an exaggerated flare is added and tapered from the end point. This produces a characteristic overhang that is normally a few centimetres below the end point (Fig. 18,i).

Class 10 - Outcurved Flat (n=5). Lip class 10 is grouped within the rim class category of Outward Thickened. The entire upper portion of the lip itself can be considered as flared in shape but lacks the distinctive flare from vessel class 9. The end point of the lip usually ends in a flattened perspective. As well, the upper portion near the lip is generally thicker than the body portion of the vessel (Fig. 18,j).

Class 11 - Outward Flanged (n=1). Lip class 11 is characterised by a large flared addition to what would have been the end point to either a flattened or rounded lip.

Thus, this lip class is grouped within the Outward Thickened category of rim classes (Fig. 18,k).

Class 12 - Outward Thickened Triangular (n=3). This class is another member of the rim class Outward Thickened. In this class, the outer thickened portion of the lip forms the distinctive shape of a triangle (Fig. 18,l).

Vessel Shape Classification

Using both the morphological characteristics and the specific orientation of the rims from the collection, particular associations of rim shapes with overall vessel shapes can be suggested. Since no complete vessels were recovered during the survey, the association of rims to vessel shapes should not be considered as definitive. Allaire's (1977) vessel shape classification, developed for his Troumassoid and Suazoid sample from Martinique, was derived from Shepard's (1958) system based on vessel contours and types of orifice, and is used in this study as a guideline (Fig. 19). A total of eight basic vessel shapes were thus defined in the collection. They are described below.

Class A1. Vessel class A1 is associated with wide open-mouthed bowls, sometimes referred to as "trays" or "platters" (Allaire 1977:34) (Figs. 20-23). For this class, orifice diameters are generally larger than the basal

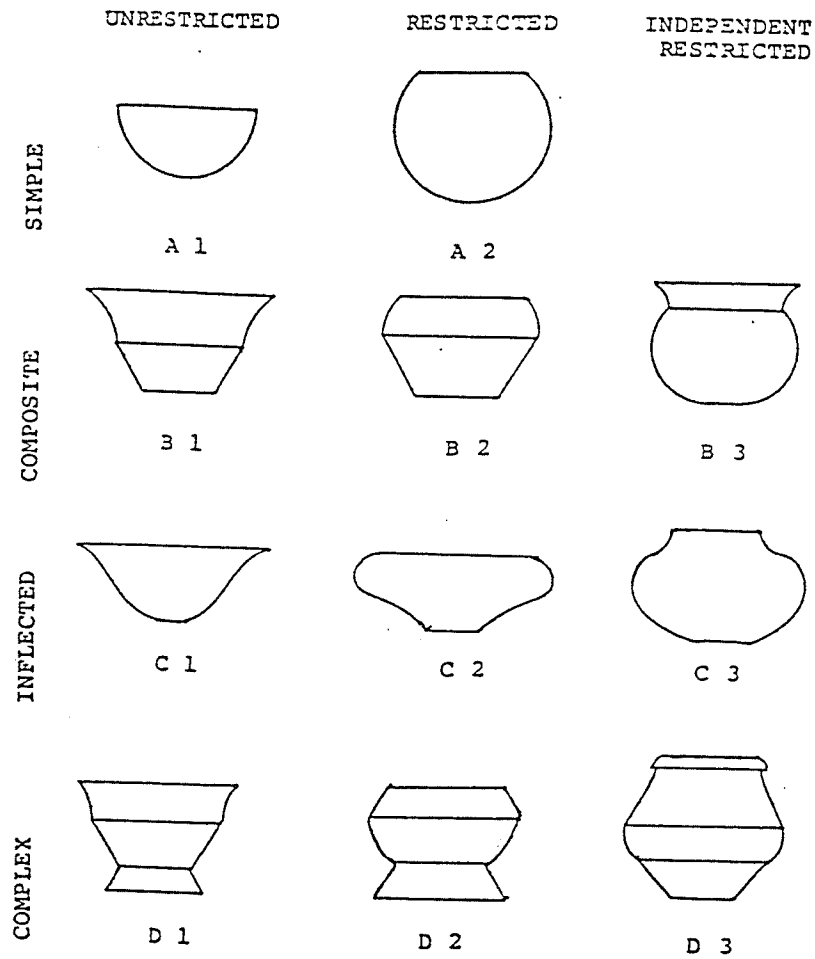


Figure 19. Vessel classes identified by Allaire (1977) for Martinique.

portions of the vessel. These simple open-mouthed bowls are fairly common in prehistoric sites of the Lesser Antilles; they are found on most islands from Grenada to Puerto Rico. Some early Horizon I ceramic vessels from Martinique (housed in the Musée Départemental, 1991) clearly belong to this vessel class, but Horizon II sites from the same island also produced this vessel shape (Mattioni 1980).

A total of 69 rims associated with this class were recovered during the survey. Twenty of these (30 percent) were found at the concentration area BC3 at Buccament. All six Saladoid surveyed sites from St. Vincent feature this class of vessel form, but they are not found at the concentration areas BC1, BC2, BCC-A at Buccament, and ES3 at the Escape site locality.

Of the 69 rims that are associated with this class, 42 are direct rims (60.8 percent), 17 are outward thickened (24.6 percent), while both inward thickened and bilaterally thickened rims are represented by five rims each (7.2 percent each). The fact that all four classes of rims are represented in this vessel class can be considered indicative of the overall utility and efficiency of this vessel shape.

Of the 12 lip classes defined above, six are represented here in the following frequencies:

Class 3:	4
Class 4:	4
Class 6:	31
Class 7	6

Class 8:	23
Class 11:	1

As this vessel shape category exhibits a high degree of variance in vessel shapes, it can be further subdivided into small and large bowls, based on the orifice diameter estimated from the sherd fragments. It is therefore not possible to determine with any precision the actual height of the vessels within any of the classes defined on this evidence alone. On the basis of the orientation of the rim sherds, however, it is possible to determine a relative height.

A sample of eight rim sherds from this vessel class was examined for paste and core colour attributes. Core colour ranges from gray (5YR 6/1 and 5/1), reddish yellow (5YR 6/8), yellowish red (5YR 4/6), to black (5YR 2.5/1). Interestingly, a correlation was observed between the thickness of the body sherds and the core colour for this class. Thinner sherds exhibit black (5YR 2.5/1) or dark reddish brown (5YR 2.5/2) core colours, suggesting that these were fired in an environment that was low in heat.

Paste in all eight sherds is very dense. Most have inclusions of black sand and granite, with occasional white calcareous constituents. One sherd has a particular grayish (5YR 5/1) core colour has no evidence of black sand, which could suggest that its presence may alter the core colour after firing.

Surface finish for this class is variable. Cracked

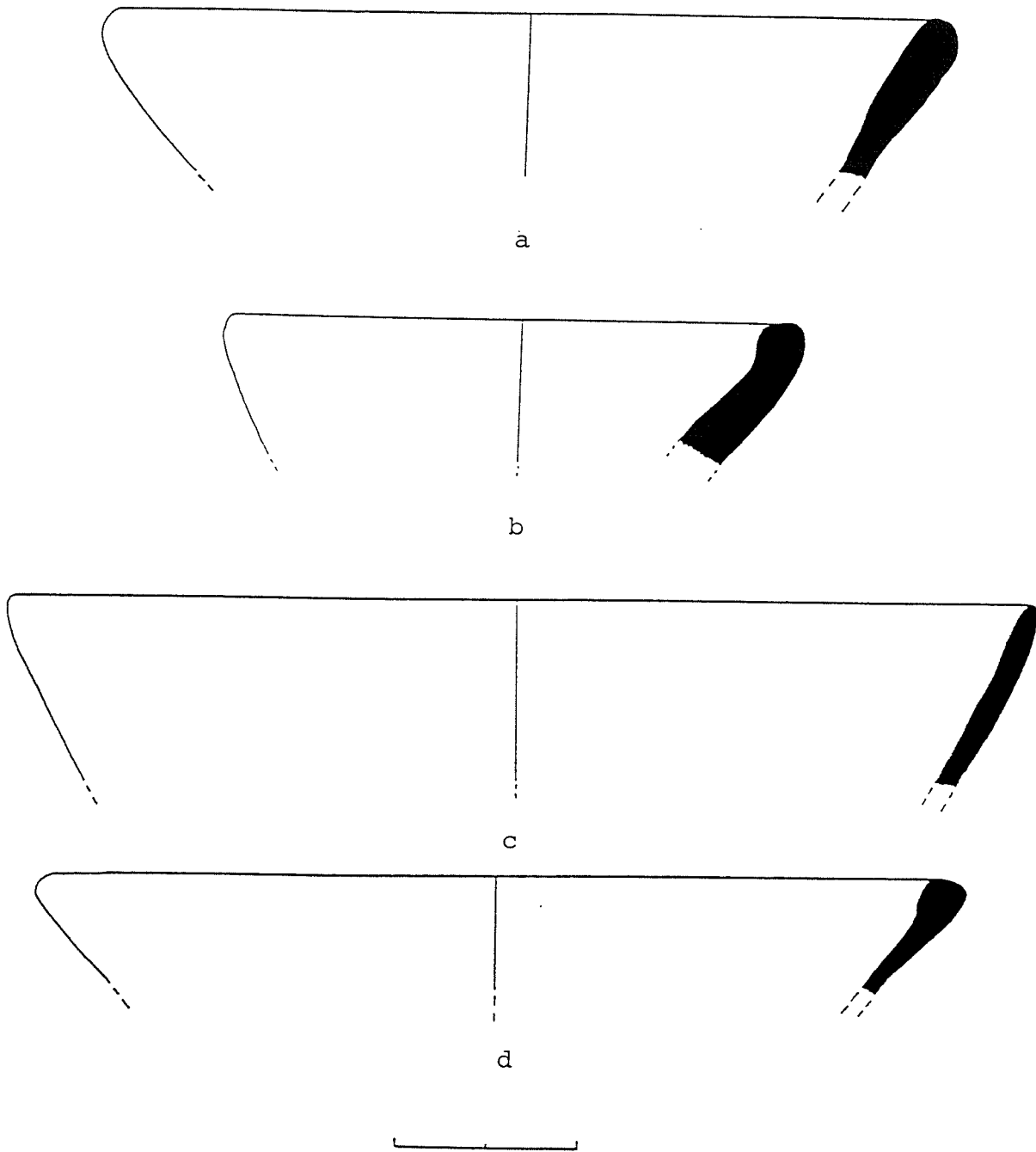


Figure 20. Class A1 vessels. a, Arnos Vale; b, Sandy Bay; c, Spring; d, BC3.

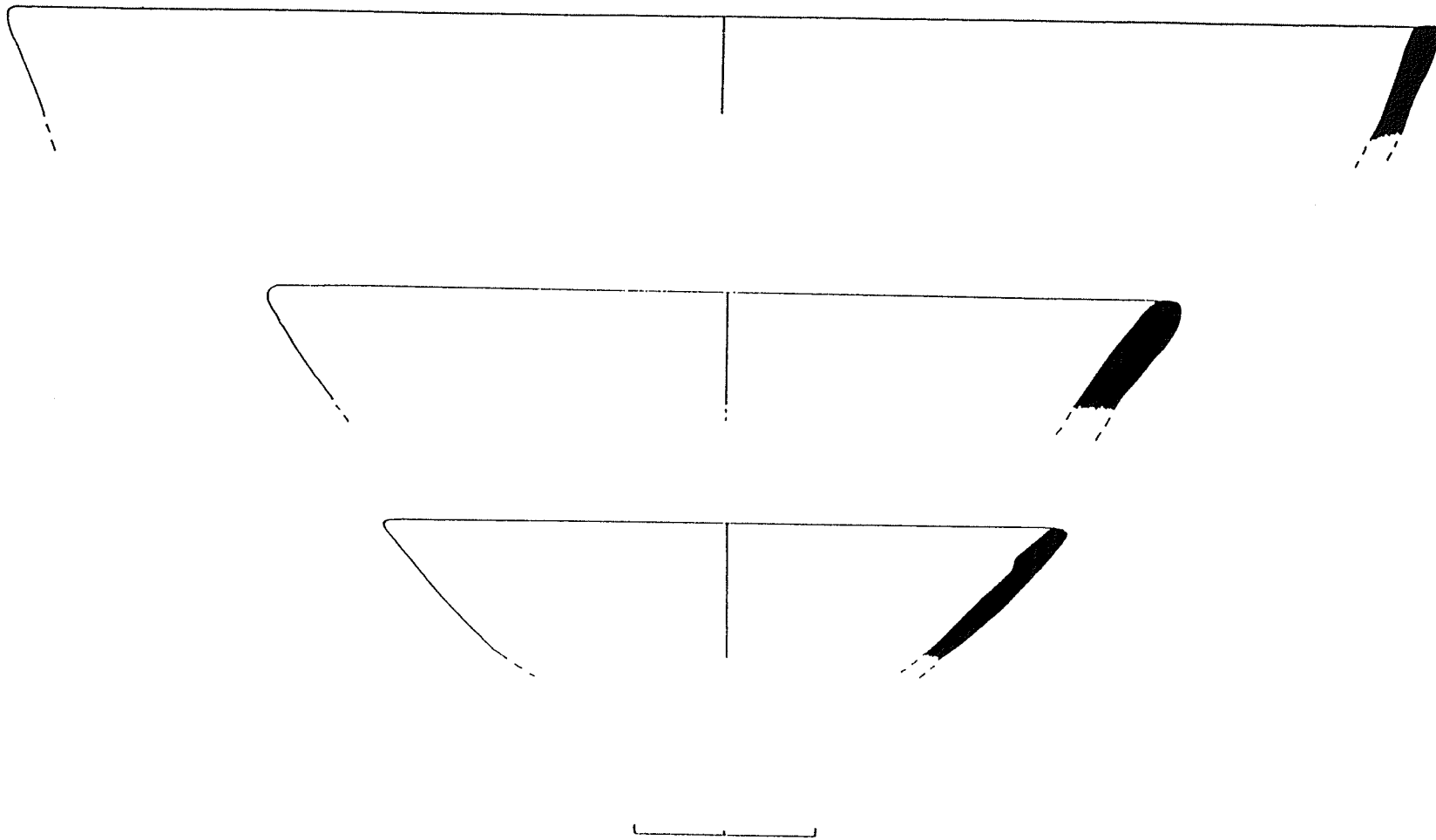


Figure 21. Class A1 vessels from Spring. Scale is 5cm.

exteriors are observable on some rims, which is likely attributed to the effects of weathering and erosion. Most of the edges from this vessel class are worn and eroded and very few fresh breaks are visible.

A total of 36 rims are smoothed on both the exterior and interior. Twenty have been completely eroded on both the interior and exterior surfaces. One rim appears to have been scratched after firing on the interior, possibly suggesting contact with a sharp instrument during use.

Orifice diameters are extremely variable for this class. The relative simplicity of the vessel shape may explain this, and thus could account for the potential multipurpose nature of this vessel shape. Of the 69 rims associated with this vessel class, only 35 exhibit enough of a curve gradient so that an orifice diameter size could be measured. All others were either too small or too eroded in order to accurately determine orifice size. The smallest vessel orifice is 14 cm, while the largest is 44 cm. The average size is 28 cm with the mode being 32 cm.

As a result, small bowls, ranging in height from approximately 15 to 24 cm, are represented by 15 rim sherds. They are found at each site, although they do not occur in certain concentration areas within the Buccament and Escape clusters. While it is not known if an inflection point is present on any of these small vessels, the collection of complete vessels displayed in the Musée Départemental in

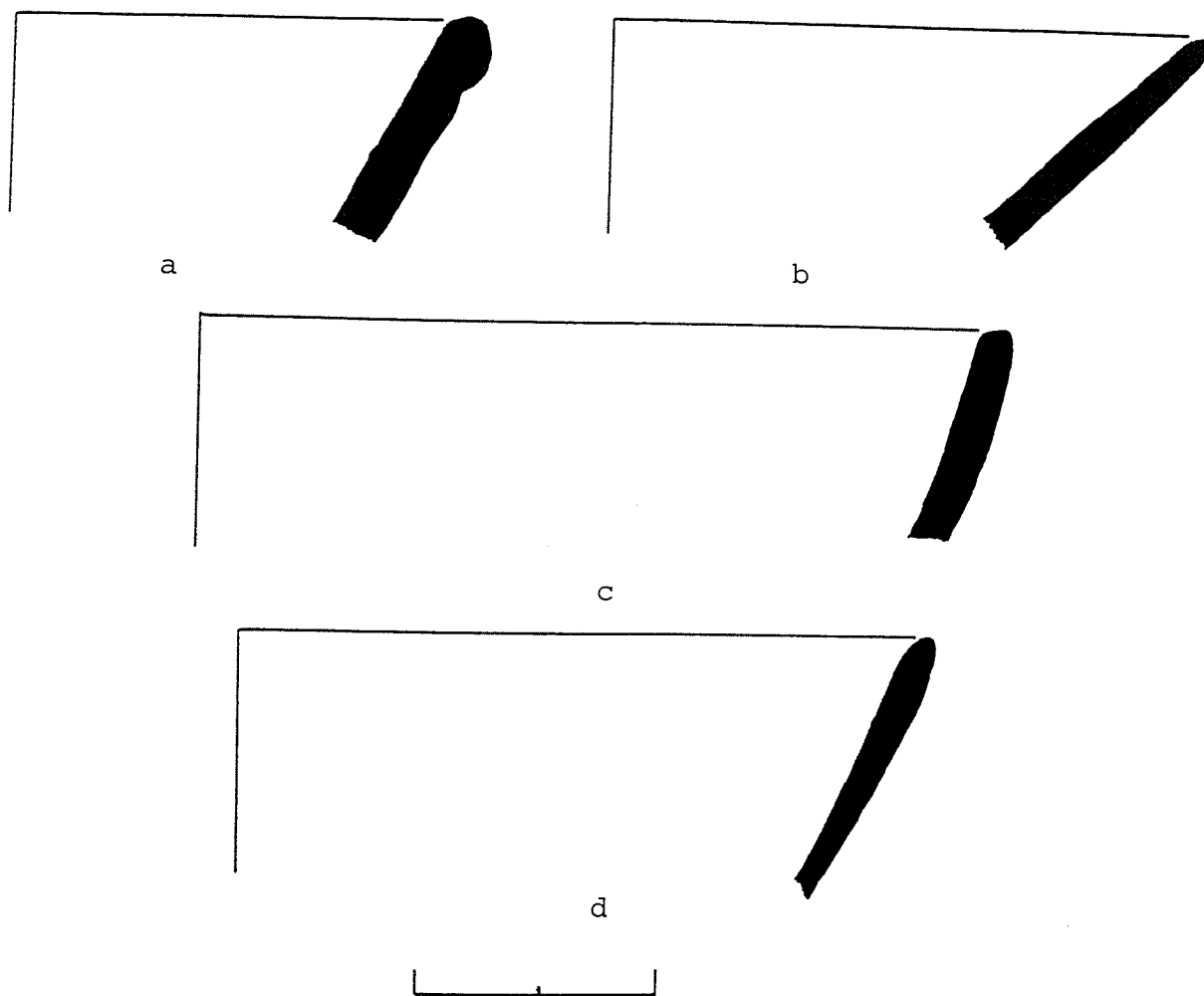


Figure 22. Lip profiles, class A1 vessels. a, Arnos Vale; b and d, Spring; c, BER. Scale is 5cm.

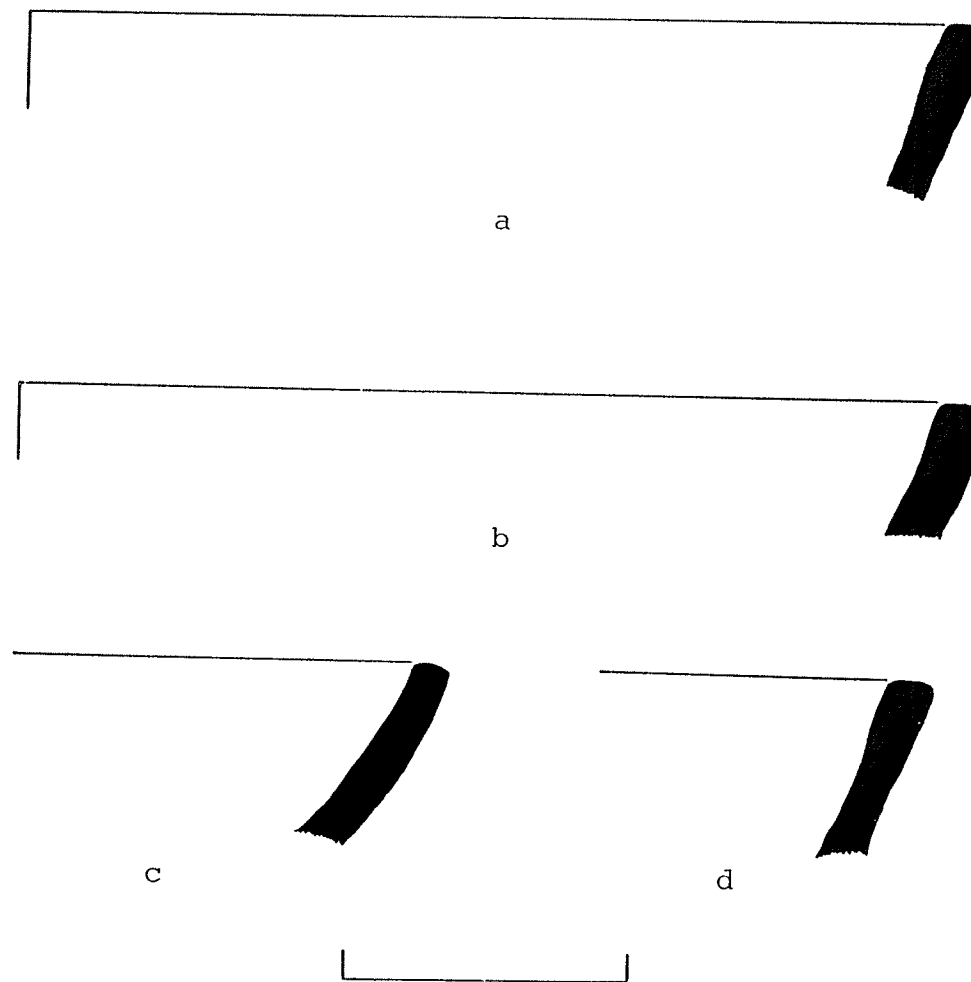


Figure 23. Lip profiles, class A1 vessels. a, BCC; b and d, Spring; c, BC3. Scale is 5cm.

Martinique suggests that they can be properly considered simple bowls lacking any inflection or keel in the profile (Musée Départemental, 1991).

The remaining rim sherds (N=20) can thus be associated with large bowls. While an accurate representation of vessel height cannot be established for these larger bowls, some vessels may be as high as their orifice diameter, which can often exceed 24 cm. The orifice diameters of these large bowls range from 24 to 44 cm.

Of the 69 rims recovered, 59 were complete enough to measure body thickness. The average body thickness for this vessel class is 8.5 mm, although most seem to cluster between 6 and 6.5 mm. It was hoped that the value of body thickness could be directly associated with the size of the vessel, as is expected in certain vessel shapes. No significant correlation, however, was found.

Class B/C. Vessel class B/C is best described as an outward flaring, or unrestricted, bowl, which is occasionally characterised by an inflection point near the mid-point of the vessel (Figs. 24-27). The designation "B/C" reflects the fact that the vessel shapes in this class may represent those defined by Allaire (1977) as classes B and C. Comparisons to published vessel shapes (Petitjean Roget 1975; Mattioni 1979, 1980; Musée Départemental, 1991), makes it possible to assign rim shapes to particular types of vessel shapes with greater accuracy.

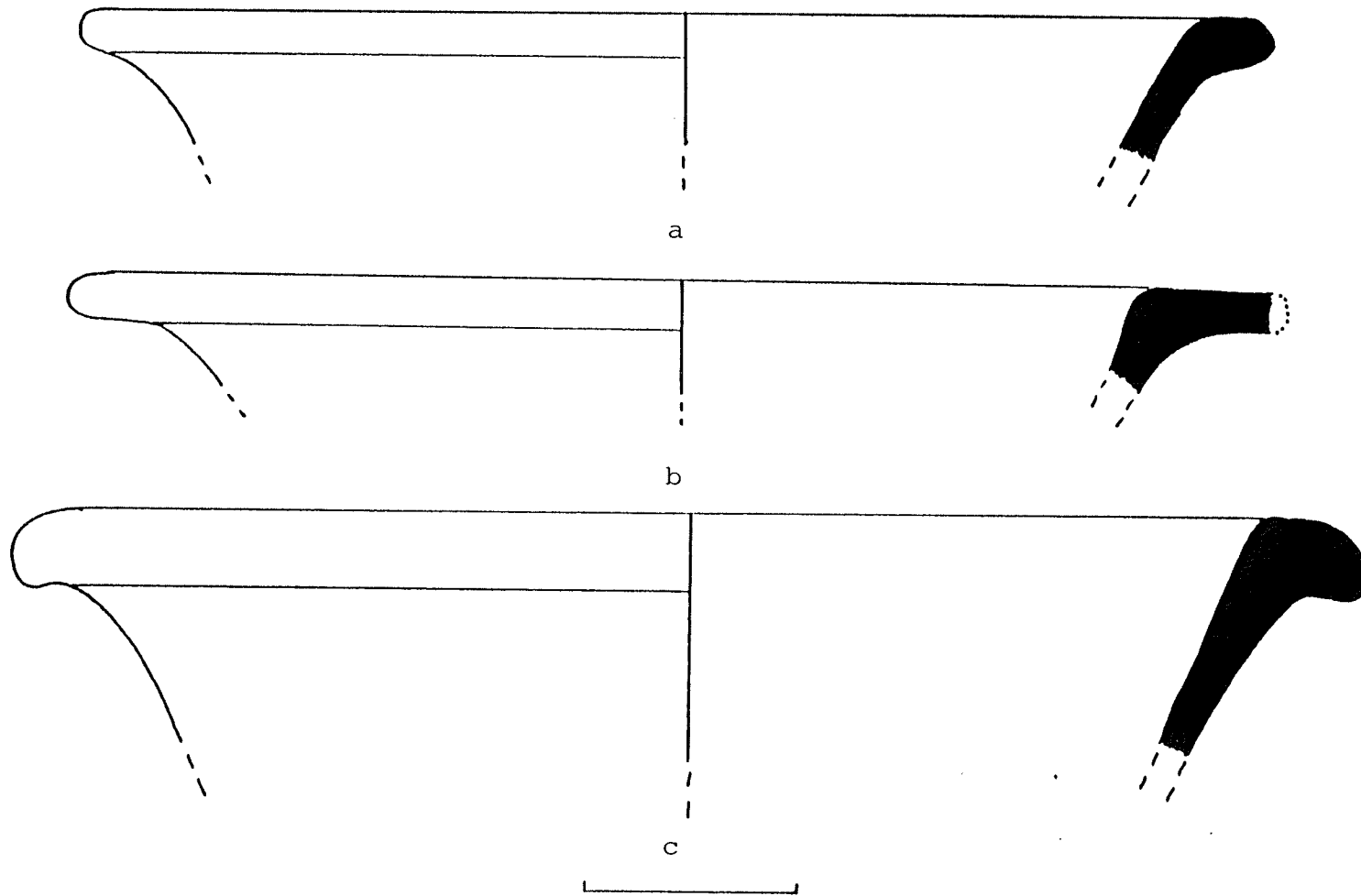


Figure 24. Class B/C vessels. a and b, BC3; c, Arnos Vale. Scale is 5cm.

Rims associated with vessel class B/C likely represent the typical inverted bell-shaped, or "unrestricted composite" vessel shape that characteristic of Horizon I in the Antilles and in the Northeast South American mainland. A total of 79 rims associated with this vessel class were recovered during the survey. A significant number of these (n=13; 16 percent) were recovered at the concentration area BC3 in the Buccament Valley. Twenty B/C vessel rims, however, were found in the entire Escape cluster. Concentration areas BC1, BCC-A, BER, and BCC-B at Buccament, however, did not produce any rim sherds associated with this vessel class.

The majority of rims (n=63; 87.5 percent) consist of the outward thickened rim class, while only 12.5 percent (N=9) are bilaterally thickened. Within this vessel class, seven lip forms are represented:

Class 1:	22
Class 2:	33
Class 5:	9
Class 6:	2
Class 8:	1
Class 10:	5
Class 11:	3

One large bilaterally thickened rim is typical of the Vase Caréné vessel type associated with Saladoid period sites from Martinique (as seen in collections housed in the Musée Départemental, 1991) (Fig. 7,a). An interesting feature of this rim sherd is the presence of an interior concave depression or furrow immediately below the lip on

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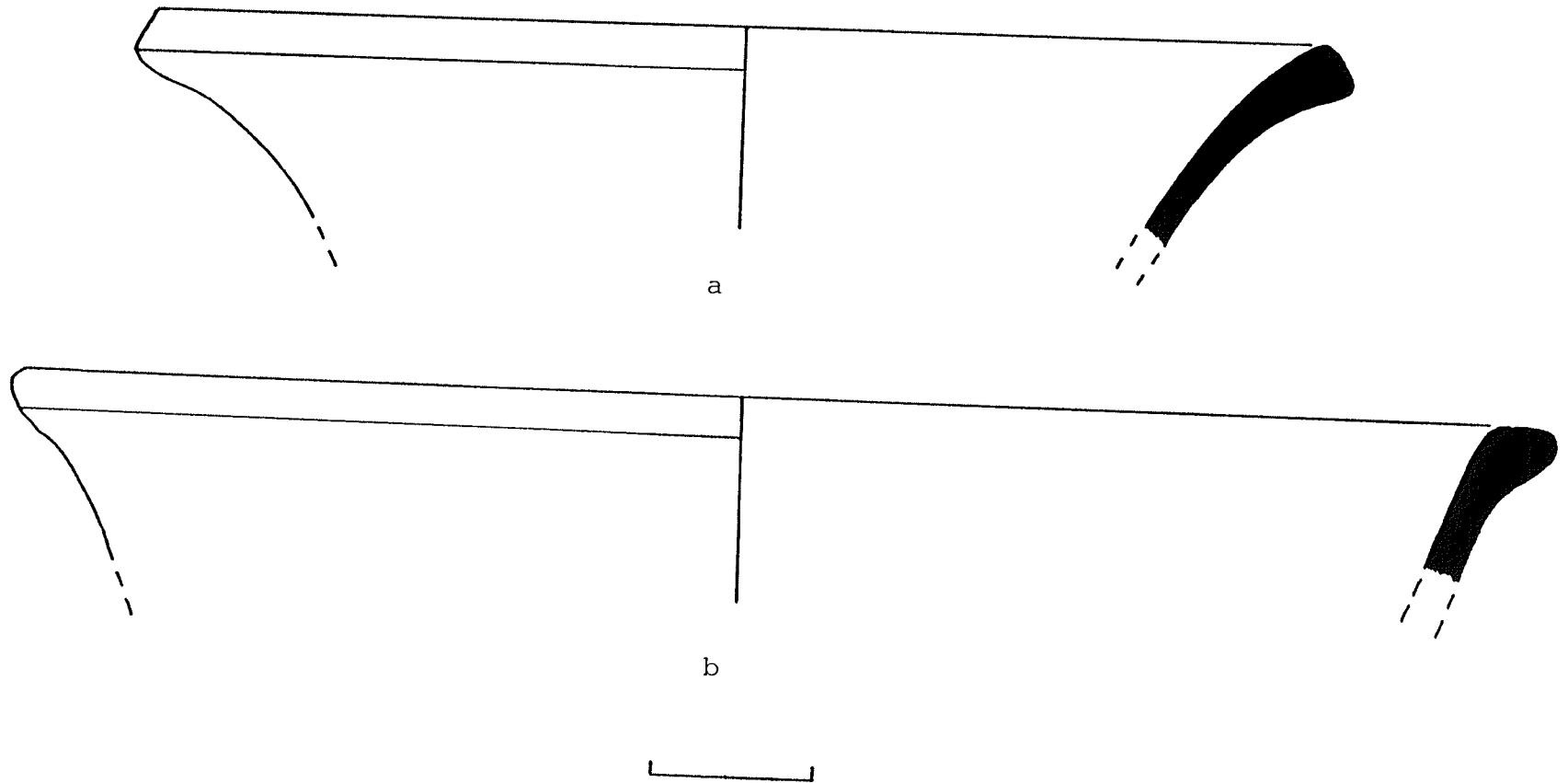


Figure 25. Class B/C vessels. a, BC4; b, BCC. Scale is 5cm.

the interior surface. Allaire (pers. comm.) has indicated that this particular feature, which seems to be particular to St. Vincent (Kirby, pers. comm.) is not found on similar large containers from Martinique.

One large sherd appears to show scratch marks on the interior. The relatively random patterning and overall unevenness of these marks suggest that they were made after firing of the vessel itself, which could suggest that a sharp instrument was used for stirring the contents of the vessel when it was in use.

A fire cloud is present on only one rim from this vessel class. It is present on the upper area of the rim sherd itself, which could suggest that it is the result of firing in a subterranean pit, in which pre-fired (or 'green') vessels are piled on top of each other over a low fire.

Most rim sherds associated with this vessel class are quite weathered. Many of the interior and exterior painted surfaces exhibit slight to moderate cracking. No definitive signs of corrosion are evident on any of the sherds. A correlation between interior and exterior surface finishes was observed, however, indicating that some smoothed exteriors are often associated with heavily eroded interior surfaces. It is not clear if this is simply a post-depositional occurrence or the effects of corrosion.

A sample of five sherds was taken for examination of

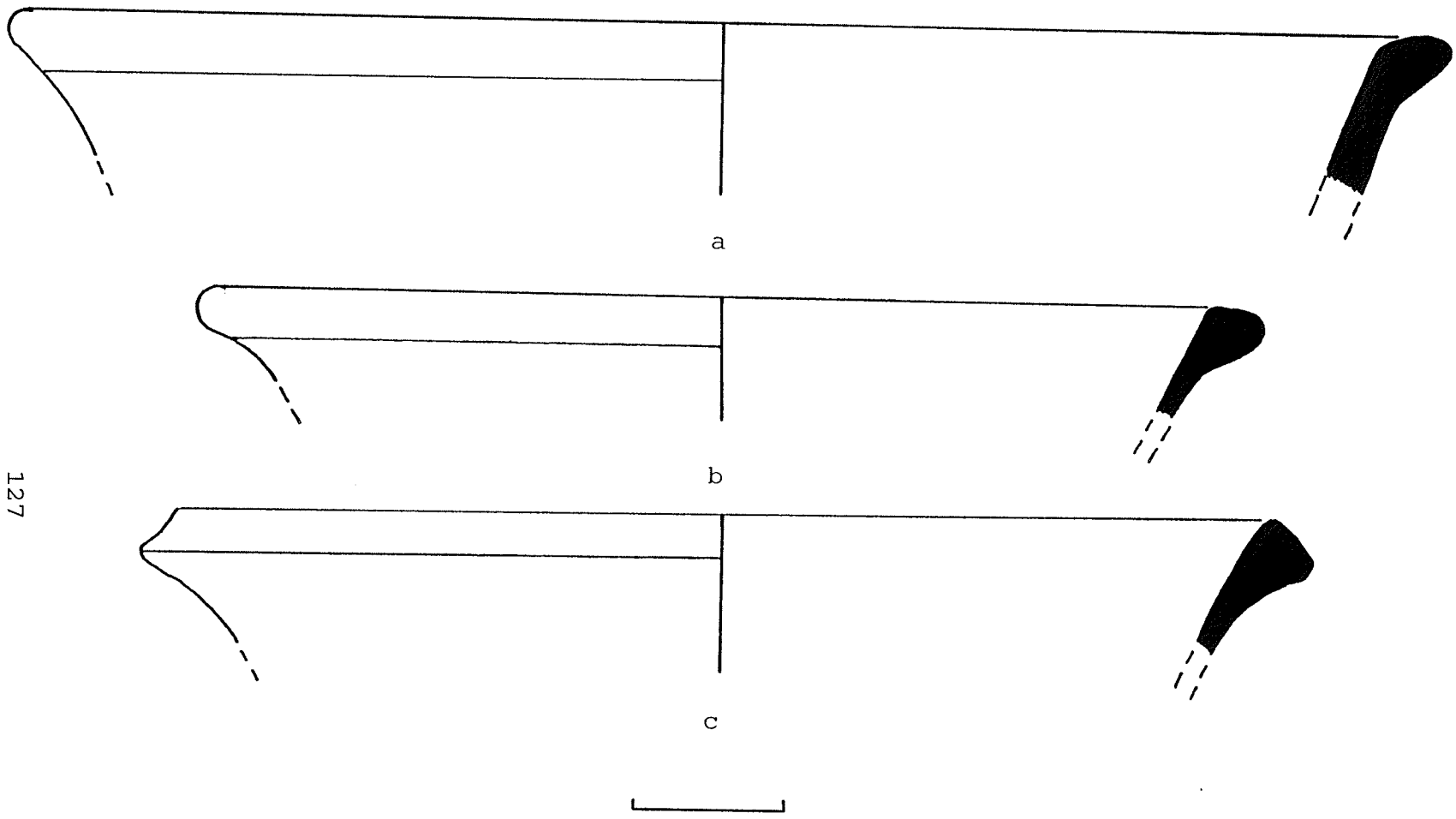


Figure 26. Class B/C vessels. a, ES1; b and c, BC4. Scale is 5cm.

core colours and paste constituents. The most dominant tempering material within this class is black sand. Like vessel class A1, various calcareous inclusions (including granite) are also present in this vessel class. Small pebbles (0.2 - 0.5 mm) are noticeable, and large pebbles (1.88 - 1.27 mm) were particularly visible on one rim from the concentration area ES1 at the Escape site. Paste is typically very dense.

Core colours range from very dark red (2.5YR 4/6), reddish black (2.5YR /1), yellowish red (5YR 4/6 and 5YR 5/6) to dark reddish brown (5YR 3/2 and 5YR 2.5/2). On two sherds, a distinctive black core is observed, suggesting reduced firing environments.

The method of manufacture cannot be accurately determined for this vessel class as no definitive coils were observed in any of the 72 rim sherds from this class. It is interesting to note, however, that many rims in this vessel class appear to have been broken at a point just below the lip portion of the vessel. This may suggest that the method of construction was indeed coiling, as the lip may have been a separate coil addition. It is well known that fractures in a coiled vessel usually occur at the intersection of coils (Rice 1987).

Orifice diameters of rim sherds from this vessel class could only be measured on 47 sherds, as many were either too small or too eroded. Of the 47 measured, the average

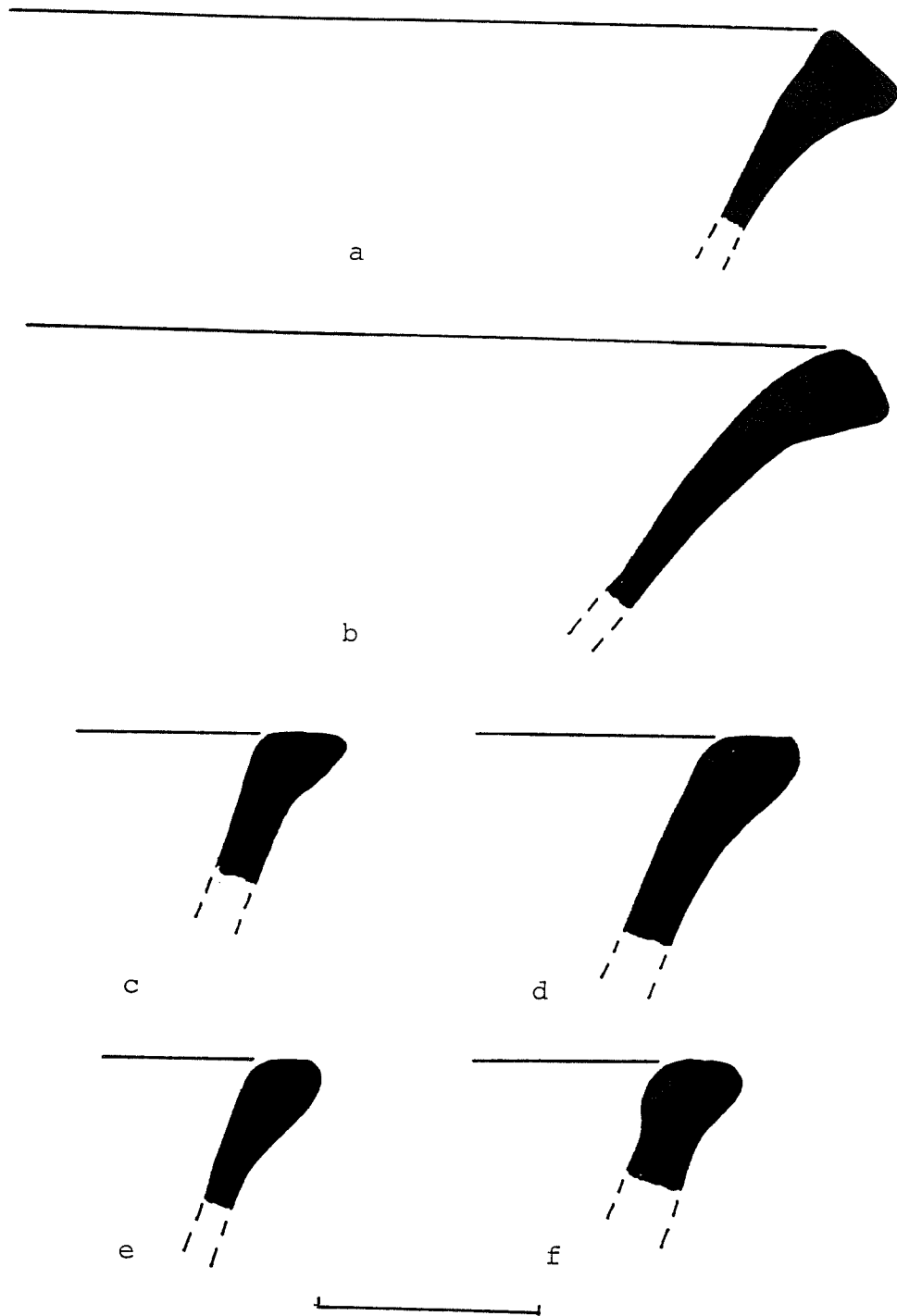


Figure 27. Lip profiles, class B/C vessels. a, BC4; b, BCC-C; c, Arnos Vale; d, BCC; e and f, Spring. Scale is 5cm.

orifice diameter is 30 cm. The smallest is 14 cm, while the largest is 48 cm. The mode is 32 cm.

Not surprisingly, surface finish is highly variable in this class. A total of 42 rim sherds are smoothed on both the interior and exterior surfaces of the vessel.

Generally, this is attributed to the presence of paint.

Twelve rims are completely eroded on both the exterior and interior surfaces, while 10 are eroded on the exterior and smoothed on the exterior.

Body thicknesses are varying, although the greatest range in this measurement is found in this vessel class. The smallest body thickness in this vessel class is 4.4 mm while the largest is 28.6 mm. The mean body thickness is 9.3 mm, while the mode is around 7 mm. The average rim thickness is 14.3 mm and the average length of the rim is 19.8 mm.

For Barbados, Harris (1991:71) describes numerous lip and vessel shapes, but as none of them are properly illustrated, it is difficult to draw accurate comparisons. The only definitive vessel class associated with the very few Horizon II sites on Barbados is characterised as simple open bowls (Harris 1991). Some of the lip shapes mentioned by Harris (1991:71) from sites on Barbados, however, include flanged, overhanging, triangular flanged, and triangular thickened. Similar forms can be identified in this vessel class from the St. Vincent collection.

In associating a definitive time period to this vessel class, it appears that based on morphology alone (in other words, excluding decorative attributes, which are discussed in Chapter VI), this vessel class could be indicative of both Horizon I and Horizon II ceramic vessels. The decline of the common inverted bell-shaped vessel in sites associated with Horizon II in other Windward Islands (Allaire 1995) may further suggest that most of these B/C vessels are indeed associated with the second Horizon. The lack of complete vessels, however, makes this suggestion tentative.

Class B2. Vessel class B2 is associated with restricted composite shapes, or what are commonly known as casuela vessels in Caribbean archaeology (Fig. 28). Characteristic features of this vessel class are the presence of one inflection point (usually on the upper portion of the vessel) and the inward constriction of the rim.

A total of eight rim sherds from the St. Vincent collection are associated with this type of vessel, and all have a distinctively simple, direct rim. Casuela vessels are limited to the site of Arnos Vale and the concentration areas of BC2, BC3, BC4 at Buccament, and ES1 at Escape. Five rims from this vessel class were complete enough to facilitate a measurement of orifice diameter. The largest orifice diameter is 48 cm (from concentration area BC4),

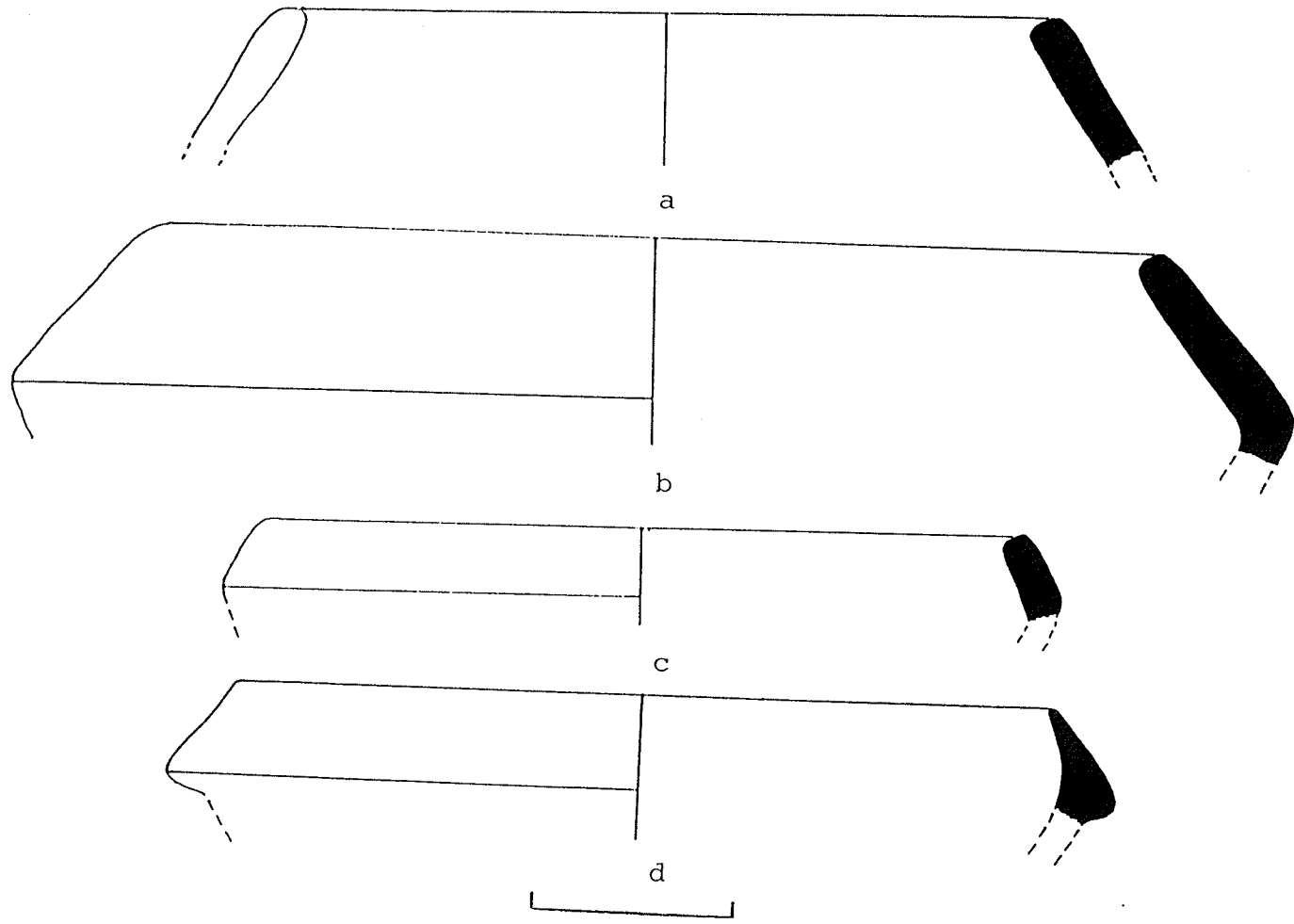


Figure 28. Class B2 vessels. a, Arnos Vale; b, BC2; c, BC4; d, BC3.

while another rim from the concentration area of BC2 exhibited a 40 cm orifice diameter. One orifice (from the site of Arnos Vale) measures 32 cm in diameter, and two others (from concentration areas BC3 and BC4) measure 20 and 24 cm respectively. It is suggested that the maximum diameter of these vessels was slightly larger, as the inflection point in this vessel class is always larger in diameter than the orifice.

Surface finish is predominantly smooth (44.4 percent) on both the interior and exterior surfaces of the rims in this vessel class. One rim sherd from the concentration area of BC2, however, is eroded on both surfaces. All eight sherds were examined for core colour, paste, and temper. Core colours range from grayish (5YR 5/1) to dark red (2.5YR 3/6). Temper constituents are similar to those found in other vessel classes in the collection, consisting of black sand and other calcareous inclusions.

Class V. Vessel class V is a specialized form of the open composite or bell-shaped vessel, with a reduced upper part that produces a shallow basin-shaped container, known as "vasque" by French archaeologists (Petitjean Roget 1975) for the kind of outflaring basin found in fountains. This type of shape is especially typical of Horizon II sites on Martinique, as it must also be on St. Vincent. Vasques are very low circular bowls of fair sizes with a typical outward flaring rim which is usually associated with red paint and

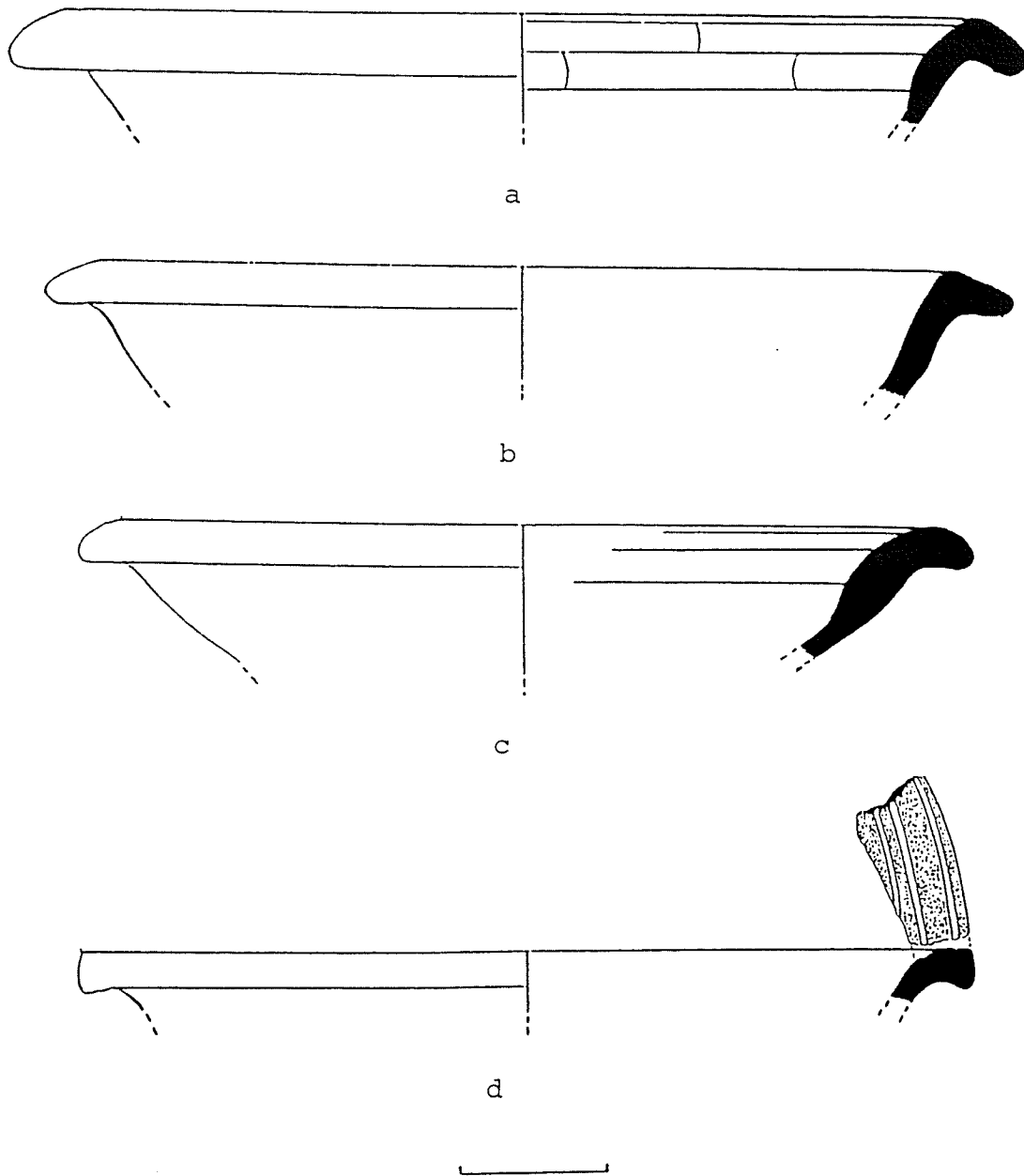


Figure 29. Class V vessels. a, BCC; b, Arnos Vale, c and d, BC3.
Scale is 5cm.

interior incised decoration.

Fourteen rims can be associated with this particular vessel shape (Fig. 29; Pl. 27). Seven of these (53.8 percent) were found at the concentration area BC3 at the Buccament site. At the Buccament site, the concentration areas of BC2 and BCC each yielded one vasque rim fragment (7.7 percent each). Four vasque rims were recovered at the site of Arnos Vale (23.1 percent), and one rim was recovered at the site of Sandy Bay (7.7 percent).

Of the 13 rims associated with these vessels, all belong to the rim class of outward thickened, due to the presence of the diagnostic outward flaring lip. As a result, all Vasques in the St. Vincent collection can be associated with the lip class Curved platform with flange (lip class 1). The average rim thickness of this class is 9.37 mm.

The average body thickness from the eight rims that exhibited enough of the vessel body to be measured is 6.22 mm. The thinnest body thickness on a Vasque rim was 3.8 mm, while the thickest was 8.87 mm. Surfaces are uniform, even, and often smoothed. Interior and exterior surfaces for this vessel class are preserved better than those rims of other vessel classes. Only three rim sherds were eroded on both the exterior and interior surfaces. None exhibited any evidence of corrosion on either the interior or exterior surface.

Four rims were examined for paste, temper, and core colour constituents. Paste is very dense, which follows the pattern established in other vessel classes in the collection. Core colours range from reddish gray (5YR 5/2) to reddish yellow (5YR 6/8). Two of the rim sherds examined exhibited blackened cores. Temper ranges from typical black sand to very small pebbles (.3 mm to .5 mm in diameter). Calcareous inclusions are also present.

Class D3. Vessel class D3, that of complex independent restricted vessels, is associated with a diagnostic and unique vessel of the Saladoid period (specifically Horizon II) called the Vase Mario. These vessels are different from the Vase Caréné shape (vessel class B/C) in that the latter does not exhibit the characteristic heavy flange which is present on Vase Mario vessels (Figs. 30 and 31).

A total of 19 rim sherds can be assigned to this vessel class. Six rims (30 percent) are from the concentration area of ES1 at Escape. Vase Mario rims are also found at the concentration areas of BCC, BC1, BC3, and BC4 in the Buccament Valley, and at the sites of Arnos Vale, Sandy Bay, and Spring.

All rims associated with this vessel class are considered outward thickened and all belong to the Flared lip class. Hence, the diagnostic nature of this vessel type is manifested in both rim forms as well as vessel shape. Three small rims (two from concentration area BC4 and one

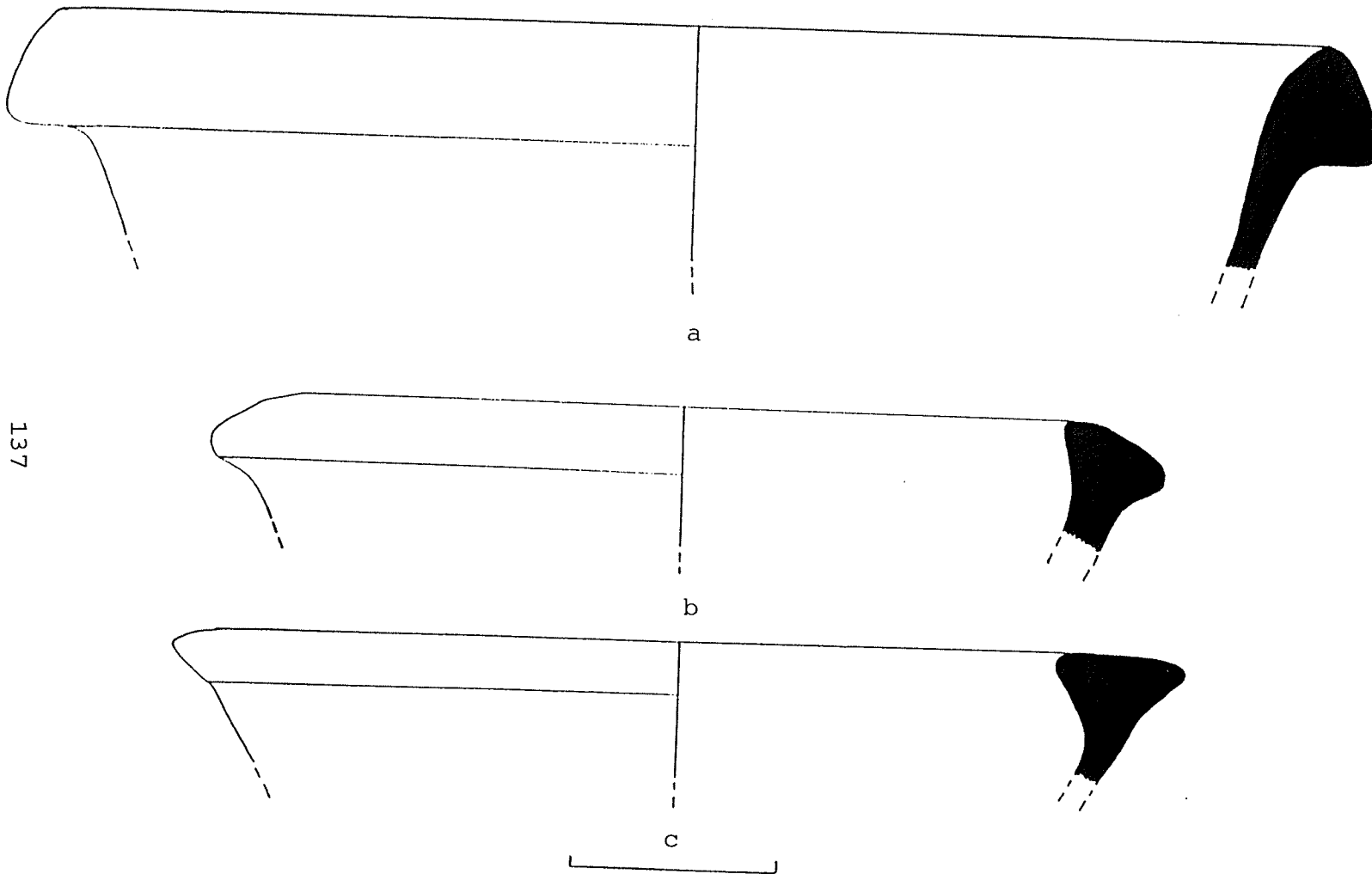


Figure 30. Class D3 vessels. a and b, ES1; c, BCC. Scale is 5cm.

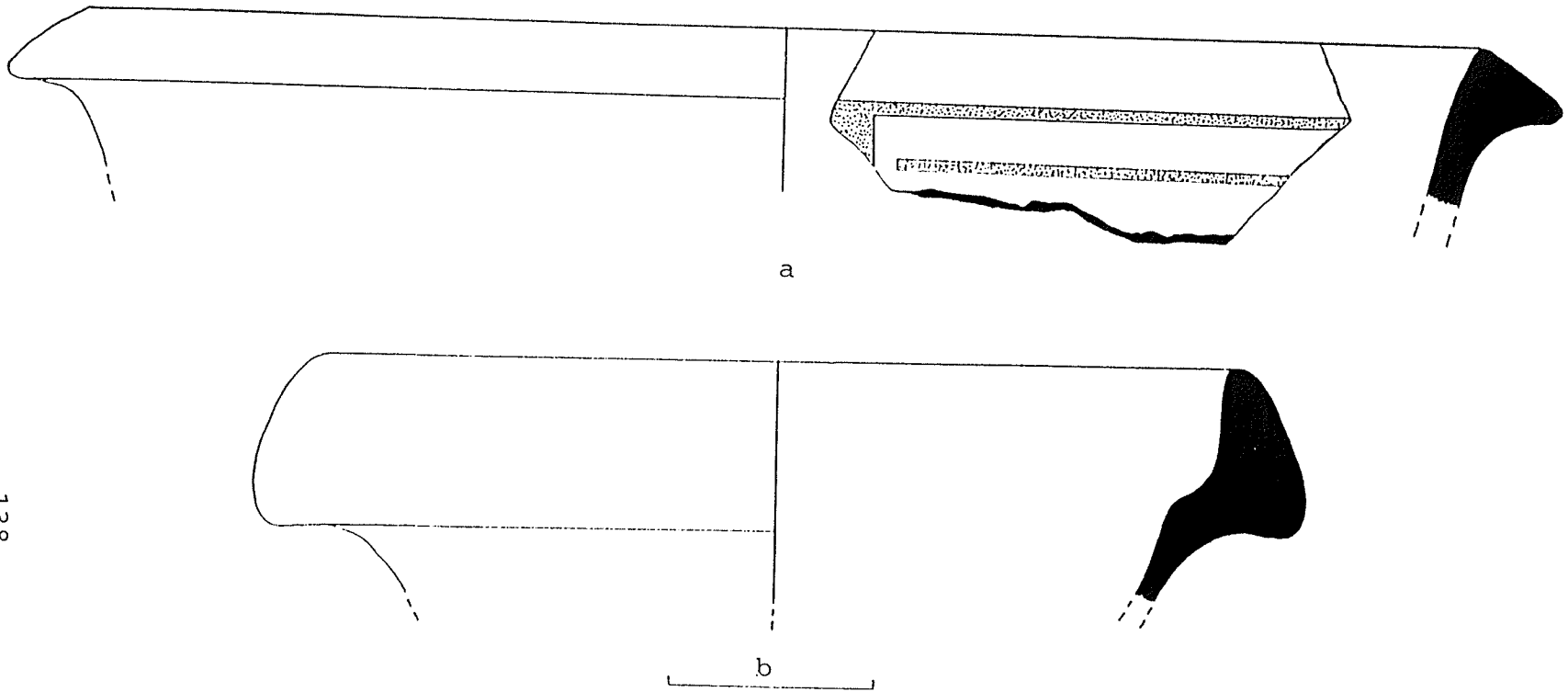


Figure 31. Class D3 vessels. a, Sandy Bay; b, ES1. Scale is 5cm.

from concentration area ES1) are too small to be definitively associated with Vase Mario vessels, the rims of which are typically very heavy and thick. Their inclusion in this class is based on the fact that they share a similar lip shape.

Of the 20 rims recovered, seven were examined for paste, temper, and core colour attributes. Core colours range from grayish (5YR 5/1) to light gray (5YR 7/1). As well, reddish gray (5YR 5/2) and darker reddish gray (5YR 4/2) core colours are found on one rim sherd each. One rim has a core colour that ranges from dark red (2.5YR 3/6) to dusky red (2.5YR 3/4, 3/3). Three of the seven rims have black core colours. Temper consists of black sand and calcareous inclusions. No direct associations between morphological or technological attributes is found.

Firing clouds make an unusual appearance in this vessel class. They are found on four of the 20 rims assigned to this class (20 percent). Curiously, these fire clouds appear on or near the rims of the sherds. No evidence of corrosion was found.

Much like certain rim sherds associated with vessel class B/C, two rims associated with Vase Mario vessels from St. Vincent have an interior ridge that is located below the lip and opposite the end point of the flange on the interior. This interior 'ledge' does not appear on Vase Mario vessels from Martinique. The average rim thickness

for this vessel class is 16 mm, while the average length of the rim is 24 mm.

Classes C3 and D2. Both vessel classes C3 (Fig. 32,a) and D2 (Fig. 32,b), inflected independent unrestricted and complex restricted vessels respectively, are represented in the St. Vincent collection by one rim sherd each. Both were recovered from the site of Sandy Bay on the northeastern coast of the island.

This upper portion of the vessel in vessel class C3 is very similar in contour to the casuela vessels identified in the collection. The difference, however, is the presence on this rim sherd of a modelled band that likely surrounded the entire vessel just below the exterior end point. The core colour of this sherd is dusky red (2.5YR 3/4, 3/3), but in areas near the interior surface, a black core colour is observed. Paste is typically dense and temper consists of occasional pebbles (on average 0.8 mm in diameter), and occasional granules of black sand are also found.

The one rim sherd associated with vessel class D2 exhibits a constricted neck with a wider orifice. The vessel likely exhibited an inflection point, but this could not be determined from the rim alone. The core colour of this sherd is dusky red (2.5YR 3/4, 3/3). Paste is very dense and tempering constituents are not readily observed.

Keeled sherds. Of the 327 body sherds recovered during the survey, 60 (18 percent) exhibit a keel, or pronounced

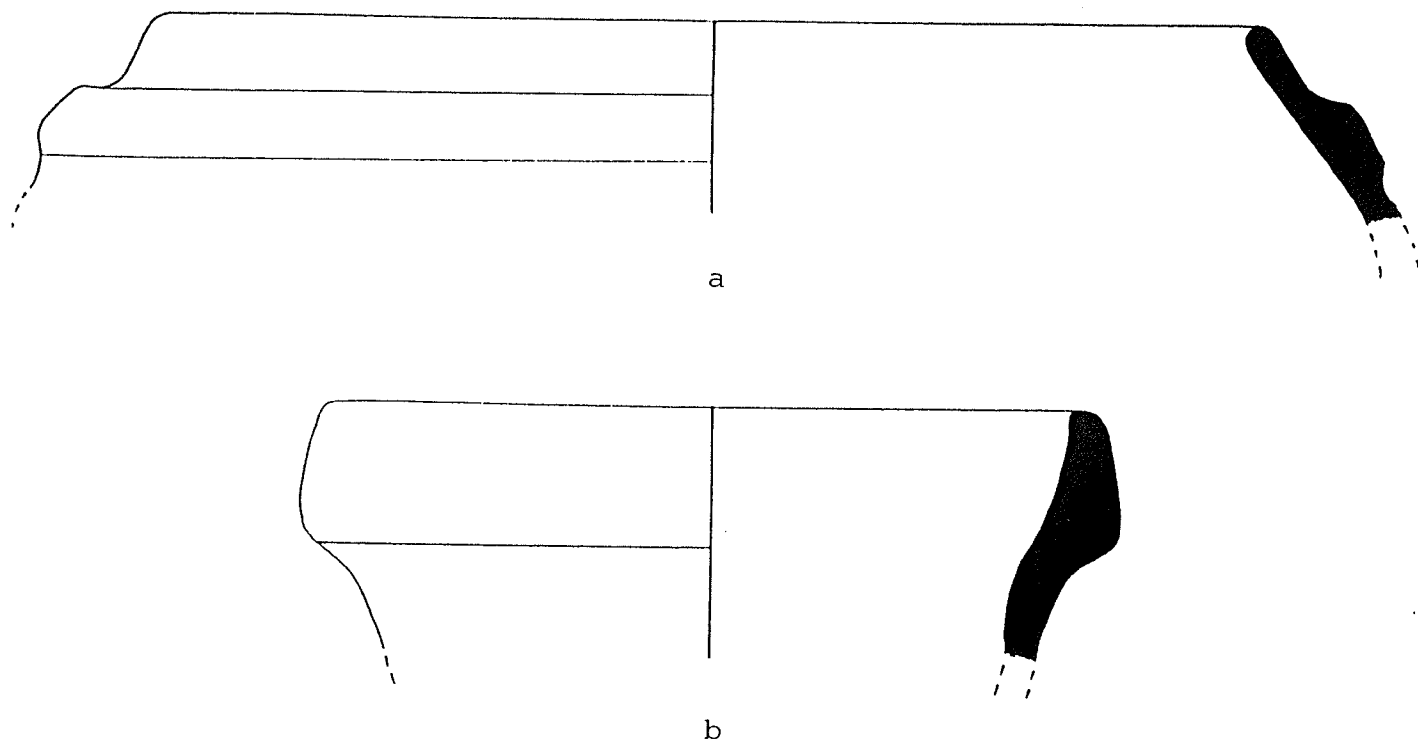


Figure 32. Class C3 and class D2 vessels. a and b from Sandy Bay.
Scale is 5cm.

point of inflection. Keeled sherds were found at all six sites that exhibited primarily Saladoid ceramics. Many inflection points are simple, with no additional clay added at the keel. Some, however, exhibit heavy clay additions. It is not uncommon to find incisions that accompany these additions in clay, and usually extend for the circumference of the vessel. One keeled sherd from Arnos Vale appears to be from a Vase Mario vessel (discussed below), and exhibits heavy interior corrosion.

Some final observations regarding the vessel shapes defined for the collection can now be made. Overall, the vessel associations from the collection are quite varied. As was expected, all vessel forms that typically characterise the Saladoid period in the prehistory of the West Indies were identified. Curiously, ceramic bottles, as identified at the Vive site on Martinique (Mattioni 1979, 1980) were not recovered on St. Vincent. The reason for this is unknown, and may represent a localised (on Martinique) development of this particular vessel shape. As shown, definitive comparisons to similar vessel forms from other islands in the Windward chain is possible.

Vessels which have the thinnest walls seem to be associated with Class A1. Those which exhibit thicker walls and wide orifice diameters seem to belong to Class B/C. The tallest vessels seem to be those associated with classes B/C

and D3 (Vase Mario).

II. Description and Classification: Other Ceramic Features

Incense Burners. Incense burners (as they are commonly referred to) in Caribbean archaeology are hollow and bottomless cylindrical clay artifacts, with an open or closed top. They are usually elaborately decorated with painted or modelled-incised decoration, often reaching effigy proportions. These are normally more heavily decorated than both plain ware utilitarian vessels and even decorated utilitarian vessels, which could suggest a non-utilitarian function, although this is not certain. It cannot be positively stated that these artifacts could indeed reflect a ceremonial or religious affiliation, although the suggestion has been made that they were used for the inhaling of particular substances (Rouse 1992:83).

Incense burners are unique to the Lesser Antilles and the Saladoid series where they figure as some of the most sophisticated ceramic artifacts; they are uncommon or even totally absent from the South American mainland. The Bullens report numerous incense burner fragments from St. Vincent, and various other Grenadine islands, the most famous of which is the uniquely tall Bat-head effigy cylinder, originally from the Arnos Vale site, and which is on display at the Kingstown Museum in St. Vincent (Kirby and

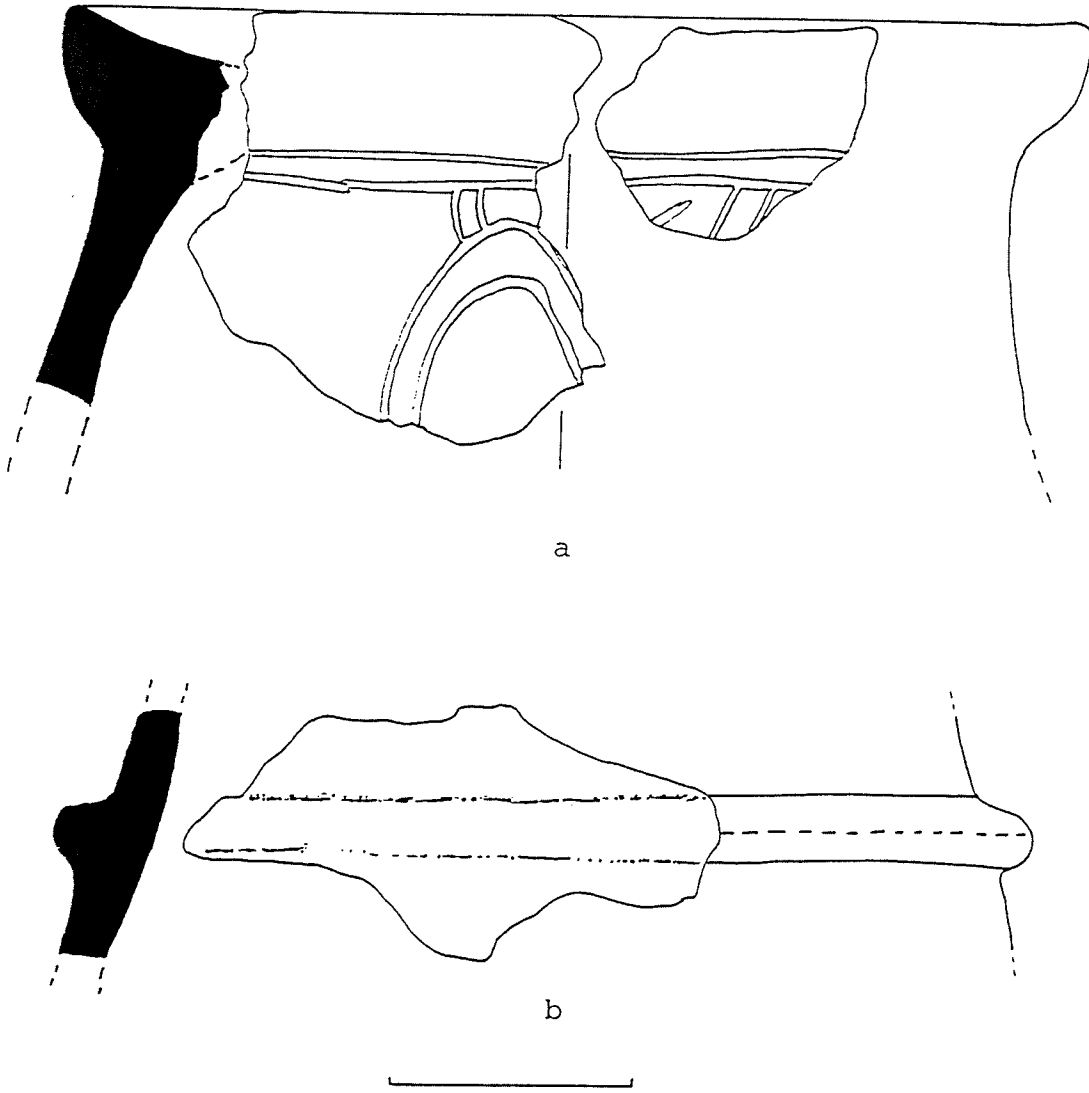


Figure 33. Incense burner profiles. a, Arnos Vale; b, BCC. Scale is 5 cm.

Wall 1974). Associated with this specimen is a large oval platter that exhibits a circular pattern of black soot on interior basal surface, corresponding to the diameter of the incense burner itself. This suggests that it could have been used for the burning of a certain substance. The St. Vincent Museum also displays several whole or large fragments of these decorated cylinders.

Only seven sherds, and possibly part of an appendage, were recovered during the survey that are part of an incense burner (Fig. 33). One is a large body sherd with a exterior ridge, the others are rims from the base or the top of cylinders. Four may belong to a same specimen. All come from either Buccament or Arnos Vale. As with most incense burners from other islands, the fragments recovered from St. Vincent are readily identifiable because of their bright red, fully oxidized interior core colour. It is generally assumed that the constant association with heat allows for the gradual re-firing of the clay, generating this often bright red core colour; an alternative explanation can be based on the fact that the hollow nature of the artifact makes for a better heat exposure.

Of the incense burner fragments from St. Vincent, temper consists primarily of black sand particles or very small pebbles. Paste is somewhat less dense than other vessels from the collection; it tends to be gritty and is often crumbly. A certain degree of porosity may have been

sought by the potter, but for unknown reasons. Obviously, these artifacts were not meant to be put to the same hard uses as the pottery vessels. Typical incense burners are usually small to medium in size; our fragments indicate diameters of 12 to 22 cm, and thicknesses varying between 8.5 to 12 cm. The function of these hollow cylinders as burning aromatic substances is purely hypothetical but likely for this type of artifact by analogy with specimens from Mesoamerica. A large boat-shaped vessel or bowl displayed in the St. Vincent Museum displays a black carbonized circular patch on its bottom that coincides with the diameter of a typical incense burner. These cylinders may therefore have been associated with burning but also with another type of pottery vessel. These unusual artifacts have yet to receive the more detailed study they deserve as for function and decoration.

A large, heavy, and thick crescentic lateral appendage (5 cm thick, 8.5 cm wide) from concentration area BC3 in the Buccament Valley displays the typical incense burner reddish clay (Pl. 23,a). The diameter of the inside of the burner is approximately 20 cm. It is possible that the fragment could have been part of an effigy incense burner. It is painted red with a yellow and white line. The edge is heavily worn and battered as if it had been used as a pounding instrument, in contrast with the overall smooth surface of the rest of the burner fragment.

Clay Griddles. Griddles are large, flat clay platters which are assumed to have been used in the cooking of bitter manioc for the making of cassava bread. The common assumption is that prehistoric populations who manufactured clay griddles also practised cultivated bitter manioc agriculture. In fact, the archaeological evidence for manioc cultivation relies primarily on this type of artifact (see DeBoer 1975:420). This is based on the fact that agricultural techniques are paralleled with the development of the Saladoid series along the Orinoco as far back as 1000 B.C. (Rouse 1992; Roosevelt 1980). As such, the cultural group (or groups) associated with Saladoid pottery have a recognised and unmistakable agricultural background, and likely introduced manioc to the West Indies.

No direct evidence for manioc cultivation was found in the collection, and the fact that agricultural activities were indeed practised is associated with the presence of these clay griddles. The fact that these griddles were indeed used in the cooking of cassava is supported by the presence of carbonised manioc cakes on a griddle surface from the Camoruco site in the Parmana region of the middle Orinoco (Roosevelt 1980:239). Furthermore, the seventeenth century Island Caribs are known to have used clay griddles for the cooking of manioc cakes, as reported by Father Breton (Allaire 1984:127). By analogy, we can assume that this same practice occurred in prehistoric times in both

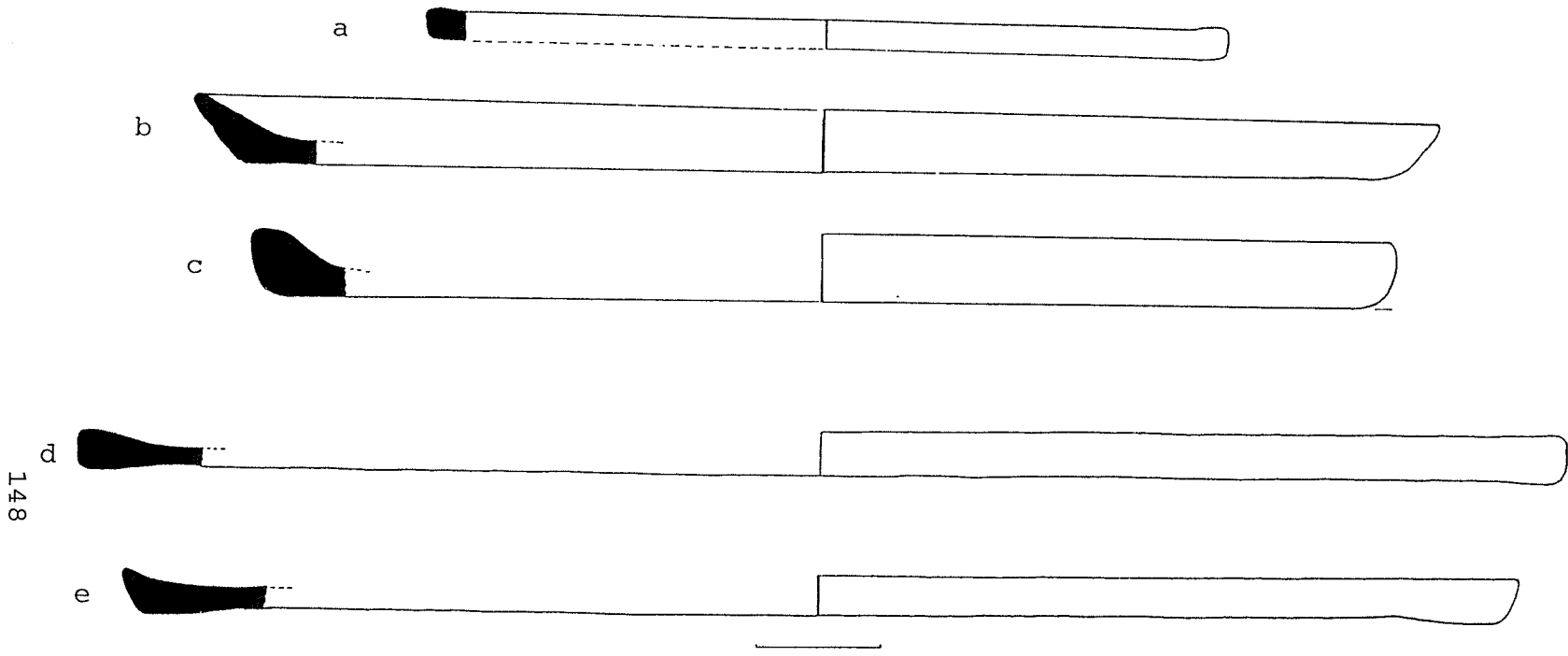


Figure 34. Griddle profiles. a and e, Spring; b, ES1; c, BCC-D; d, BCC-C.
Scale is 5cm.

South America as well as the West Indies. Everything therefore indicates that the primary use of griddles is for the cooking of cassava. There does not seem to be any other use associated with this artifact, especially when considering the ethnographic literature as well as historical documents (Allaire 1984).

A total of 12 griddle rim fragments were recovered during the survey from Saladoid context (Fig. 34). Their distribution among the sites is fairly uniform, although no griddle sherds were encountered at Sandy Bay, nor at some of the concentration areas in both the Escape and Buccament sites.

Two major types of rims were observed in the griddle rim collection: (1) flat; and (2) raised. Only one small sherd of a flattened griddle rim, or "pancake type" (Bullen 1964) was recovered, from the Spring site (Fig. 34,a). The remaining eleven griddle rims are classified within the raised rim class. This type of griddle rims preserves a flat base but the upper rim is pinched upward to raise the edge above the baking surface; one, however, is thicker and more properly triangular in cross-section (Fig. 34,c).

Most of the griddle fragments recovered are in poor condition. Exposure to surface conditions (wind, rain, soil turbation) has eroded many of the surfaces. As a result, no encrustations were observed on any of the sherds.

The thickness of the griddle platform could be measured

for twelve of the thirteen fragments. The average thickness of the griddle platforms is 10.7 mm. The thinnest griddle platter is 6.5 mm (from concentration area BCC-C), while the thickest was the platter fragment measured 15 mm. Rims do not raise very high above the baking surface, being never deeper than 1.5-2.0 cm (Fig. 34).

Temper was observed in a random sample of seven griddle sherds from the collection. All were tempered with black sand and calcareous inclusions, although some exhibited very small limestone (white) granules. Very small pebbles (0.3-0.6 mm) were observed in two griddle fragments from Arnos Vale.

Core colours were surprisingly similar to core colours in the body and rim sherds from the same collection. Colours range from greyish (5YR 5/1) to dusky red (2.5YR 3/4, 3/3). Only one sherd exhibited a blackish interior core colour, and this occurred on the upper portion of the cross-section near what would have been the cooking surface.

The overall diameter of these griddles could only be positively determined for six rims. Because of the fragmentary nature of the griddle rims, these measurements may not be accurate. Smaller griddles are represented by one sherd from Spring, which measured approximately 26-28 cm in diameter. Typical griddles are, however, usually associated with much larger sizes as revealed by segments from other griddle rims that suggest diameters ranging from

45 cm to 50 cm as more typical.

Red paint is the only decorative attribute found on the griddle fragments in the collection. It occurs on five rims on either the bottom part of the griddle or the rim itself. On the one griddle rim associated with a the flat class of griddle rim forms, red paint is found on the top (cooking) surface. Incisions are not found on any of the griddle fragments in this collection.

Handles. Seven handle fragments were recovered (Pl. 31). One of these, from BCC-D, is painted red on the entire surface of the handle (Pl. 31,c). A simple lug, without any incisions, is attached to one handle fragment from the concentration area of BCC at the Buccament site (Pl. 31,e). It is thin, but not curved like the more common D-shaped handles of the Saladoid period, such as those at Vivé (Lehouillier 1974). In fact, no D-shaped handles were recovered during the survey. The other handles in the collection, from Arnos Vale, Spring, and BC4, are too fragmentary to be assigned any specific shape or orientation.

Base Fragments. Nine fragments of bases were recovered during the survey (Fig. 35). Aside from one base fragment, which appears to have come from a smaller vessel, all can be attributed to fairly large vessels. All exhibit fairly smooth and even surface finishes, and three are painted red on the exterior (or lower) surface.

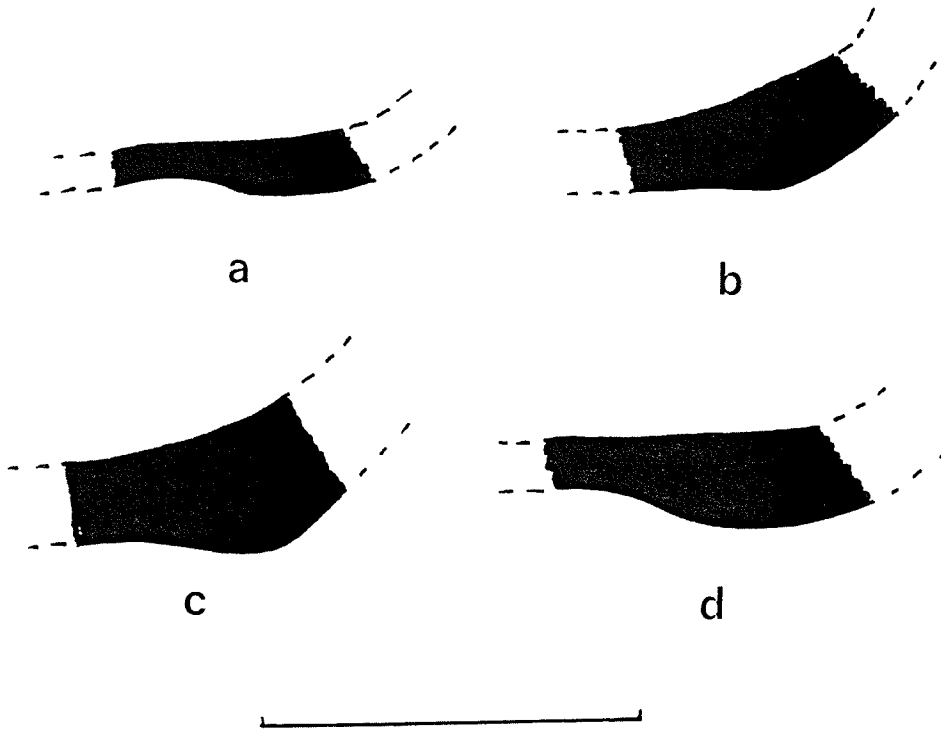


Figure 35. Base Profiles. a, BC3; b, Spring; c, BCC; d, BC4.
Scale is 5 cm.

Corrosion is evident on the inside of one base fragment. Core colours range from dark reddish brown (5YR 2.5/2) to greyish (5YR 5/1) and temper is generally black sand, although the occasional small pebble is present. Paste is very dense in all base sherds recovered.

Sherd scraper. What appears to be a sherd scraper was recovered at the concentration area of BC3. The sherd is relatively small, as it measures only four cm long. The smoothed nature of the longer side of the sherd, which measures four cm long and approximately two cm wide, could be indicative of its use in smoothing walls of vessels prior to firing. It is painted red on one side. No rim portion is present, thus suggesting it was originally a body sherd.

III. Vessel Functions

The functional aspect of ceramic vessels should reveal information not only about food preparation and processing, but also about subsistence activities. Three broad categories of vessel function have been defined by Rice (1987:209): storage; processing; and transfer. The range of specific use of pottery vessels depends on the manipulation of various elements, some of which include body thickness, orifice diameter, and vessel height (Skibo 1992:36-37).

Inferences of use for each vessel class defined for the collection from St. Vincent are discussed below, although

the conclusions reached are by no means meant to be absolute. Where appropriate, historical analogies relating to the Island Carib are used. The use of clay pots in food production is well documented in the ethnographic literature in the region, especially South America (Carneiro 1961; Dole 1978; Steward and Faron 1958). These relations of use form the basis for ceramic ecology, which is the contextual approach to understanding the technological implications of vessel morphology and their relation to intended or actual use.

The best clues for assessing use-alteration features on ceramic vessels are marks and patches (Skibo 1992:111). A mark reflects a single-event representation of an event in the form of an attritional mark, nick, scratch, pit, or chip (Skibo 1992:111). An attritional patch, however, reflects continued use. Skibo notes (1992:111) that these patches may be clusters of attritional marks. The generally poor condition of surface finishes in the ceramic collection from St. Vincent makes it difficult to determine the absolute presence of these marks or patches, but some marks are evident, as mentioned in the previous section. Vessel function is reviewed below by vessel class.

Class A1. As discussed above, this type of wide, open-mouthed vessel, essentially bowls and trays or platters, is characterised by vessels whose orifice diameter is always larger than the lower basal portion. Smith (1985:Table

11.2) points out that vessels with these dimensions (where the orifice is the greatest width of the pot) possibly indicate their use as serving vessels. Rice (1987:238) indicates, however, that cooking pots generally take on this shape, noting that the lack of angles also allows for the greater absorption of heat (Rice 1987:229). Rice also states that cooking pots often exhibit "...patterns of exterior sooting or blackening...[and] burned contents..." (1987:238). No definitive evidence for encrustations on the interior of this vessel class was encountered in the collection. As well, corrosion seems to be manifested on the exterior only of one rim sherd from the Arnos Vale site. A few small, low bowls are evident in this class; this low height:diameter ratio could be indicative of these vessels' use for parching or toasting or heating for the purpose of evaporation (Smith 1985).

The overall dense nature of the paste constituents in the vessel class could indicate a relatively high resistance to mechanical stress (Rice 1987:227-228). As well, many of the vessels in this class exhibit relatively thin walls: 26, or 38 percent of the sample, exhibit body thicknesses between 6 - 6.5 mm. This could indicate the importance of this vessel class in the actual cooking of food rather than serving. The overall thermal behaviour of a vessel form a direct relationship to the thickness of the walls.

Class B/C. This vessel class is somewhat complex in

shape, ranging from inverted-bell shaped vessels to those which exhibit a keel or inflection point. The shape of the orifice is always open and always unrestricted. They are often quite large. Most rims exhibit orifice diameters of 30 cm in this class, although some are as large as 42 cm.

On average, the B/C vessels observed in the collection from St. Vincent seem to be taller than those of the A1 class. As a result, and combined with the characteristics of the orifice, it can be suggested that these types of vessels were likely used for food preparation. As discussed by Rice (1987:238), food preparation vessels exhibit unrestricted forms and simple shapes. They are also more likely to exhibit interior wear, abrasion, or pitting (Rice 1987:238).

The everted shape of this vessel class may indicate that the contents of these vessels may have been manipulated by hand (Smith 1985). As well, when orifices are larger than the basal areas of a vessel, it is possible that tools were used for consumption and the overall use of the vessel was for serving (Smith 1985). Another possibility is their potential use for either the storage or transport of water, an analogy which can be directly traced to the Island Caribs' use of large vessels for this purpose (Allaire 1977:46).

The large orifice diameters of B/C vessels in the collection may be linked to their use in manioc processing.

Only one rim sherd in the collection (from Arnos Vale) associated with this vessel class exhibits interior corrosion; the vessel orifice diameter is 32 cm for this specimen. Ethnographic analogy can often provide useful inferences for vessel use. In this case, as Dole (1978:222) has indicated, contemporary groups in the Upper Xingu region of Amazonia rinse manioc with water in "enormous, flat-bottomed" pots. Dole further notes that these are often sealed on the inside with several coats of "rubbed soot from charred tree bark" (1978:222). References to black pitch on ceramic vessels can also be found in historical accounts, as Allaire (1977:48) was able to find. Father Breton describes a smudging technique that produces a distinct black paint on the vessel, which Allaire (1977:48) suggests is achieved by the burning of a gum of élémi under the pot. It can be suggested, then, that the black paint observed on the interior surfaces of sherds in the collection, discussed in the next chapter, may indeed be tree soot or some other product of combustion rather than actual paint.

Classes B2 and D3. Vessel class B2 (casuela vessels) is characterised by wide yet restricted orifices. It is possible that this constriction of the upper part of the vessel was constructed in order to hold liquids.

The intended use of rims from vessel class D3 (Vase Mario) is perhaps very similar to the use of B/C class vessels. The main difference, however, is the upper

constriction of the vessel orifice (in comparison to the rest of the contour of the vessel). This relative constriction is evident in Vase Mario vessels from both Martinique (Musée Départemental, 1991) and the St. Vincent collection.

The association with Vase Mario vessels and interior corrosion or pitting was not as common in the collection as was expected. It is this vessel shape which is often associated with the brewing of beer (Allaire 1977). Lehouillier (1974:127) notes that at Vive II, 37.6 percent of the Vase Mario vessels recovered exhibited signs of interior corrosion. Likewise, at the Diamant site, 20 percent of Vase Mario vessels indicated interior corrosion (Lehouillier 1974:127). As mentioned above, one keeled sherd that can likely be associated with a Vase Mario vessel exhibits heavy corrosion on the interior. Another rim sherd from the concentration area of BCC-C at the Buccament site exhibits what could be considered as pitting.

The lack of direct evidence of corrosion on the interior of rims from Vase Mario vessels is not surprising, as the degree of corrosion and pitting on the upper portions of the vessel (near the rim) should be significantly less than those portions near the lower end of the vessel. If this indeed were the case, then it is not surprising that virtually no rim sherd associated with a Vase Mario vessel displayed interior corrosion.

Smith (1985) argues that vessels with a limited range in the orifice size (such as those in vessel classes B2 ad D3) may indicate their use for protracted boiling. In other words, the constriction of the orifice is great enough to allow for boiling over a fire, yet it is wide enough for the stirring of the contents. Evidence of stirring, in the form of fine scratching, is found on the interior of a Vase Mario vessel from the Buccament site.

Class V. Due to the degree of exterior and interior surface preservation in this vessel class, it is assumed that these vessels, referred to as Vasques, could have been used for food serving and not cooking. Non-functional uses, including ceremonial, can also be suggested for this vessel class, in part because of the formidable preservation of exterior and interior surfaces.

Griddles. No other ceramic material from the St. Vincent collection is more indicative of agricultural practices than ceramic griddles. As mentioned, griddles are large, flat pieces of clay which are used for the cooking of manioc. The historical evidence, primarily from Father Breton's dictionary, indicates that griddles were used by the Island Carib, and referred to as boutalli (Allaire 1977:61; Allaire 1984:127).

Of the 13 griddle fragments recovered during the survey, three are found at the site of Arnos Vale on the southern coast. They are also found in the Buccament

Valley, the Escape cluster, and the site of Spring. As was expected, all griddle fragments are found in areas of high fertility, such as the Buccament Valley and the Arnos Vale area. This therefore suggests that selective settlement strategies were operating in early Saladoid times, as the selection of habitation sites was almost always restricted to areas of high agricultural potential.

CHAPTER VI

CERAMIC DECORATION AND STYLE

Three fundamental techniques of pottery decoration are represented in the Saladoid survey collection from St. Vincent: painting; incision; and modelling. While each is discussed separately, the presence of incision is occasionally discussed in conjunction with painted decoration because their relative high frequency of occurrence, in the form of either painted-over incised decoration, zoned-incised painting, and modelled-incised techniques.

I. Painted Decoration

The following painted colours have been identified in the collection: (1) red, in various shades of dark red to brownish red, but never a bright scarlet red; (2) white; (3) orange, which may be interpreted as a light shade of red; (4) purple, rare but includes an almost bluish specimen; (5) black; (6) pink, which may be a faded form of red or white; (7) grey, which may be a faded form of white; and, (8) yellow, a very distinctive light yellow or cream pigment.

Two basic paint decoration techniques are represented in the study collection: (1) a form of negative painting;

and (2) positive painting. Red paint is by far the most common in the collection, and will therefore be discussed first. Negative painting is encountered in the collection in bichrome colours, being limited to white on red painting, which form a hallmark decorative style of the early Saladoid period. Positive-painted decoration in association with other pigments is represented essentially by bichrome painting, but some degree of polychrome painting is also found in the collection. Zoned painting refers to a bichrome decoration with colours separated by an incised line.

Monochrome Red Painting

Red painting is the most frequently observed painted decoration in the collection. It is also the most common paint pigment found in all of the Windward Islands. The pigment itself may be *roucou*, a vegetable pigment (Allaire 1984:122). Bullen and Bullen (1972) classified any Saladoid red-painted sherds into the types Pearls Red-Painted or Simon Red-Painted. As the Bullens do not mention any significant differences between the two (aside from paste), it was not possible to distinguish between them in our surface collections from St. Vincent.

The poor preservation of sherd surfaces and sherd sizes from many of our sample collections from St. Vincent negated

any attempt at observing significant frequencies of red paint in lip or vessel classes. There is no doubt that some red-painted sherds are small enough to be actually associated with bichrome or polychrome-painted vessels. Furthermore, the presence of red paint itself is difficult to use as a chronological reference. It is known to occur in both Horizon I and Horizon II.

Of the 191 rim sherds/vessels recovered from the survey, 158 (82.7 percent) exhibit some red painting on the exterior, while 181 (94.7 percent) exhibit red painting on the interior. Of these, 186 rim sherds have red painting on the upper portion of the lip in those lip classes where a flange is present. Because some vessels can be decorated with red paint only, it could not be determined from the available evidence in which circumstances this was the case.

For purposes of the present discussion of red paint in the collection, body sherds will comprise both body sherds proper and those body sherds which exhibit a keel. Of the 328 body sherds recovered during the survey, a total of 228 (69.5 percent) exhibit red painting, of which 76 (33.3 percent) are painted on the exterior surface while 208 (91.2 percent) are painted on the interior. All have fairly even surfaces, although erosion is present on 61.2 % (n=201) of the exterior surfaces, while 47.5 % exhibit the effects of erosion on the interior. Attribute characteristics are discussed by individual site below.

Arnos Vale. Of the 31 rims recovered at the site of Arnos Vale, four (12.9 percent) are rim sherds associated with vessel shape class B/C. Two of these exhibit red painting on both the exterior and interior surfaces, while one each exhibits red paint on the interior and exterior surfaces. Two rims (6.5 percent) are associated with open bowls (vessel class A1), one of which exhibits red paint on both surfaces. The other has red paint on the exterior surface only. One casuela vessel (class B2) exhibits red painting on the interior only. One rim sherd, associated with the Vase Mario vessel class (D3), is painted red on both surfaces. Only one Vasque from Arnos Vale is painted red on the interior only. Of the 24 body sherds recovered, 13 (54.1 percent) exhibit red paint only. Ten of these are painted red on the exterior only, while one is painted red on the interior. Two body sherds (8.3 percent) are painted red on both surfaces.

Buccament Cluster. From BC1, only one rim was recovered and exhibits interior red paint only. Also at Buccament, of the five rims sherds recovered from BC2, only two (40 percent) exhibit exterior red paint, while three exhibit interior red paint. Of the five rim sherds recovered from BC2, two (40 percent) have been classed as members of vessel class B2 (casuelas). One has both interior and exterior red paint while the other exhibits interior red paint only. Only one rim (20 percent) has been

classed as a member of composite vessel class B/C, and exhibits red paint on the exterior only.

From BC3 at the Buccament site, of the 43 rims that were recovered, 18 (41.8 percent) exhibit red painting on the exterior. Ten of the rims (23.2 percent) from BC3 have been classed as members of vessel class A1 (simple open bowls), while six (14 percent) are associated with vessel class B/C. Four of the rims associated with A1 vessels are painted red on the exterior only, while only two have been painted red on the interior (both of which, however, exhibit exterior eroded surfaces). Four rims of vessel class A1 from BC3 are painted red both on the exterior and interior surfaces.

Two rims (4.6 percent) are with exterior red paint are part of Vasques (vessel class V). One is painted red on both the exterior and interior, while the other is painted red on the interior only. One rim (2.3 percent), which is part of a casuela vessel (vessel class B2), is painted red on both surfaces.

From the 16 rims recovered from BC4, 10 (62.5 percent) exhibit exterior red painting. Of these, four have been classed as members of vessel class B/C. Four rims (25 percent) are classed as belonging to vessel class A1. All four are painted red on the exterior, while only two exhibit red paint on the interior. One rim (6.25 percent) is part of a large incense burner, and is painted red on the

exterior surface.

For the entire Buccament Construction concentration area cluster (comprising areas BCC, BCC-B, BCC-C, and BCC-D), only four (22.2 percent) of the 18 rims found exhibit red painting on the exterior. Four rims (22.2 percent) from the Buccament Construction cluster have been classed as vessel class B/C. Two are painted red on the interior only, both of which are from BCC-C. One is painted red on both surfaces (from BCC-C), and the other is painted on the exterior surface only (from BCC-D). Only one rim (5.5 percent) is representative of vessel class A1 (from BCC-C), and is painted red on both the exterior and interior surfaces.

BC1 yielded only one body sherd (33.3 percent) of the three recovered which is painted red, in this case on both surfaces. BC2 yielded four body sherds, of which three (75 percent) exhibit red paint; all being on the exterior surface only.

Of the 80 body sherds recovered from BC3, 52 (65 percent) exhibit some form of red paint. Of these, 22 (42.3 percent) are painted red on the exterior surface only, while only four (7.7 percent) are painted red on the interior. Consequently, 26 (50 percent) are painted red on both surfaces.

For BC4, five (50 percent) of the 10 body sherds recovered were found with red paint only. Three (30

percent) exhibit red paint on the exterior surface only, while only one (10 percent) is painted red on the interior. Two body sherds (20 percent) from BC4 are painted red on both surfaces.

A total of 43 body sherds were recovered from the Buccament Construction area cluster, of which 32 (74.4 percent) exhibit only red paint. Five body sherds (15.6 percent) from BCC are painted red on the exterior surface only, while only one (3.1 percent) is painted red on the interior surface. Two are painted red on both surfaces (6.2 percent).

Only one sherd (3.1 percent) from BCC-B was recovered that exhibited only red paint, which is found on both surfaces. From BCC-C, seven body sherds exhibit red paint on the interior surface only (21.9 percent). Seven (21.9 percent) are painted red on both surfaces and eleven (34.4 percent) are painted red on the exterior only. For BCC-D, one body sherd is painted red on both surfaces (3.1 percent), while two are painted red on the exterior only (6.3 percent).

Brighton. At the site of Brighton, four (66.6 percent) of the six rims recovered have been classified as simple open-mouthed bowls. Three of these are painted red on the exterior surface only, while one is painted red on the interior surface. One rim sherd (16.6 percent) has been associated with vessel class B/C and exhibits red paint on

the interior surface only. Only six body sherds (33.3 percent) from a total of 18 recovered exhibit only red paint. Five (83.3 percent) of these are painted red on the exterior surface only, while one (16.6 percent) is painted red on both surfaces.

Escape. At ES1, red paint is quite common on the 18 rims recovered. Only one rim (5.6 percent) has been classed as part of an open-mouthed vessel, and is painted on the exterior only. Vessel class B/C is represented by six rims (33.3 percent), four of which exhibit red painting on the exterior only, while the other two exhibit red paint on both surfaces. One casuela vessel rim (5.5 percent) was recovered from ES1, which exhibits red paint on the exterior only. Vase Mario vessels (class D3) are represented by four rim sherds (22.2 percent) which exhibit red painting. Of these, two have red paint on the interior, one is painted red on the exterior, and one is painted on both surfaces.

From ES2, three (25 percent) of the 12 rims are classed as members of vessel class A1 and exhibit red paint. Two of these are painted red on both surfaces while one is painted red on the interior only. Red-painted B/C vessels are represented by five rims (41.6 percent), all of which are painted red on the exterior surface only.

From ES3, four rims were recovered, of which one (25 percent) is a casuela vessel rim that is painted red on both surfaces. Red-painted B/C vessel rims are represented by

two specimens (50 percent) from ES3, one of which is painted on both surfaces, while the other is painted red on the exterior only.

For ES1, a total of 17 body sherds were recovered that exhibited only red paint, comprising 33.3 percent of the total number of body sherds (n=51) recovered. Four of these (23.5 percent) are painted red on the exterior surface only, while five (29.4 percent) are painted red on both surfaces. Thus, eight (47 percent) exhibit red paint on the exterior surface only.

From ES2, 22 body sherds were recovered with only red paint. Three of these exhibit interior red paint only (13.6 percent), while five are painted on both surfaces (22.7 percent). Therefore, 14 body sherds from ES2 are painted red on the exterior only (63.6 percent). At ES3, only two body sherds were recovered which produced red paint only. Both of these are painted on the exterior surfaces only.

Sandy Bay. From the site of Sandy Bay, 13 rims were recovered. One rim sherd (7.7 percent) associated with vessel class A1 is painted red on the interior surface. One rim (7.7 percent) associated with vessel class B/C exhibits red paint on the exterior surface only. Vasque vessels are represented by one specimen (7.7 percent) from Sandy Bay. It is painted red on both surfaces. The only instance of a rim from vessel class C3 is from Sandy Bay, and is painted red on the exterior surface only. Only seven body sherds

(34 percent) from Sandy Bay exhibit red paint only, of which six are painted on the exterior surface. Only one body sherd exhibits interior red paint and no exterior paint.

Spring. A total of 23 rims were recovered from the site of Spring. Six red-painted rims (26.1 percent) are classified as rims of open-mouthed bowls (vessel class A1). Of these, three are painted red on both the exterior and interior surfaces. The other three are painted red on the exterior surface only. Only one rim (4.3 percent) exhibiting red paint (on the exterior surface only) is associated with vessel class B/C. The only rim painted red, which is associated with a Vase Mario (vessel class D3), is painted red on both surfaces.

A total of 20 body sherds from Spring exhibited red paint only, which comprises 69 percent of the total decorated sherds from the Spring sample. Twelve of these exhibit exterior red paint only, while the rest exhibit red paint on both surfaces.

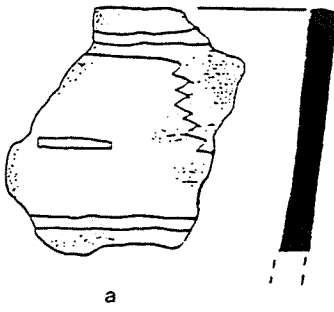
Some final observations can be made regarding the overall frequency of red paint. Red paint is the only decorative attribute that appears on all vessel classes designated from the St. Vincent collection. It appears on the exterior of 43.4 percent (n=30) of the total number of rim sherds associated with vessel class A1 (open bowls). For the vessel class B/C, the frequency is slightly higher,

as red-painted exteriors are found on 47 percent (n=34) of rims associated with this vessel class. With regard to site associations, two concentration areas have a high frequency of exterior red paint: BC3 (48.8 percent) and ES1 (46 percent).

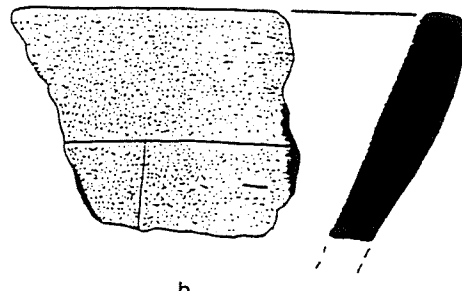
Bichrome and Polychrome Painting

Both positive and negative painting techniques are represented in the collection. The most common technique is positive painting which is achieved by applying one layer of paint over a surface that has previously been painted. As many as 15 modes of painted decoration have been identified; 14 belong to positive painting styles (excluding black, which is discussed separately). They occur either as bichrome or polychrome patterns.

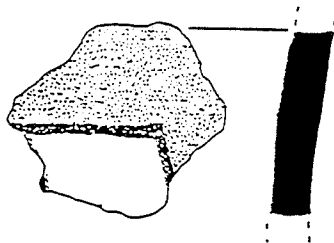
I. White-on-Red. A total of 20 sherds exhibit white-on-red positive paint which is a hallmark of the Saladoid style in the Caribbean Area, both in Venezuela and the Antilles (see Pl. 12,b-g). Two methods of positive white-on-red paint were observed: (1) those which exhibit white paint as linear or curvilinear lines (e.g. Pl. 12,d); and (2) those which exhibit large areas of white paint (e.g. Pl. 12,f). Both of these techniques would have been classified by the Bullens (1972) as either Pearls White-Painted or Simon White-Painted. This demonstrates that no distinction



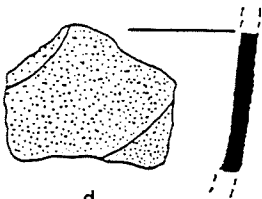
a



b



c



d



e



f



Figure 36. Miscellaneous sherds. a, BCC-C; b, BER; c, Brighton; d, ES1 (St. Vincent Black Lined); e, Arnos Vale (St. Vincent Black Lined); f, BC3. Scale is 5cm.

was made by the Bullens between the two techniques identified in this collection.

Four sherds exhibit large areas of white paint applied over red paint. One is a rim from BC3 which is part of a B/C vessel. This sherd exhibits white paint below the lip on both the exterior and interior surfaces. Another rim of a B/C vessel from BCC-C exhibits white paint on the top portion of the lip and red paint on the exterior and interior surfaces. One keeled sherd from BC3 has areal white paint on the lower surface below the keel. Finally, one heavily eroded sherd from ES1 seems to have originally exhibited a large area of white over red paint. While it is not clear from the evidence in the collection, it may be assumed that these large areas of white-on-red positive paint may be part of larger decorative patterns.

Similar techniques of large areas of white-on-red were found at the site of Pearls by Bullen (1964:21), and at the sites of Vivé and Diamant (Musée Départemental, 1991; Lehouillier 1974:Pl. VIII). Barbotin (1970:Fig. 2) found similar painted styles at the site of Folle Anse on Marie Galante. On St. Vincent, the Bullens indicate that the lower zone of Buccament West exhibited sherds decorated in this style (1972). Interestingly, despite its association with the earliest Saladoid manifestation on the island, this white-on-red style was not found in great abundance at the Kingstown Post Office site during the

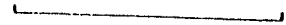
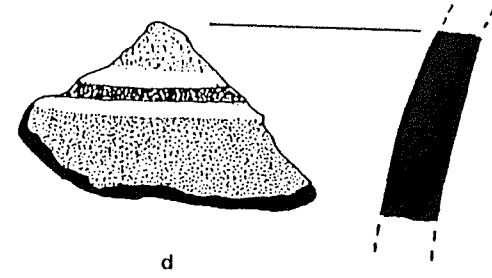
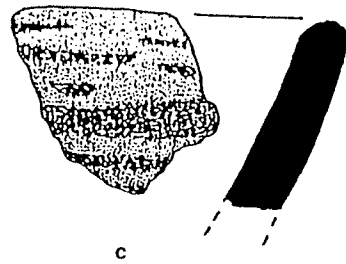
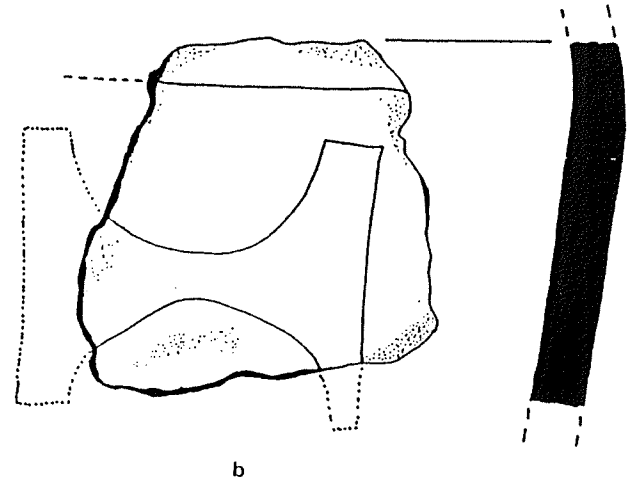
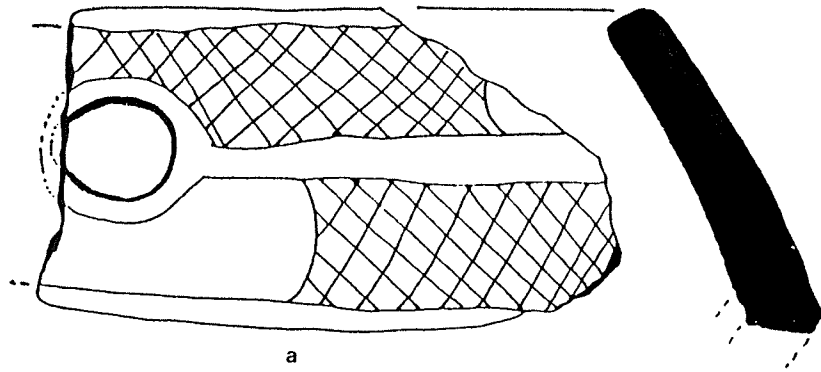


Figure 37. Miscellaneous sherds. a, BC4; b, BCC; c and d, BC3. Scale is 5cm.

Bullens survey.

The remaining 17 sherds exhibit linear or curvilinear white-painted lines over red paint (see Fig. 38,a,b,d). Three rims have linear white-on-red painted lines. One specimen exhibits a single white-painted, linear line that is present immediately below a single linear incision (2.3 cm below the lip) that runs along the exterior of the vessel. A series of additional white-painted linear lines, however, originate from a single point on this single white-painted line. The overall design is like that of a chevron (Fig. 38,f). No rims were recovered that exhibit curvilinear white-on-red positive-painted lines.

Three body sherds exhibit both thick and thin white-on-red linear-painted lines. One body sherd exhibits two linear positive white-on-red lines on either side of a single linear incision (Fig. 38,d). A similar design was encountered by Bullen (1964:Pl. I) at the site of Pearls on Grenada. Curvilinear positive white-on-red paint occurs on one body sherd from Spring. It occurs as a circle and dot motif, with the centre dot appearing as red paint. One body sherd exhibits both curvilinear and linear positive white-on-red paint (Pl. 12,e).

A few (n=8) body sherds were recovered that exhibit white paint only, three of which are from BC3 in the Buccament site. All instances of white paint in the collection are likely part of larger painted designs,

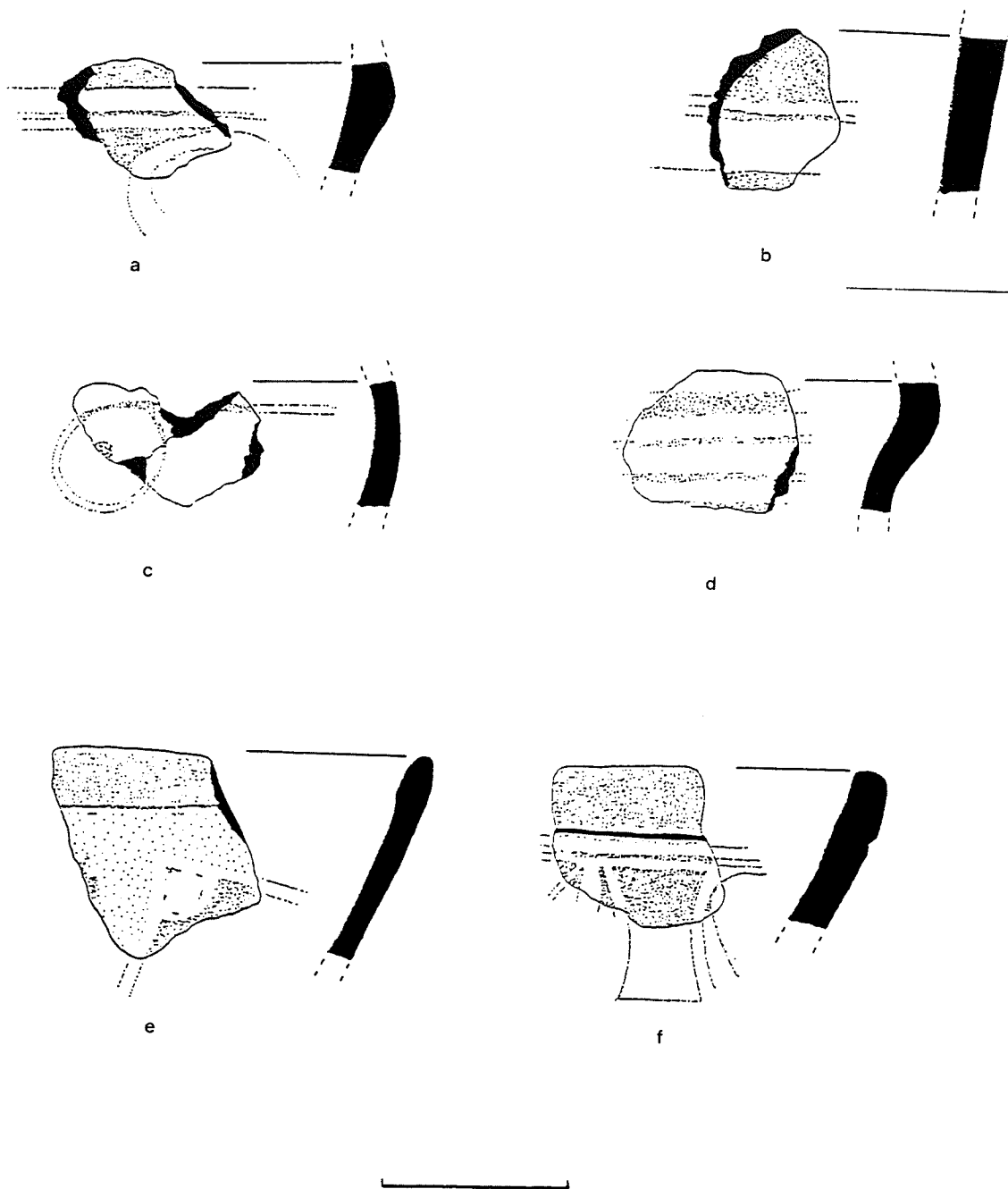


Figure 38. Miscellaneous sherds. a, c, and f, BC3; b, Brighton; d, Sandy Bay; e, Spring. Scale is 5cm.

although their exact nature cannot be determined from the available evidence. One small sherd has white paint that is present over a circular, or scroll, incised decoration (Fig. 36,f).

II. Negative White-on-red. Negative painting is achieved by applying a primary layer of one colour of paint over a surface and then applying a layer of another colour paint over the same area. The second paint is then removed, either in large areas or in linear or curvilinear lines. Shepard (1968:206) implies that this painting technique is one of efficiency, and "affords the easiest and quickest way of producing certain negative patterns."

Only three sherds from the collection exhibit this painting technique, which is limited to white-on-red or white-on-buff painting. One rim sherd from a B/C class vessel recovered from Arnos Vale exhibits white-on-buff paint (Pl. 21,a). In this case, the exterior surface was initially painted white, after which thin lines were removed in a curvilinear fashion. The top of the rim is painted red.

One rim from a Vase Mario vessel was found at the site of Sandy Bay and exhibits negative white-on-red paint (Pl 12,a; Pl. 21,c; Fig. 31,a). The top of the lip is painted red, and the exterior surface below the lip exhibits the negative painting in a geometric design. The last sherd to exhibit negative white-on-red paint is a small body sherd

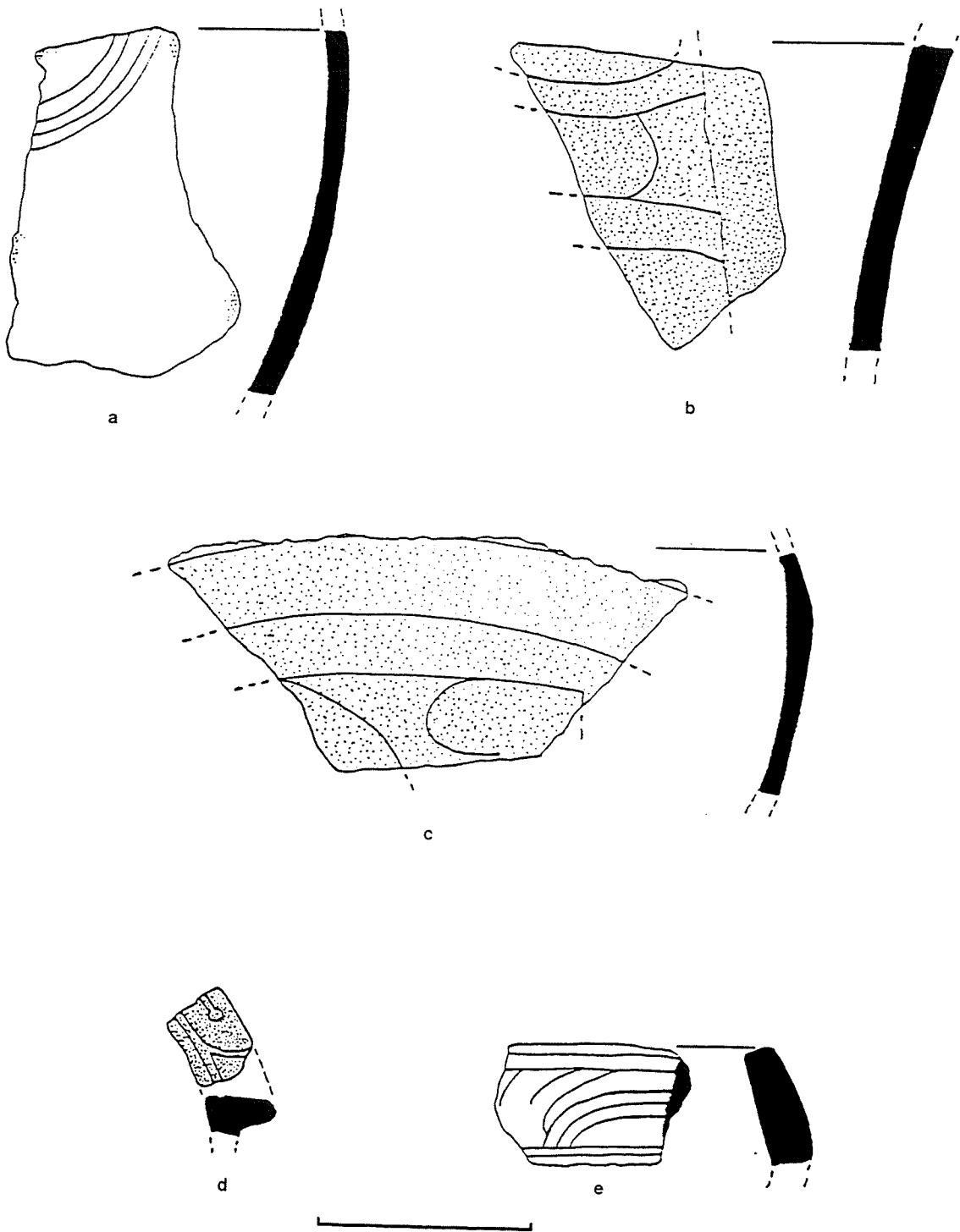


Figure 39. Miscellaneous sherds. a, BCC; b and c, Sandy Bay; d, BC3; e, BC4.

from BC3 at the Buccament site (Fig. 38,c; Pl. 11,a; Pl. 21,b). On overall layer of white paint was applied, after which a circle was removed along with a centre dot. The underlying red paint is thus exposed.

Early Horizon I painted decorations frequently occur as white-and-red painted designs. It is interesting to note that the occurrence of this painting technique occurs on the exterior of a B/C class vessel, which, as pointed out in the previous chapter, may include the common inverted bell-shaped vessels of Horizon I.

III. Red-on-Buff. Positive red-on-buff paint is represented by two sherds in the collection. One is a rim sherd from a B/C vessel from ES1. On this rim, red paint appears to be limited to the upper portion of the exterior surface. Below this, no paint is observed, thus producing the buff colour. The other example of this paint design is from a body sherd from Sandy Bay.

IV. Red-on-Orange. Two sherds in the collection exhibit positive red-on-orange paint. One is a body sherd from BC4, while the other is a B/C vessel rim from ES1. On the later example, red paint is present along an area approximately two cm below the rim. A thin, white-painted line was then applied, and below that the orange-painted area is present. Orange paint has not been found at any site in the Lesser Antilles, although this may be a consequence of misclassification.

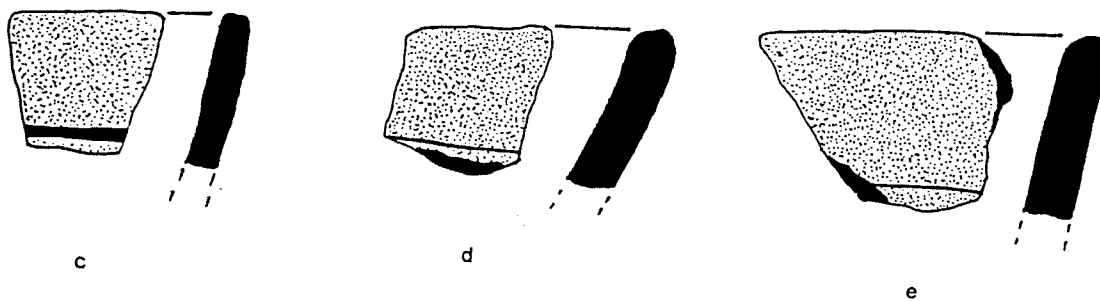
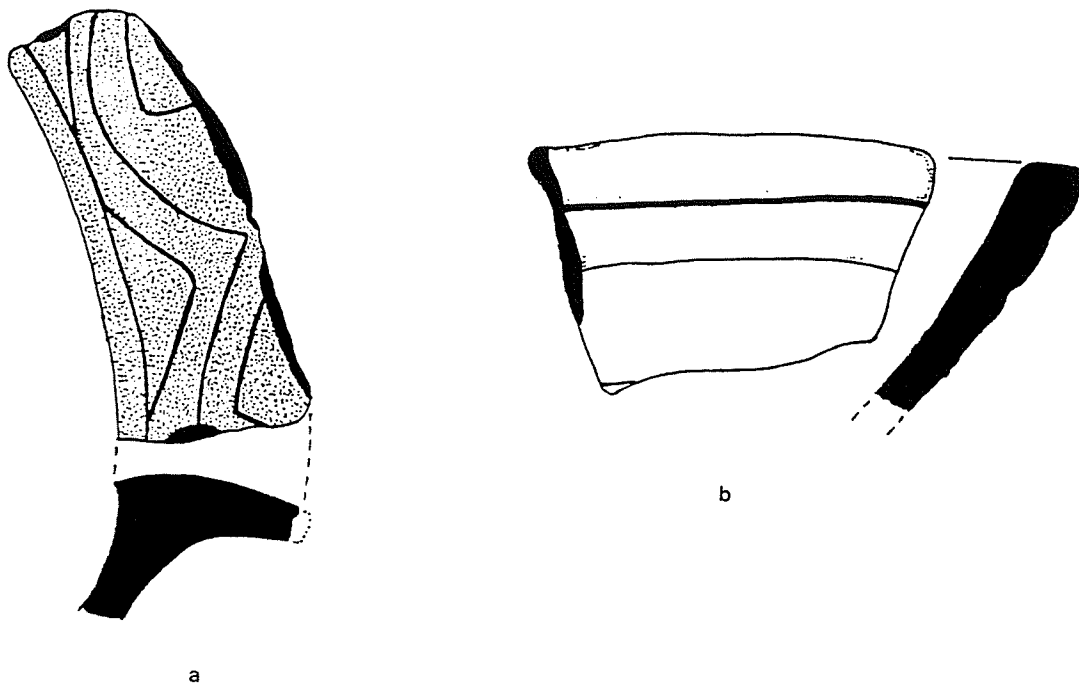


Figure 40. Miscellaneous sherds. a, c-e, BC3; b, Spring.
Scale is 5cm.

V. Pink-on-Buff. Pink paint has so far not been mentioned in any published report of Saladoid ceramics in the Windward Islands. Its rarity is further emphasised in the collection from St. Vincent. Only one instance of pink-on-buff positive paint was recovered during the survey. It occurs on a body sherd from BCC-D. The pink paint occurs as a linear-painted line with another linear-painted white line immediately above it.

VI. Purple-on-Buff. Three sherds in the collection exhibit positive purple-on-buff paint. One is a keeled sherd from BC3. On this example, purple paint is found below the keel only. The other example is a body sherd from the site of Spring.

The only rim sherd associated with vessel class C3 (from Sandy Bay) exhibits purple paint on the thickened portion of the neck. Above this thickened neck, the surface is smoothed, but no paint is present (hence, the colour of buff). The lower portions also appear to have been painted purple. Both sherds that exhibit purple-on-buff paint are likely part of larger painted designs. The occurrence of purple paint was not mentioned by the Bullens in their report, although some instance of "dark red" appear and could have been true examples of purple paint.

VII. Purple-on-Red. Only one instance of purple-on-red paint was observed in the collection. One body sherd from BC3 exhibits very dark purple with red paint.

VIII. Yellow-on-Red. A light yellow paint in the collection from St. Vincent frequently occurs with red paint; the fact that the yellow colour is often associated with a pure white element indicates that the coloration was deliberate and not a faded shade of white. It is usually manifested as a broad, painted area rather than linear or curvilinear lines. The occurrence of yellow paint on Saladoid ceramics in the Windward Islands is not well documented. Bullen and Bullen (1972:27) mention "yellow-white" from an Incense Burner fragment from the Chatham Midden site on Union Island. On Barbados, "cream" coloured sherds are mentioned (Harris 1990), and this may represent a yellowish colour. The yellow paint in this collection is characterised as a pale yellow (2.5Y 8/2, 8/3, 8/4). In the St. Vincent collection, yellow paint appears on two rims. One rim is from a very low and shallow platter from BC3. Yellow paint is present on the bottom of this vessel. The other instance is a modelled rim from an oblique low bowl, where yellow paint is observed on the interior (Pl. 23,d).

Seven Vasque rims exhibit yellow paint. Six of these are from BC3 (Pl. 23,c) while one is from Arnos Vale. In all cases, yellow paint occurs underneath the lip while red paint is found on the interior.

All other instances of yellow-on-red paint occur on body and keel sherds. On two body sherds (from Sandy Bay and Arnos Vale), a clear geometric pattern is present (Pl.

23,b). In both cases, both the red and yellow paint has faded considerably.

IX. Yellow-on-White. Only one example of yellow-on-white paint was observed in the collection. This painted style is present on a keeled sherd from BC4. This particular example is likely part of a larger design consisting of red, white, and yellow polychrome-painted patterns.

X. Red-White-Yellow Polychrome. This combination of paint occurs quite frequently in the collection on a wide variety of sherds (Pl. 23). It is most common at BC3 at the Buccament site. The large lateral incense burner appendage from BC3 discussed in the previous chapter exhibits this paint combination. In this case, the yellow and white paint occurs as thin bands of paint near the juncture of the appendage and what would have been the body of the incense burner itself. The lower portions of the appendage are painted red.

One of the more interesting examples of this polychrome-painted decoration occurs on a keel sherd from the site of Arnos Vale. In this example, a large yellow-painted triangle is present just below the keel (pl. 24,b). The triangle is outlined in a very thin white-painted line. The rest of the sherd exhibits traces of red paint. Similar triangular motifs have neither been found on St. Vincent nor any other Windward Island.

An interesting motif, manifested in three colours, is present on the interior of an A1 vessel from the site of Spring (Fig. 38,e; Fig. 21,c). It occurs as two white-painted lines that meet at their end points, with a semi-circular 'tab' that joins the two lines. In this case, the lines and tab are painted in white, while the interior area below the folded lip is painted yellow. The lip portion of the vessel is painted red. This particular motif is also found on the exterior surface of an inverted bell-shaped vessel from the site of Fond Capot on the west coast of Martinique. Some artifacts from the site of Moulin L'Etang on Martinique, as depicted in Harcourt's publication (1952:Pl. 38), also show this type of painted style, although one rim occurs as in polychrome paint (white and black).

This 'tab-and-angle' motif, as well as the triangular motif, can tentatively be assigned to Horizon II due to their polychrome paint constituents. It does not, however, appear to be found along the lower-middle Orinoco valley in eastern Venezuela.

All sherds with this painted decoration occur with linear or angular incision, suggesting larger geometric patterns. Similar patterns are found in Bullen and Bullen's report, especially from the site of Kingstown Post Office, and the same combination of paint was recovered by the Bullens on a sherd from Camden Park (1972).

XI. Zoned Red-and-White. Zoned red-and-white paint occurs as two separate areas of paint separated by incision (Pl. 13). This painted decoration occurs frequently at BC3 and ES1 (Fig. 37,d). This decorative style is evident on one large sherd from Arnos Vale exhibits enough of a curve to allow its association with a Vase Caréné vessel.

Another B/C class rim from BCC-C at the Buccament site exhibits this painted style on the exterior surface. It is likely associated with a Vase Caréné vessel. One body sherd from the site of Brighton exhibits minute traces of black paint in the deep incision that separates white and red-painted areas (Fig. 36,c). This could be an example of Bullen and Bullen's St. Vincent Black Lined type. Zoned red-and-white is found on Martinique (at Vive), Grenada (Pearls), and St. Vincent (Buccament West) (Lehouillier 1974; Bullen 1964; Bullen and Bullen 1972).

XII. Zoned Red-and-Purple. Only one sherd from the collection exhibits zoned red-and-purple paint. It occurs on a body sherd from BC3 and exhibits a single linear incised line.

XIII. Zoned Red-and-Orange. This painted decorative style occurs on only one sherd in the collection. A rim sherd associated with a B/C vessel from BC3 exhibits curvilinear incisions.

XIV. Zoned Red-and-Buff. This decorative paint occurs on three sherds in the collection. One exhibits linear

incisions while the other two exhibit angular incisions. One interesting example is from ES2. Inside the angular incisions is a single incised mark, which is present on the buff areas. Outside the angular incisions, red paint is found.

XV. Zoned Red-and-Gray. This particular painted style appears only twice in the collection (Pl. 22). No mention of a gray colour was made by the Bullens (1972) and does not appear to be mentioned in any other published reports from the Windward Islands. It is possible that the gray colour on both sherds could have at one time been white, with the effects of post-depositional influences causing a discolouration. The striking similarity of the tone of the gray paint (2.5 Y 6/1, 5/1), however, and its occurrence at two separate sites (Arnos Vale and BC3) could indicate that is an original colour.

The body sherd from Arnos Vale that exhibits this painted style exhibits angular (geometric) incisions in the shape of rectangles. Gray paint was applied inside these rectangles, while red paint was applied outside. A keeled sherd from BC3 exhibits a single incised line that follows the keel around the vessel. Gray paint was applied below the keel.

XVI. Black paint. As mentioned earlier, black paint, while considered in this study to be a decorative attribute, could also be considered an attribute of function or

technology. It is possible that interior black paint may represent burnt soot that would have effectively sealed the interior surfaces of a vessel. The occurrence of black paint in the collection is interesting, however, as it does not always appear on the inside of vessels.

Black paint was observed on both the interior and exterior surfaces of sherds from the collection (Pl. 20). The general hue of the paint, based on Munsell colour charts, was usually 2.5 Y with a value of 2.5. Exterior black-painted is exhibited on ten sherds. On five of these, black paint occurs by itself. In these instances, they occur only on body sherds. In the instances where black paint occurs with other decorative elements, most are found on rim sherds. One A1 vessel class rim from Spring exhibits traces of black paint on the exterior, along with two parallel and linear incisions. The interior of this specimen is painted red.

One Vase Mario vessel rim from BC3 exhibits black paint underneath the flanged lip and on the exterior neck surface. Red paint is present on the top of the lip on this specimen. Two examples of B/C vessels have exterior black paint (from Arnos Vale and BC3). Both exhibit red painting on the lip portions of the rim. Finally, black paint occurs on what appears to be the exterior of a body sherd from BCC-B that has a single linear incised line. One body sherd from Brighton exhibits a triangular area in black paint which is

outlined by incision. This style is what Bullen and Bullen (1972:138) have referred to as St. Vincent Black Zoned.

Interior black paint is represented on 22 sherds in the collection. Eight of these are rim sherds, while 14 are body sherds. Of the eight rims, two are from Vase Mario vessels. One is from BC4 at the Buccament site, while the other is an aberrant find near the town of Biabou on the central windward coast. Black paint is particularly common to Vase Mario vessels. At the site of Vive (from the second level), eight percent of Vase Mario vessels exhibit interior paint (Lehouillier 1974:127). At the site of Diamant, 42 percent of Vase Mario vessels exhibited interior black paint (Lehouillier 1974:127).

Three rim sherds exhibiting interior black paint are from B/C vessels (two from Spring and one from BCC-D). All three have exterior red paint. Three examples of class A1 vessels exhibit interior black paint. One of these, from Arnos Vale, has a low-relief modelled lug on the lip portion.

Of the 14 body sherds represented, one interesting example is from a Vase Mario vessel. It exhibits traces of black paint along with the results of heavy corrosion, manifested as severe pitting. This may support the suggestion that black paint was used as a sealant. Two small body sherds exhibit black paint within incisions (Fig. 36, d and e). These are affiliated with what Bullen and

Bullen (1972) have called St. Vincent Black Lined. These are discussed in detail in the next section.

The Bullens (Bullen and Bullen 1972) note that black paint is included in their types Pearls Polychrome, Simon Black-and-Red Painted, and Simon Zone-Painted. Due to the overall small size of the sherds exhibiting black paint, it is difficult to determine if any of these can be considered as members of the types established by the Bullens.

Plain ware. Only a small percentage of the collection is considered as plain ware (without any decorative attributes) because, as mentioned earlier, transportation limitations did not allow for all sherds recovered during the survey to be brought back. Of the rims and body sherds in the collection used for this study, only 19 percent are regarded as plain ware. The dominant surface colour of these is dark yellowish brown (10YR 4/4, 4/6, 3/6), although there are some instances of light olive brown (2.5Y 5/3, 5/6) and dark brown (7.5YR 3/2, 3/3). Many plain ware sherds in the collection exhibit patchy surface colours, although it is not clear if this is due to inconsistencies in the clay itself or the result of post-depositional factors.

II. Incised Decoration

Five modes of incised decoration are represented in the collection of ceramics from St. Vincent which includes a total of 129 sherds. The modes observed in the collection include (1) zoned-incised crosshatching; (2) rectilinear; (3) curvilinear; (4) angular; and (5) excision. Incised lines may be broad or fine. Each of these modes is discussed separately.

I. Zoned-incised crosshatching (ZIC). During their survey, Bullen and Bullen (1972) located zoned-incised crosshatching (which they called Pearls Crosshatched) at the following sites: Queensbury; Stubbs; Carib Piece (North Union); Grant's Bay; Texaco Tank; Arnos Vale Swamp; Kingstown Post Office; Camden Park; and in the lowest layer of their test at the Buccament West Rockshelter. The subject of intensive debate with regard to chronological positioning, zoned-incised crosshatching (ZIC) occurs on only three sherds from St. Vincent (Pl. 14). All occur on the exterior surface; two of the three sherds are rims. One large fragment is associated with an inward flaring vessel from BC4 and is a good example of what Bullen and Bullen referred to as the Barbados Exterior Incised type (Fig. 37,a). The zoned crosshatching in this example is broad and slightly deeper, as compared to the others, which are typically very tight and fine. The fine line examples of

ZIC in the St. Vincent collection from Spring and ES2, however, are similar to those mentioned by Mattioni (1979:Fig. 9) from the Vivé site on Martinique. They are also very similar to sherds from the Kingstown Post Office site on St. Vincent.

Fine line zoned-incised crosshatching is found on an open-mouthed vessel (class A1) from Spring. It exhibits, along with the exterior fine line ZIC incisions, exterior red paint. Similar ZIC designs are found on one body sherd (from ES2) also has exterior ZIC.

This very well known motif is found throughout the Windward and Leeward Islands, as well as in Puerto Rico. It is generally associated with Horizon I, but its occurrence on the upper portions of a casuela vessel (which itself is usually associated with post-Saladoid contexts) from BC4 suggests that this decorative pattern continued into Horizon II. If we are to restrict the occurrence of ZIC style incisions, then casuela vessels are indeed present in the first Horizon.

II. Rectilinear Incision. Simple rectilinear incisions were observed on both exterior and interior surfaces (Fig. 37,b). Most rectilinear incisions occur with some form of painting. They are described below:

(a) *Exterior incised.* A total of 71 sherds were found with exterior rectilinear incision (Table 6), of which 20 are rim sherds. Of these rims, 14 (70 percent) are

associated with open-mouth bowls, eight of which also have red paint either on the interior or exterior surfaces (see, for example, Fig. 40,b). In addition, one rim sherd from BC3 has exterior positive white-on-red paint. Two rims are associated with vessel class B/C exhibit exterior rectilinear incisions. One is from ES1 and exhibits exterior red paint and the other is from ES2 and also has a red-painted exterior. One Vasque from BC3 has exterior red and interior white paint. Concentration area BC3 yielded 17 (23.9 percent) exterior rectilinear incised body and rim sherds. Five of these (29.4 percent) are rim sherds. Three are associated with open-mouth bowls while one is associated with a Vasque.

Eleven sherds from ES2 also exhibit interior rectilinear incisions. Only two (18.2 percent) of these are associated with rims (one from an open bowl, the other from vessel class B/C). The remaining are body sherds. Overall, a general pattern of exterior rectilinear incisions separating zoned area (primarily white and red) painting is found in the collection. On keeled sherds, the rectilinear incisions is often found just below the keel or inflection point. This combination of attributes was classified into the type of Simon Zone-Painted by Bullen and Bullen (1972).

(b) *Interior incised.* A total of 31 sherds from the collection exhibit interior rectilinear incisions. This type of incision is only found once in association with

exterior rectilinear incision. In all other cases, it is the only incision present on the sherd.

Fourteen rims exhibit interior rectilinear incisions. Six rims have been classed as members of open-mouthed vessels. All are from various concentration areas in the Buccament Valley. The incisions on these rims appear as a single line that is usually 2 - 2.5 cm from the end point, and may have functioned as 'fill lines', assuming the vessel held liquids (Fig. 36,b; Fig. 40,c,d,e; Pl. 15,a).

Two rims that exhibit interior rectilinear incisions have been classed as members of the B/C vessel class. These are from the sites of Brighton and Spring. Only one incense burner rim fragment exhibits interior rectilinear incision.

Seven Vasque fragments exhibit interior rectilinear incisions. This is not surprising, as most Vasques from Martinique exhibit this decorative element as well (Mattioni 1979), as is typical of this type of vessel. Incisions characteristically appear on the flange-like upper part of Vasques in this collection, and are usually parallel to the lip itself (Fig. 26,c). Based on their description of this type of decorative attribute pattern, these rectilinear incisions on Vasque flanges may have been classified by Bullen and Bullen as Arnos Vale Incised or St. Lucia Flange Incised. The Bullens did not specifically mention Vasques, even though their presence was well established on Martinique at the time.

Of the 31 sherds recovered with interior incisions, fifteen occur on body sherds. Sixteen (51.6 percent) of these have interior red paint in addition to interior rectilinear incision. One body sherd from Sandy Bay is painted orange on the interior surface, while exhibiting interior rectilinear incisions.

From the site of Arnos Vale, one sherd was found that exhibited interior red paint with black paint rubbed into the interior incisions (Fig. 36,e). This obviously belongs to Bullen and Bullen's St. Vincent Black Lined type (Bullen and Bullen 1972:138).

A particular motif of rectilinear incision is found on only one sherd in the collection, but is not limited to St. Vincent. It is found on the top portion of a flanged rim from BC3 and occurs as a single incised line ending in a point (Fig. 39,d). Bullen and Bullen (1972:141) include this mode in their St. Lucia Flange Incised type.

This technique is of significance in Caribbean archaeology because of its close association with Barrancoid decoration style (see Cruxent and Rouse 1958-1959); it is relatively common in the Lesser Antilles (although it is not mentioned for Grenada [Bullen 1964]), and was found by Vargas (1976:Fig. 1a,b) in the Orinoco Basin in Venezuela. As expected, it is associated with design elements in the Akawabi Incised style in the Barrancoid Early Mabaruma Phase as described by Meggers and Evans (1960). Thus, we can

associate this incised style with the Horizon II, which is closely associated with Barrancoid influences.

A particular design element of incision was noticed on three sherds; it is characterised by one wide incision and a series of narrow (fine) incisions immediately below it (Pl. 19). It is represented at BC3 on one body sherd, and at ES3 on the upper exterior of a casuela vessel rim (Pl. 19,a). The site of Spring yielded one sherd with this decorative style, which is present on the upper part of a flange.

Curiously, this particular style does not appear elsewhere, at least in any of the publications for the region or in the collection from the Musée Départemental in Martinique (1991). It is found on a rim sherd in the National Museum in Kingstown, where the incisions occur just below the end point of the rim. ZIC is also found on the same rim sherd.

III. Curvilinear Incision. Curvilinear incisions are less common than rectilinear incision in the collection, as they account for 19.7 percent of the sample considered. Like rectilinear incisions, curvilinear incisions were found on both the interior and exterior surfaces of sherds. A total of 32 sherds in the collection exhibit curvilinear incisions. Two of these are rims that exhibit such incisions on the flanges. The remaining thirty are either body or rim sherds.

One Vasque rim exhibits fine interior curvilinear

incisions consisting of two parallel linear incisions which are connected by two instances of curvilinear 'parentheses' incisions, which has been suggested as represented a frog (Petitjean Roget 1976). This particular manifestation of curvilinear incision is common in the Lesser Antilles, especially seen in the collections at the Musée Départemental in Martinique (Musée Départemental, 1991). It is also represented in level II at Vivé (Lehouillier 1974:Pl. 10,6 and Pl. 19,f). In their St. Vincent report, Bullen and Bullen (1972:141) include this incised decorative element under the Arnos Vale Incised type, which is associated with their "Modified Saladoid" period.

A rim from a casuela vessel exhibits very fine incisions on the upper portion of the vessel (above the keel). The incisions are particularly uniform and are combined with linear incisions which follow the circumference of the rim (Fig. 39,e). This occurrence of incisions on the upper portion of casuela vessels is reminiscent of the Bullens' Barbados Incised Rim type (1972:141).

Of particular interest is a large tabular lug from BCC-C that was originally part of an open-mouth vessel that exhibits fine curvilinear incisions and possibly one area of excision (Pl. 29,b). On the uppermost area of this tabular lug exists a spiral or scroll incised motif. The style of incision is very similar to sherds from the Kingstown Post

Office site (Bullen and Bullen 1972:Pl. XXIV).

As discussed, an interesting find from the survey are two body sherds (ES1 and Arnos Vale) which exhibit curvilinear incisions also exhibit black paint rubbed into the incised lines and overall exterior red paint. This particular decorative mode was classified by Bullen and Bullen as the St. Vincent Black Lined type.

One sherd from BCC exhibits a series of parallel curvilinear incisions on the interior of a shallow open-mouthed vessel (Fig. 39,a; Pl. 29,a). Another from ES1 also exhibits similar parallel curvilinear incised lines on the interior. This decorative design belongs to a particular type known as Grande Anse Interior Incised from the site of Grande Anse on St. Lucia, which is otherwise relatively common throughout the Lesser Antilles during the Saladoid period.

As a design element, the type defined as St. Lucia Zoned Incised by Bullen and Bullen (1972) occurs on fifteen sherds in the collection from St. Vincent, and is generally found on the interior portions of open-mouthed vessels (vessel class A1) (Fig. 39,b,c; Pl. 15,b; Pl. 16). The style of incision is best characterised as large areas outlined by broad, curvilinear incisions. A common motif is the occurrence of an incised line just below the rim of these vessels, occurring at BER (one rim) and BC3 (three rims). The style is most common (26.6 percent) at the site

of Arnos Vale.

In addition, two body sherds (from BCC-C and ES2) can also be associated with this type defined by the Bullens, but its appearance on the exterior portions of a casuela vessel from BC4 at the Buccament site may indicate the flexibility of this style with regard to its location (Fig. 39,e).

The St. Lucia Zoned Incised type was found by the Bullens on the islands of Mayreau and Bequia in the Grenadines, as well as the Arnos Vale Swamp site on St. Vincent, emulating our results. This particular style is also found at the site of Séguineau on Martinique (Allaire, field notes), and is found at the site of Soufrière on Dominica (Petitjean Roget 1978). It is also found at the site of Morne Rita Cave on the tiny island of Marie Galante (off the southeastern coast of Guadeloupe) (Slozinski and Slozinski 1983:Fig. 15), and at the Lavoutte site on St. Lucia (Bullen and Bullen 1970:Fig. 11,i). Thus, this style can best be associated with Horizon II due to its association with both our and the Bullen collection from the Arnos Vale locality.

Of particular interest is the presence of one keeled sherd that has interior curvilinear incisions (along with red paint). At the exterior inflection point of this sherd, a thin appliqué line of clay was added and decorated with small notches (perhaps fingernail indentations). This is

the only occurrence of this attribute in the collection.

An incised "scroll motif" is quite common in the Caribbean area and on the South American mainland. It is found on four sherds in the collection from St. Vincent, specifically ES2, BCC-C, BC3 and the site of Arnos Vale. The design element is characterised by a swirling or scroll pattern. A possible variation is exhibited as an incised circle with a centre dot (Pl. 11,b). This scroll motif can either be exhibited as a painted element or incisions; as an incised decoration, this style occurs on one body sherd each from BC3 and ES2. It also occurs on a small tabular lug from the site of Brighton. In the National Museum on St. Vincent this style is observed on some sherds as a modelled scroll pattern.

In Guyana, it is found in the Mabaruma Phase and designated under the Aruka Incised ware by Meggers and Evans (1958:Pls. 21d and 22b,c). The scrolls associated with the Aruka Incised ware, however, are particularly crude. Some sherds from the Carupano area (west of the Paria Peninsula on the Venezuelan coast) exhibit this decorative style and have been associated with the El Mayal style (Cruxent and Rouse 1958-1959:Fig. 93).

In the Antilles, this scroll element has been associated with sherds from level II at Vivé (Lehouillier 1974:Pl. 7c,d,e), from surface collections at Séguineau (Allaire, field notes), and at the site of Moulin L'Etang

(Harcourt 1952:Pl. 38,9) and L'Ésperance (primarily post-Saladoid) (Allaire 1977:Fig. 33j). As well, it has been found at the Montserat site on the northeast coast of Puerto Rico, especially on the interior portions of open bowls with pedestals (Roe 1988:Fig. 5). As a result of its geographical extent and association with particular sites which have chronological significance, this design element is perhaps best associated with Horizon II in the prehistory of St. Vincent and the Windward Islands.

Finally, one rim sherd from BC3 exhibits unique curvilinear incision design element (Fig. 40,a). It is neither found on any other sherd in the collection, nor is it immediately identifiable in collections in the National Museum in St. Vincent. The incised area is limited to the upper or top part of the flange on the rim. The incisions are wide (averaging 1.98 mm in thickness), suggesting that both this particular rim sherd and its associated pattern can be affiliated with a Horizon II context. From published figures, this particular style does not appear to be found on Martinique or Grenada.

IV. Angular Incision. Angular incisions are essentially linear incisions which occur in a characteristic geometric pattern (Fig. 36,a). These were examined separately as they often occur independently of linear incisions, although some linear incisions may indeed be part of angular incised styles. Seventeen (13.2 percent) sherds

were recovered that exhibited this type of incision. All occur on the exterior surface. Nine of the 17 sherds associated with exterior angular incisions are complimented with exterior red paint. One of these is a rim sherd (from an open bowl) from BC3. All other sherds are body sherds. Two (11.7 percent) do not have any exterior paint at all, and five (29.4 percent) exhibit positive white-on-red exterior paint. One body sherd from BCC-C in the Buccament Valley exhibits zoned red and black painting.

A particular design element is evident in the collection that exhibits angular incisions. It is characterised by very fine line incisions which are either angular or geometric. These incisions are generally found on the exterior surfaces of the sherds from the collection. In one case, it is found on the interior of a broad flange from BCC-C.

In all, five sherds from St. Vincent exhibit this decorative style: two are from BCC-C in the Buccament Valley (Fig. 33,c), two are from the site of Spring, while one sherd is from ES2. On two of these, the angular incisions are complimented by a finely incised rectangular motif. One sherd exhibits what may be excision, but it is not evident in any particular pattern and does not follow any geometric pattern in association with the other incisions present. Thus, it is not certain at this time whether this is post-depositional, an accident during manufacture, or intentional

excision.

This style is very similar to some decorative elements encountered by the Bullens at the Kingstown Post Office site and the lower zone of a test pit at the Buccament West Rockshelter. The technique of incision manifested on this style has been referred to by the Bullens as "post-firing incision" (1972:155). Interestingly, this particular style does not appear to be found at the site of Saladero on the lower-middle Orinoco, but the rectangular motif does occur in negative white-on-red paint (see Cruxent and Rouse 1958-1959:Pl. 184,4). As well, this style does not appear in the Mabaruma Phase as outlined by Meggers and Evans (1960), and is not found in eastern Venezuela. Similar incisions have been found by Allaire at the site of Séguineau, yet do not appear as uniform or geometric. As a result, this style likely dates to a very early period in the first Horizon of the prehistory of St. Vincent. Moreover, the unique combination of elements within this style appears to be restricted to St. Vincent.

V. Excision. Excision refers to "cutting out clay" in large areas in order to create a design (Rice 1987:146). Only one example of excision was found in the collection. It appears on an exterior red-painted rim sherd from BC3 in the Buccament Valley (Fig. 37,c). While it does appear that sections of the exterior surface were removed in a somewhat linear manner, it is not clear if this is intentional, a

result of use, or even post-depositional. As mentioned, a large tabular lug from BCC-C may exhibit excision, but this is unclear.

III. Modelling

While the term modelling often refers to a method of ceramic vessel construction, where pieces of clay are rolled, pinched, or drawn to create a desired vessel shape (Rice 1987:124-125), it is best known in Caribbean archaeology as small to medium sized clay additions to vessels surfaces or rims. The purpose of these clay additions is almost always decorative, are frequently combined with incised lines. Paint is equally common. Modelling can also be referred to as 'appliqué'.

Adornos. Adornos are a variety of appendage that usually appear on the rim of vessels. They are different from simple appendages, such as lugs, in that they exhibit either a human or animal face. Six adornos were found during the survey. Three are hollow-backed specimens, two of which are from BC4 and one from the site of Spring. One from BC4 exhibits red paint on the frontal section. Red paint is also found on another adorno from Buccament Construction (BCC). Traces of red paint are also found on a thin rim adorno from BCC-C. Hollow-backed are known from

the Queensbury site, as described by the Bullens (1972:Pl. XXV,f,g).

Stylistically, a prominent feature shared by two adornos from BC4 is the pronounced nose, which is slightly raised and in a 'pug' position (Pl. 18). A specimen from BCC displays a similar pug-nose features as well. It exhibits roughened areas where ears might have once been, but have since been broken off. This feature is similar to those found on adornos housed in the National Museum on St. Vincent. As well, the Bullens also recovered similar adornos from the Arnos Vale Swamp site (1972:Pl. XIX,d,t,u). From Grenada, similar adornos were recovered at the site of Pearls (Bullen 1964:Pl. III), but these are smaller and exhibit prominent mouth features with a centred incision, whereas the ones recovered from BCC and BC4 during our survey do not. The 'pug-nose' adornos seem to be more closely related to adornos housed in the Musée Départemental on Martinique, especially those from Vivé (see Mattioni 1979:Fig. 10).

One adorno, also from BC4, appears to represent an animal. It is painted on the upper extremities and was likely attached to a rim of a thin-walled vessel. The unique, and flat, adorno from BCC-C exhibits very pronounced eyes, which are a raised appliqué in a circular form (Pl. 17,b). What appears to be an ear is also present. This particular style does not appear to be common on Martinique,

but an example bearing a few similarities was found at the site of Pearls on Grenada by Bullen (1964:Pl. III). Morse and Rouse (1995) indicate that later Saladoid periods in the Lesser Antilles are characterised by head lugs which are "prismatic" in shape rather than rounded. As this particular adorno is fairly unique and does not appear to bear any resemblance to sherds from known Horizon I contexts, it is likely associated with Horizon II.

Appendages. Ceramic appendages are essentially clay additions which are found on various parts of a vessel. The typical forms in which certain appendages are manifested in Saladoid ceramics have been discussed in Chapter II. For this period, appendages are essentially limited to rim and side lugs. Various stylistic forms represented in the collection include rim nubbins and adornos. The unique nature of ceramic appendages allows reliable chronological associations, as the nature of the decorative attributes strongly manifested in these features.

A total of 15 lugs were recovered during the survey. Some of these appear with the rim or body sherd to which they are attached (Pls. 25 and 26). Others were found without any vessel association. Three appear as tabular lugs situated on the end point of a rim, one of which is a vasque fragment from the concentration area of BC3 at the Buccament site. Two of these are painted red, while the

other exhibits no painting. One rim lug exhibits a spiral incision motif (pl. 26,d). Saladoid rim lugs were classified by Bullen and Bullen as either the Pearls Side Lugged or Simon Rim Lugged types. Pearls Rim Lugged and Simon Rim Lugged were found by the Bullens at the Coconut Oil Factory site near the Arnos Vale site (1972:Pl. XXI). The Pearls Rim Lugged type is also known from Grenada (Bullen 1964:Pl. II), but these tend to have a single incision in the lug itself. This feature was not observed in the St. Vincent collection, but it was found at the site of La Salle on Martinique (Harcourt 1952:Pl. XXXII)

A total of eight simple nubbins were recovered, one of which is surrounded by a single-line incision. Two modelled-incised side lugs were also recovered. One is a long and rectangular in shape with a centred incised line down the middle. A similar lug was found at La Salle on Martinique (Harcourt 1952:Pl. XXXII). Another lug in the collection is also rectangular with small nubbins at either end, which has been referred to as "bar and dot" in Puerto Rico (Roe 1988). This style of rim lug is present at Hacienda Grande on Puerto Rico (Rouse and Alegria 1992:Pl. 4,n) and is associated with lugs from Vivé (Musée Départemental, 1991; Lehouillier 1974:Pl. XV), La Salle (Harcourt 1952:Pl. XXXII) and Pearls on Grenada (Bullen 1964:Pl. II).

CHAPTER VII

DISCUSSION AND CONCLUSIONS

Saladoid Chronology on St. Vincent

A relative chronological picture of the sites encountered during the survey ultimately allows for positioning St. Vincent in the larger scheme of the Saladoid period in the Windward Islands. A summary of the six sites considered in this thesis follows:

Sandy Bay. Located along the north Windward coast of St. Vincent, ceramics from the Sandy Bay site represent only 4.6 percent of the collection. Vessel classes defined in this study which were found at Sandy Bay include wide, open-mouthed bowls (5.8 percent), keeled vessels (5.5 percent), Vase Mario vessels (10.5 percent), and vasques (7.1 percent). Incense burners, B2 vessels (casuelas), and griddle fragments were not recovered here. Curiously, this is the only site where C3 and D2 vessels, inflected independent unrestricted and complex restricted vessels respectively, were recovered.

Painted decoration is well represented at Sandy Bay; it includes white-on-red, manifested both in positive and negative techniques, as well purple-on-buff and yellow-on-buff, all of which are indicative of Horizon II styles. The

Bullens recovered 324 sherds from the site during their survey (Bullen and Bullen 1972:66). Based on the summary they provided in their report, it seems that the Bullens' collection emphasised a later prehistoric occupation (in what today is known as Suazoid and Cayoid series) while our collection, despite the fact that similar later prehistoric sherds were recovered, reveals a more substantial Saladoid, especially Horizon II, occupation.

Escape Locality. The Escape cluster consists of three separate concentration areas. Ceramics from the entire site represent 24 percent of the collection, and suggest that some elements of Horizon I and Horizon II are present. Painted decoration is most abundant in the ES1 concentration area at this site, with such painted styles as red-on-buff, positive white-on-red, orange-on-red, yellow-on-red, and zoned red-and-white represented. One example of the highly diagnostic ZIC was recovered at the ES2 concentration area, and is reminiscent of patterns encountered at the Vivé site on Martinique (Lehouillier 1974).

The Escape site yielded no vasques or incense burners, and Vase Mario vessels are represented by only six specimens (31.6 percent), although a few of these are characterised by thick, heavy rims. As well, only two griddle fragments were retrieved from the site area. Some decorated elements encountered at the Escape cluster convey striking similarities to elements encountered by the Bullens at the

Kingstown Post Office site, especially the presence of fine, angular incisions and a rectangle motif. In addition, zoned white-and-red, present in collections housed in the National Museum on St. Vincent, is also found here. Simple rim lugs, also present at Kingstown Post Office, are also found at the Escape site cluster. This demonstrates that some pottery sherds from the Escape site can be placed in early Horizon I. Some elements of Horizon II, however, are also found here and are discussed below. As mentioned, this entire area was missed by the Bullens during their survey in the late 1960s. As a result, no direct comparisons can be made.

Spring. The site of Spring is also located along the Windward coast. The sherds recovered here during the survey represent 11.7 percent of the entire collection. Positive white-on-red, purple-on-buff, red-white-yellow polychrome, and zoned red-and-white painted patterns are found. The presence of these painted styles suggest an association with Horizon II. An example of ZIC, however, was recovered at this site, and is similar to the example from Escape. Two body sherds from Spring exhibit fine, exterior angular incisions which are similar to those found at the Kingstown Post Office site by the Bullens. The range of vessel types represented at Spring is significantly fewer than any other site. The only rims recovered at the site were those which are associated with A1 (20.2 percent), B/C (8.3 percent), and D3 (Vase Mario) (15.8 percent) vessels. The Bullens'

small collection (Bullen and Bullen 1972:69) revealed ceramics from both early and later prehistoric periods. Whereas our collection exhibits no obvious association with post-Saladoid (such as Caliviny style) sherds, it is, however, dominated by Horizon II styles (equivalent to the Bullens' Simon series). The north side of the access road at this site, however, was the location where we found significant concentrations of post-Saladoid ceramics and historic material, both of which are not considered in this study.

Brighton. The site of Brighton, located along southeastern coast of the island, represents 5.3 percent of the total collection. The only vessel classes represented at the site are simple open-mouthed bowls (class A1; 5.8 percent) and B/C vessels (2.7 percent) which are more representative of Horizon I. Decorative elements include positive white-on-red painting, although yellow-on-red, red-white-yellow polychrome and zoned red and white is found. While the overall sample from this site is low, the decorative styles represented nonetheless reflect a more positive association with Horizon I styles.

The Bullens' collection from Brighton (1972:125), unlike the one from our survey, consists almost exclusively of later period sherds. No post-Saladoid (especially Suazey) was found in our collection in 1993 and 1994.

Arnos Vale Locality. The Arnos Vale collection

represents 10.8 percent of the total collection. The site (and surrounding area) is well known from the Bullens' report (1972:74-87), but was subdivided by them into two site areas: Arnos Vale Swamp and Arnos Vale Field. The St. Vincent National Museum also houses some pottery from the vicinity around the Arnos Vale site.

Of the 424 sherds the Bullens recovered from the Arnos Vale Field site, 25.4 percent were classified as "Insular Saladoid" and 61.8 percent were classified as "Modified Saladoid". Only 1.3 percent of their total was designated as belonging to later periods in prehistory. At the Arnos Vale Swamp site, however, 4733 sherds were recovered by the Bullens. 82.8 percent of these were classified as "Modified Saladoid". Thus, it was expected that any sherds recovered in the Arnos Vale areas during our surveys in 1994 would also reflect an early Saladoid occupation.

The locality we surveyed is located along the fence bordering the E.T. Joshua airfield. Our survey supports the conclusions reached by the Bullens on the chronological position of the site, which have been emphasised in published chronological charts as reflective of the 'Cedrosan Saladoid with Barrancoid influences' (Rouse 1992; Rouse, Allaire, and Boomert 1985). White-on-red paint is present on sherds from this site, as is yellow-on-red, and red-white-yellow polychrome. One instance of zoned red-and-gray, a first in the Windward Islands, is also found at

Arnos Vale.

This site exhibits the second highest frequency of vessel classes A1 (14.5 percent) and B/C (13.9 percent); vasques (28.6 percent) and incense burners (60 percent) are found here as well. This site also exhibits the highest frequency of lip class 1 in the collection, which is normally associated with keeled vessels. The Bullens recovered a significant amount of pottery from their Arnos Vale area, which was divided into the Arnos Vale Swamp and Field sites, as well as the neighbouring Coconut Oil Factory and Texaco Tank sites. Their 1972 report of the survey indicates that all periods are found, although most sherds were assigned by the Bullens to their "Modified Saladoid" (Horizon II) period, for which this is locally defined as a 'type site'.

Buccament Locality. The Buccament site cluster is complicated as it consists of numerous concentration areas in which Saladoid pottery was recovered during the survey. The entire Buccament locality represents 43.3 percent of the collection. All Horizon I and Horizon II painted modes (except for red-on-buff) are represented in at least one of the concentration areas at this site. Two sherds from the Buccament cluster exhibit incised decoration which is similar to incisions found at the Kingstown Post Office site (Fig. 39,e). In addition, one example of ZIC is found on the upper portion of a casuela (class B2) vessel, yet is

different from ZIC styles from Spring and Escape. As mentioned, the Buccament example is characterised by large spaces between the incised lines, and is thus not similar to early Horizon I patterns of ZIC decoration. The unique incised flanged rim (Fig. 40,a) is also from the Buccament site, and the only example of an incised line ending in a point (Fig. 39,d) is found here as well.

The highest concentration of all painted styles, however, occurs at BC3. BC4 exhibits the next highest frequency of decorative patterns. BC3 also exhibits the highest frequency of simple, open-mouthed vessels (class A1; 29 percent), and every other vessel class (except for C3 and D2) are represented here as well. Early Saladoid ceramics were recovered by the Bullens in the lowest zone of a test pit they dug at the West Rockshelter (which are similar to pottery recovered at the Kingstown Post Office site), although our surface survey of the same shelter only revealed post-Saladoid period ceramics.

A Tentative Chronology for St. Vincent

The Bullens were able to establish a relative chronology from the results of their survey, based on radiocarbon dates and comparisons to ceramic styles from other islands, which were classified by them using their typological system. Despite its limitations, some elements

have been useful for drawing comparisons and establishing relative chronological associations, as discussed below.

As the design of our preliminary survey on St. Vincent was one of site location and assessment (see McManamon 1984), the sample for each site may not be fully representative of either the site content or the Saladoid ceramics in general. Controlled excavations supplemented with stratigraphy and chronometric dating could help reveal the true extent of Saladoid occupation. Like the Bullens, present discussions of Saladoid chronologies on St. Vincent require comparisons to from other islands where a more reliable chronology has been established (see, for example, Mattioni 1979, 1980; Rouse 1992).

Horizon I

One of the most interesting results of the preceding analysis is the apparent presence of two Horizon I styles on St. Vincent which can be identified: a Brighton style from the site of Brighton during our survey, and a distinctive Kingstown Post Office style, based on the Bullens' report and museum collections. The identification of these two variants within Horizon I on St. Vincent does not follow the proposal forwarded by Rouse (1992), and Rouse, Allaire, and Boomert (1985) who state in their chronological charts that the Kingstown Post Office site is the only representation of

the Cedrosan Saladoid subseries.

During Kirby's investigations at the Kingstown Post Office site, it appeared that the excavation units created by construction workers exhibited signs of stratification, from which he delineated four "zones" of artifact concentration. The first three are located between depths of 1.6 and 2.4 m of an construction-related profile (Bullen and Bullen 1972:88). Kirby's first zone essentially comprised the upper face of the profile. Here, 314 sherds (or 10.5 per cent of the total sherds recovered by Kirby) were recovered, most of which are designated as Modified Saladoid by Bullen and Bullen (1972:90). The second zone designated by Kirby was the lower zone, which produced 95 (3.2 per cent of the total ceramic sherds recovered), most of which were again classified by Bullen and Bullen (1972:88) as Modified Saladoid.

Kirby's third zone is termed as "probably lower". A total of 234 (7.8 per cent) sherds were recovered from this zone, most of which were classed as Modified Saladoid (Bullen and Bullen 1972:90). The fourth zone identified by Kirby is not an actual zone in the sense of the others designated by relative stratigraphic association, but instead refers to 2361 sherds (78.6 per cent) recovered either without provenance and in the immediate vicinity of the site or sherds collected by construction workers (Bullen and Bullen 1972:92). The Kingstown Post Office site is

important as it may reflect, based on stylistic attributes, the earliest Saladoid occupation on the island.

Many ceramics from Kingstown Post Office seem to be quite different from the decorative attributes normally associated with the Cedrosan subseries. Ceramics from the site of Brighton, however, do tend to exhibit decorative patterns that are more in line with current designations of Cedrosan style ceramics from Martinique and Grenada, for example. It is not possible at this point, however, to determine if these two styles are in fact chronologically, in addition to stylistically, distinct. A radiocarbon date was obtained at the Kingstown Post Office site, however, placing it at ca. A.D. 160, which is relatively early in the Windward Islands.

Brighton style. The most conclusive association with Horizon I in the collection is associated with the site of Brighton on the southern coast (Pl. 28), although the sample from this site, as pointed out previously, is quite small. The most conclusive evidence we have that suggests a Horizon I affiliation with this site is based on the absence of Vase Mario or Vasque vessels, which are generally associated with Horizon II. The fact that Brighton is assigned to Horizon I on the basis of negative evidence (i.e. the absence of evidence suggesting otherwise, in this case the presence of Vase Mario and Vasque vessels) is important as it is indeed possible that future work will prove this inference

inaccurate. Based on the current evidence, however, it seems that a different style can indeed be recognised, based primarily on the distinct differences in decorative features.

The pottery from Brighton is generally very thin. While some painted styles, such as positive yellow-on-red, red-white-yellow polychrome, and zoned red-and-white, are found, they do occur less frequently in comparison to other sites (such as BC3, for example) (see Table 5). One example of Bullen and Bullen's St. Vincent Black Zoned, which was defined by them as a separate type yet still considered part of the Pearls series, was found on a body sherd from Brighton.

Some sherds from the Escape site exhibit simple red-on-white-painted decoration, although the exact chronological context is not clear. It is likely, however, that part of the Escape site, or at least some elements of the pottery from the site, can be considered as Horizon I, especially the Brighton style.

This style can therefore be summarised as consisting of typical 'Cedrosan' elements; that is, white-on-red paint, thin rectilinear or curvilinear incisions, and vessels which can either be simple bowls or inverted bell-shaped. No ZIC is found.

Kingstown Post Office style. The decorative attributes from Brighton (and for that matter, other 'classic' Cedrosan

subseries sites in the Windward Islands) bear very little resemblance to those from the Kingstown Post Office site, which has generally been accepted as the earliest example of Saladoid ceramics on the islands based on the type site described by the Bullens (Bullen and Bullen 1972; Rouse 1992; Rouse, Allaire, and Boomert 1985). The Kingstown Post Office style, then, consists of fine angular incised lines and simple zoned paint. The zoned-incised crosshatching designs associated with the "Cedrosan Saladoid" subseries may also fit into this phase. The zoned paint is different from Arnos Vale in that smaller areas are incised and the paint is not manifested in polychrome colours. In addition, zoned paint at the Arnos Vale site appears on tall vessels, which are not found at the Kingstown Post Office site. Instances of excision are also present in this style, as are deep incisions through paint on the top portions of flanges (Pl. 29,b). The overall pattern of decoration association with this style is one that Allaire (pers. comm.) has termed "almost Art Deco".

Surprisingly, this style is characterised by very low frequencies of white-on-red painted patterns, and, based on the published photographs and descriptions in the Bullens' report, lacks adornos (Bullen and Bullen 1972:Pls. XXII-IV). As well, no adornos were observed in the collections from the Kingstown Post Office site at the National Museum. Instead, this style appears to be characterised by small rim

nubbins (often with scrolls), sometimes outlined by incision. Overall, some characteristics of La Hueca are immediately observable in the Kingstown Post Office style, especially the ZIC ware, but also the thin, fine incised nubbins and occasional low, wide bowls.

The Bullens' Grande Anse Interior Incised type, which is not found at Vivé I, fits into this phase as well, as it is characterised by very fine incisions on small, low bowls which normally have no association to white-on-red painted decoration (Bullen and Bullen 1972:138) (see Pl. 29,a).

The material from the Kingstown Post Office site exhibits fine angular incisions (see Pls. 9-10, 29-30). As well, deep incisions, often penetrating painted surfaces, are found. Excision occurs on some sherds housed in the National Museum as well. These unique incisions were not found at Brighton during our survey, but they were found at Spring, on a body sherd, the concentration area of BCC-C at the Buccament site (where it is found on a body sherd and a rim lug [Fig. 35,a]), the concentration area BC4 at the Buccament site (Pl. 30,c), and the ES1 and ES2 concentration areas at the Escape site (Pl. 30,a and e, respectively). Some of these incised design elements were also found by the Bullens at the Coconut Oil Factory site (see Bullen and Bullen 1972: Pl. XXI,f,l,m) and the lower zones of the Buccament West Rockshelter (Bullen and Bullen 1972:106; Pl. XXIX, a-p). This would imply that these sites exhibit

decorative features that would place them in this Kingstown Post Office style.

Based on the apparent lack of white-on-red paint (other than simple red), the sherds from Kingstown Post Office, Spring, ES1 and ES2 (and a few from BC4), may in fact represent an separate manifestation of Horizon I on St. Vincent, perhaps more properly defined as Horizon Ia. This contradicts Bullen and Bullen's conclusion that Kingstown Post Office represents a "Late Insular Saladoid" development, a point never fully defined by the authors.

Comparisons

Some of the types defined by Bullen and Bullen (1972) for St. Vincent which are associated with their Pearls series, or "Insular Saladoid" period were observed in the collection. For example, ZIC is present on three sherds in the collection, two of which correspond to Bullen and Bullens' Pearls Cross Hatched type, while one example from BC4 is more similar to their Barbados Exterior Incised, as it is found on the upper portions of a casuela vessel. As we associate casuela vessels with the later Saladoid period (Horizon II), this demonstrates that ZIC continued into later Saladoid times, although with changes to the technique and style of the incisions. This particular example, due to its wide spacing of the crosshatching may represent a later

form of ZIC.

Two sherds which would have been classified by the Bullens as St. Vincent Black Lined and thereby affiliated with the "Insular Saladoid" period, were also recovered. According to the Bullens (1972), incisions with black paint rubbed in are found in Trinidad, Venezuela, Guadeloupe, and Martinique, although no references are provided. The problem with the Bullens' correlation of the St. Vincent Black Lined type, however, with what we would consider Horizon I contexts is that the occurrence of black paint does not seem to be particular to Horizon I. Black paint is common at Horizon II sites such as Vivé II (Lehouillier 1974) and Diamant on Martinique (Musée Départemental, 1991). Therefore, it seems that the Bullens' association of the St. Vincent Black Lined type as particular to the Insular Saladoid period (Horizon I) is perhaps premature.

The Bullens' Pearls White-Painted type, which covers all of the white-on-red Windward Islands, was also encountered in the collection, either as positive or negative white-on-red. Chronological or technical distinctions between negative and positive painting techniques were not made by the Bullens. The wide-spread Grande Anse Interior Incised type, as defined by the Bullens (1972:138), was encountered in the collection as well, and is represented by a series of parallel interior curvilinear incised lines on a small open-mouth bowl. A similar

decoration is common at La Salle on Martinique (Harcourt 1952:Pl. XXXIII). Bullen (1968:82) points out that this style of decoration was also found at the lowest levels of the Chancery Lane site on Barbados. Harris (1991:43) reports an "Interior Incised" sherd from this site, which exhibits fine incisions on the interior of a red-painted vessel.

Horizon II

Arnos Vale style. Based on the ceramic analysis, Horizon II ceramic styles seem to be found at all six sites encountered during the survey. Painted styles identified in the collection that are likely associated with Horizon II include bichrome-painted sherds in colours other than simple red and white (such as purple, pink, and orange) and the occurrence of red-white-yellow polychrome paint on one sherd from Spring. Vessel shapes such as the Vase Mario and Vasques are also associated with Horizon II.

Two localities, BC3 at the Buccament site and Arnos Vale, exhibit a higher frequency of decorative and morphological attributes associated with Horizon II. A third site, Escape, also exhibits a high frequency of those painted decorative elements which are associated with Horizon II (for example, orange and black paint), despite the fact that some decorative elements associated with

Horizon I were recovered here as well.

The Arnos Vale site yielded three (15.7 percent) of the 19 Vase Mario rim sherds are found. As well, three (21 percent) of the 14 vasque rims were recovered from this site. While ES1 yielded six Vase Mario rim fragments, it produced no vasque rims. A total of four (26.6 percent) of the 15 sherds which exhibit deep curvilinear incisions over wide areas were recovered from the Arnos Vale site.

Concentration area BC3 at the Buccament site yielded a total of ten positive white-on-red sherds. Bichrome and polychrome-painted designs in colours such as yellow, orange, purple, and grey, the presence of which suggests a Horizon II context, are represented in the highest frequency at BC3. Forty-one percent of sherds within the collection exhibiting the yellow-on-red painted style is represented here as well. Moreover, 67 percent (n=6) of the red-white-yellow polychrome-painted style is represented at BC3. This concentration area is the only site area from which zoned red and orange paint was found. As well, the single instance of a single incised line ending in a point, a hallmark of Horizon II which reflects Barrancoid influences, is found at this concentration area.

By vessel class, BC3 exhibited the highest frequency of vasque rims (50 percent). As well, this concentration area, along with Arnos Vale and BC4, were the only localities from which incense burners were found. As a result, it can be

suggested that both BC3 and Arnos Vale represent the most definitive examples of Horizon II sites on St. Vincent. A similar conclusion was reached by the Bullens for their Arnos Vale sites. No pure Barrancoid pottery was recovered during the 1993-1994 survey.

Perhaps the most significant aspect of Saladoid archaeology in the Lesser Antilles to have been ignored is the nature of mainland Barrancoid influences in the region, which ultimately characterise the Developed Saladoid period, as discussed by Allaire (1995). These influences are manifested especially in the decorative styles of the ceramics, which are reminiscent of the Barrancoid series, which dominated northern coastal areas of South America from ca. 500 B.C. to ca. A.D. 500 but first appear along the lower Orinoco around 1000 B.C. Mainland Barrancoid influences are currently poorly understood and require definitive chronological and stylistic correlations (Allaire 1995). What we do know is that this Horizon is responsible, when compared to the earlier Horizon I manifestation, for a larger number of sites throughout the Windward Islands (Allaire 1995).

The chronological dates which have been established for Horizon II cluster from ca. A.D. 350 to c. A.D. 650 (Allaire 1995). Bullen and Bullen (1972:158) include some dates associated with their 'Modified Saladoid' period (which, as noted, is equivalent to my Horizon II): A.D. 410 for the

Arnos Vale Swamp site on St. Vincent, A.D. 420 for the upper zone at Vivé in Martinique, and A.D. 475 for the lower levels of Diamant on Martinique. These influences have led Allaire (pers. comm.) to coin an alternative term, 'Developed Saladoid', as it accurately reflects the amplification of certain design elements (such as the elaboration of more baroque modelled-incised design characteristics) and the introduction of new decorative techniques (especially polychrome-painted patterns and modelled-incised flanges) in the ceramics.

From a regional perspective, it can be suggested that Barranroid influences from the mainland appear more or less as a continuum, such that certain decorative elements are found on the South American mainland are present even in Horizon I contexts. For example, while simple white-on-red painted designs are normally associated with early Saladoid ceramics in Horizon I, some decorative techniques, such as scroll motifs and rim nubbins outlined by incisions, are continuous throughout the entire Saladoid period. The case can also be made that negative white-on-red painting, while present in Horizon I contexts, continues to be implemented into Horizon II times, in which thin lines of white paint are rubbed off. In addition, the presence of flanged, simple Vase Mario vessels (Bullen and Bullen 1972:Plate XXII) are present at the Kingstown Post Office site, while later more substantial Vase Mario vessels with zoned white-

on-red painting are hallmarks of Horizon II.

It can therefore be suggested that from the time of the initial population movements from the mainland out into the islands (around 200 B.C.) until the local emergence of late prehistoric ceramics styles, the entire region may have functioned as a large interaction sphere (Allaire 1995). Similar interaction spheres have been suggested by Haviser (1991) for the North Leeward Islands, although these are based on site sizes, which were not calculated on St. Vincent. This interaction sphere was not extensive to the point that actual Barrancoid styles are evident in the collection, unlike the presence of Erin style ceramics on Trinidad which reflect a true manifestation of Barrancoid stylistic elements (Harris 1978).

Horizon II in the Windward Islands represents a continuation of decorated designs which are present in Horizon I, but attributes including modelling, elaborate adornos, and deep, wide incisions begin to develop. Morse and Rouse (1995) identify zoned designs, d-shaped "pegtopped" strap handles, circular button lugs, and zoomorphic and anthropomorphic "head lugs" as major characteristic of later Saladoid periods. The escalation of these complex and sophisticated decorative attributes is attributed to Barrancoid influence from the South American mainland.

Comparisons

Types characteristic of the Bullens' "Modified Saladoid" period are common in the collection. For instance, fifteen sherds that exhibited incision that the Bullens would have classified as St. Lucia Zoned Incised (and placed in the "Insular Saladoid" period) were recovered (1972:156). This style was also observed by Bullen and Bullen (1970:Fig. 11) at the Lavoutte site on St. Lucia. It is observed in Horizon II contexts (especially Vivé II) on Martinique (Musée Départemental, 1991), which demonstrates that the Bullens' association of this type with Horizon I is misleading.

Rims associated with Vase Mario vessels were recovered during the survey (9.94 percent), as were incense burners (2.6 percent). The later correspond to the Bullens' Troumassée Decorated Cylinder. The Bullens' type Arnos Vale Zoned, characterised by vessel rims which are "less club-like" and feature "vertical" incisions, likely represents the "Vase Caréné" or keeled vessel, which is associated with the vessel class B/C defined in this study.

The Arnos Vale Incised type (as defined by the Bullens) is characterised by complicated rims with

...bent [walls] or curved inward and then outward to form a narrow external 'neck' at the top of which is a thin flange which extends outward more or less horizontally (Bullen and Bullen 1972:141).

This description more or less fits the description of a

vasque, which the Bullens do not mention by name in their report.

The overall chronological representation of the Saladoid period on St. Vincent, then, can be summed up as follows. The collection from St. Vincent demonstrates that two styles of Horizon I Saladoid ceramics are present on the island: a Brighton style and a Kingstown Post Office style. Horizon II is best represented by the Arnos Vale style.

Saladoid Adaptation on St. Vincent

Like all islands in the Windward Island chain, our knowledge of the Saladoid period relies primarily on material remains, especially pottery sherds. Little data are available that would suggest social organisation or community patterns for the Saladoid peoples considered in this report. No definitive household structures have been found in the Windward Islands, as in St. Eustatius, for example (Versteeg and Schinkel 1992). In this regard, St. Vincent is no different, and the preceding analysis can do little to illuminate the cultural aspect of the people who manufactured Saladoid ceramics.

It is possible, however, to contribute to our understanding of Saladoid adaptation on St. Vincent. Previous archaeological research on St. Vincent did not

involve intensive investigations into prehistoric subsistence strategies because of the lack of faunal remains in any archaeological context. The only evidence encountered during the survey which could suggest prehistoric agriculture are the ceramic griddles, the presence of which suggests that early Saladoid peoples on the island were fully agricultural, with manioc likely the most important crop. As mentioned earlier, carbonised manioc cakes have been found on a griddle surface along the middle Orinoco River (Roosevelt 1980). In fact, the development of the Saladoid series on the South American mainland is closely paralleled to the practice of agriculture. As these agriculturalists moved into the coastal areas of the continent, it is assumed that they adapted their cultivation techniques to this new micro-environment, which was ultimately brought into the West Indies.

Aside from ceramic griddle fragments, which directly suggest agricultural activities, there is an unfortunate lack of both botanical and faunal evidence in the archaeological record (due to a lack of preservation) and comprehensive data on paleoenvironmental conditions for St. Vincent that would suggest other sources of subsistence. No faunal, floral, or molluscan remains were recovered at any of the six Saladoid sites on St. Vincent during the survey. We must again rely on the results of research undertaken on

other islands in the Windward group (Cody 1990; Fandrich 1990; Petersen 1993; Wing 1968, 1989).

Despite the fact that Keegan (1992:14) suggests that in early prehistoric times most of the Lesser Antilles did not have abundant populations of terrestrial fauna, which explains, in Keegan's view, the rapid peopling of the entire island chain by Saladoid peoples, we in fact do have a fairly extensive body of data from many of the Windward Islands suggesting otherwise (Fandrich 1990; Petersen 1993; Wing 1989). We can assume, then, that Saladoid subsistence not only consisted of cultivated root crops (such as manioc), but also of offshore marine resources (fish and sea mammals) and terrestrial fauna (including small mammals and birds).

Windward Islands Agricultural Systems. At the time of European contact, the Island Carib, having migrated from northern South America, relied primarily on manioc as a staple food source. They also cultivated and harvested sweet potatoes, yams, beans, peppers, and corn (Rouse 1948:550). Various fruits such as the banana (post-contact), plantain, guava, and papaya were also gathered (Rouse 1948:550). Rouse (1948:550) notes that the agouti, lizards, and birds were hunted near coastal margins.

Historical accounts provide valuable information about the agricultural practices of the Island Carib. For example, Father La Borde (1660:241) mentions that women

planted cassava near the houses; after a particular field had been used for three crops, it was abandoned and a new plot of land was cultivated (La Borde 1660:241). La Borde (1660:10-11) also notes that the

...most populated of all the ones the Caribs hold
...the Caribs have their quantities of beautiful
villages...they are wary when strangers arrive on their
shores yet they do not refuse them their local bread
which is cassava as well as water and fruits as long as
in exchange they give them some axes, sicles, and other
metal tools that they need.

Regarding the gardens of the Island Carib, La Borde notes (1660:22) that

After they have made one or two harvests in one garden, they leave it behind and make another one on the other side...and this is why they fell the trees but don't cut and burn the small branches...women plant manioc, potatoes, yams, bananas where they can find room.

As noted previously, it is generally understood the early Saladoid peoples were agriculturalists, practising extensive cultivation by cultivating, primarily, manioc in swidden or slash-and-burn gardens (Rouse 1992:13). To date, no remains of montones, or raised ridged fields or mounds, have been found in archaeological contexts in the Lesser Antilles, although it is unlikely that these will ever be found, due to constant soil turbation which would effectively erase any evidence to their existence.

Some general assumptions can now be inferred regarding prehistoric agricultural activities on St. Vincent during the early Saladoid period. As discussed in Chapter II, Saladoid peoples are assumed to be responsible for the

introduction of agriculture into the West Indies, a situation that closely parallels a similar agricultural colonisation of the Hawaiian islands (Tuggle and Tomonari-Tuggle 1980:200).

First, however, it is necessary to review select studies that have contributed to our understanding of resource activities on other islands in the Windward chain. It is important to remember that unlike St. Vincent, the soils of some islands are more conducive to faunal and molluscan preservation.

During the Saladoid period, Keegan has suggested that garden plots may have contained vegetable dyes, fibres, and other medicine plants (Keegan 1992). Both Keegan (1992) and Rouse (1992:78) point out that the areas of cultivation were in riverine localities, especially on inland river terraces, which provided the highest degree of soil fertility. Most Saladoid sites in the Windward Islands (Martinique is a particularly good example) are also located slightly inland from the ocean shores (Rouse 1992:79).

It is commonly assumed that riverine and terrestrial faunal resources were exploited by early Saladoid peoples in the Lesser Antilles in order to balance their diet with protein rich foods, especially aquatic and terrestrial foods such as mammals, pelagic fish, and intertidal mollusca (Fandrich 1990:15). Again, it should be stressed that the extent to which these additional resources were obtained is

not known. Wing (1989) has shown that from the known archaeological sites in the Lesser Antilles at the time, 38% of the faunal remains in Saladoid sites are terrestrial, particularly species such as the agouti, opossum, armadillo, and the dog, all which were introduced by early peoples from the mainland (Fandrich 1990; Petersen 1993:7).

Based on faunal material from archaeological contexts on Antigua and Puerto Rico, it is possible that the Guinea Pig, assumed to have been domesticated on the mainland at some unknown point in prehistory (Wing 1989:141), may have been introduced into the islands (Petersen 1993:7). They have been found in archaeological contexts at the site of Mill Reef on Antigua and Hacienda Grande on Puerto Rico (Wing 1989:141). Other local indigenous resources such as iguanas, ameivas (a lizard), birds, and the rice rat were likely exploited in the Windward Islands (Fandrich 1990; Petersen 1993:7).

For Barbados, Drewett (1991:183) has demonstrated that when terrestrial mammals were not readily available in prehistoric periods, a reliance on riverine subsistence was dominated by reef fishes, such as parrotfish and surgeon fish. Aad Boomert (1987) has suggested that offshore marine resources were used when terrestrial fauna were not readily abundant.

In her study of faunal material from three sites on Barbados, four on Grenada, and one from St. Lucia, Wing

(1968) indicates that deep water fish such as the tarpon, snook, jack, sheep head, and tuna were caught. Offshore banks would have provided such species as snapper and grouper, while inshore banks were stocked with porkfish, parrotfishes, surgeon fish, trigger fish, and porcupine fish (Wing 1968).

Most Caribbean islands also have what are called "fringing reefs" (Milliman 1973:15). On islands such as Barbados and St. Vincent, these reefs are usually restricted to the leeward and, to some extent, southern shores (Fig. 41). The windward coasts are often too rough for adequate marine ecosystems to flourish, especially reef formations and mangrove swamps (Adams 1968; Caribbean Conservation Association 1993; Milliman 1973).

Bullen and Bullen (1972), however, do mention occasional finds of shells in archaeological contexts. In the vicinity of the Sandy Bay site, *Livonia Pica* shells were recovered at the site of Owia, while *Strombus Gigas* shell fragments were recovered at the sites of Arnos Vale and Kingstown Post Office. This could suggest that marine resources were indeed available on the windward coast, but it could also imply that these artifacts were brought or traded into the area.

To summarize, the situation portrayed for prehistoric subsistence systems in the Windward Islands suggests that maritime and terrestrial resources were exploited, in

addition to cultivation of root crops (especially manioc), for specific food values. The extent to which resources other than cultivated root crops were utilised is unknown.

What can be said about the prehistoric agriculture on St. Vincent is that at all sites are located on land that had some degree of cultivation potential. It is important to remember, however, that this potential would have been variable, as certain areas contain soils which are more conducive to manioc cultivation. It can further be suggested that due to the potentially unstable and meagre marine resource ecosystems surrounding St. Vincent, we may suspect a heavier reliance on terrestrial fauna, combined with agricultural production, occurred in prehistoric St. Vincent.

As we have no prehistoric demographic data for the Windward Islands, estimates of the population levels at the time of the Saladoid entry into the islands cannot accurately be determined. Similarly, the discovery of spatially patterned archaeological remains, particularly post molds and living floors (some of which have been found on more northern Antillean islands), which would be indicative of dwellings and residential patterns, have yet to be found in the Windwards.

When considering the differences in subtle or micro-environmental conditions among the Windward Islands, it can be suggested, following Watters and Rouse (1989:136), that



Figure 41. Map of St. Vincent showing offshore reef formations (adapted from Environmental Profile: St. Vincent, Caribbean Conservation Association 1993).

rather than regionally inclusive resource exploitation methods, island-specific strategies were employed in the prehistoric period. Watters and Rouse (1989:136) discuss at length the potential variability between riverine and terrestrial resources. Characteristics particular to each island in the Lesser Antilles, especially the area-shoreline ratio (in other words, large versus small islands) and the variations in reef, shelf, and mangrove distributions, theoretically allow for greater environmental diversity and thus distinctive resource procurement strategies (Watters and Rouse 1989:136). One would therefore expect to observe a wide range of adaptive strategies on individual islands within the island chain.

With the conclusions drawn by Watters and Rouse kept in mind, it is important to remember that the extent to which early groups acquired protein via offshore marine resources on St. Vincent (such as molluscs and shellfish) could have been hindered by the lack of such resources. The only region of the island where sea resources could have been adequately managed is along the Leeward coast, where calm waters could have eased acquisition. In any case, what can be inferred from this is that specific subsistence strategies on the island may therefore have been quite distinct from other islands in the Windward group, especially those which exhibit a higher degree of marine resource availability.

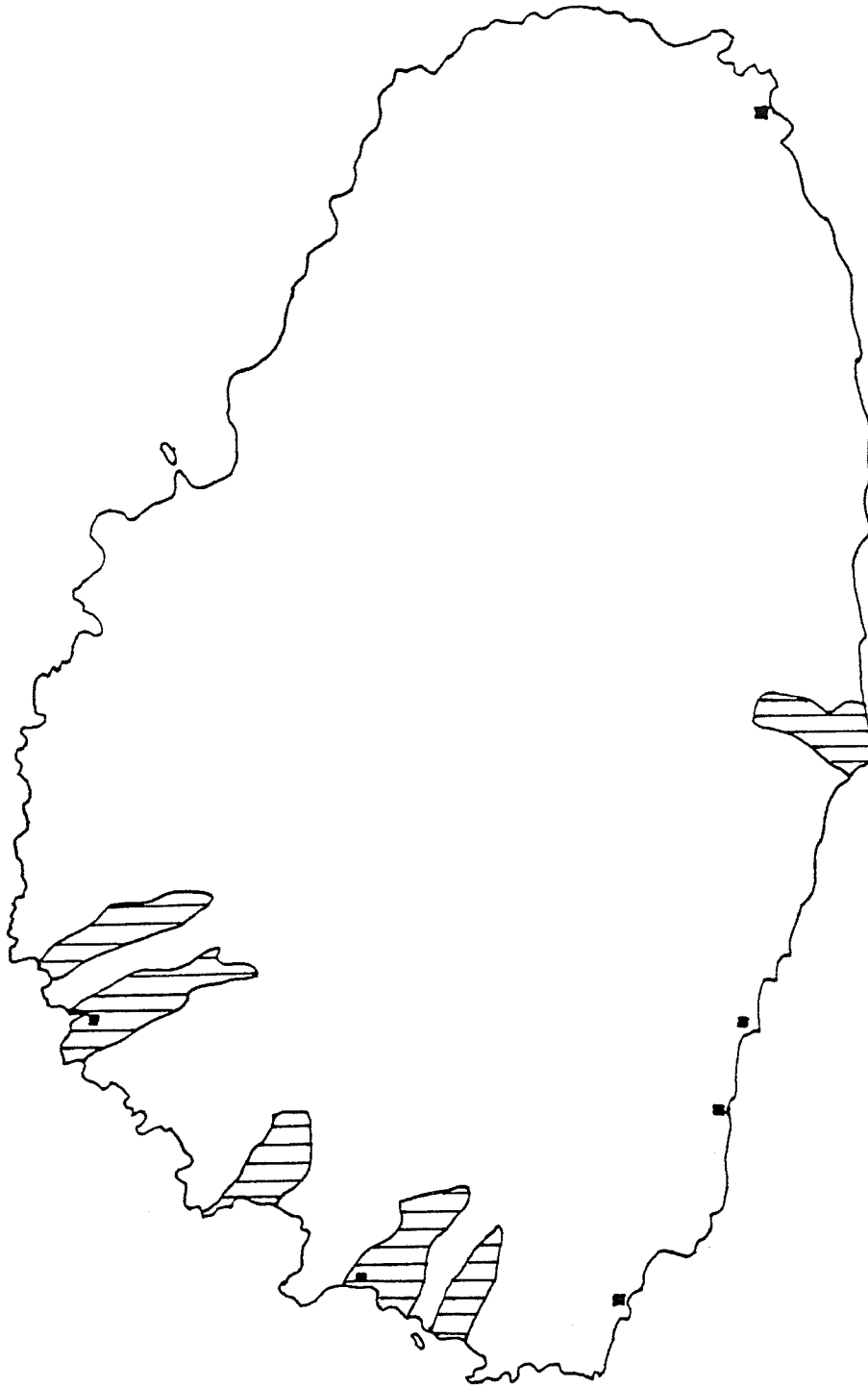


Figure 42. Map of St. Vincent showing site locations in relation to alluvial soil deposits (adapted from Environmental Profile: St. Vincent, Caribbean Conservation Association 1993).

From the perspective of prehistoric settlement patterns, two of the six Saladoid sites encountered during the survey (Arnos Vale and the Buccament sites cluster) are found in fertile, well-watered river valleys near beach or marshy areas along the coast (Fig. 42). It is reasonable to assume that potential resources (marine, faunal, and perhaps some riverine) were nearby. Due to the alluvial soil type in these valleys, the two sites are therefore located on prime agricultural soil (Caribbean Conservation Association 1993), therefore supporting the fact that Saladoid groups did indeed intentionally select areas of high fertility for agriculture.

Likewise, the site of Brighton is located on land designated by the Caribbean Conservation Association (1993) as "sand dunes". Although we have no geomorphological data for the area, the Brighton Beach area has likely changed considerably since prehistoric times. One griddle fragment was found at the Brighton site which could suggest (although not conclusively) that prehistoric agricultural activities were not inhibited by the local conditions. The site of Spring and the site cluster at Escape are located on yellow earth, which is not as fertile as certain alluvial soils found in river valleys (Caribbean Conservation Association 1993). These two sites, however, are located in very low valleys, and the Escape site is located near the Jambou River, one of the larger rivers on the island.

The site of Sandy Bay is located on a small plateau consisting of recently deposited volcanic ash, which covers most of the northern third of the island (Caribbean Conservation Association 1993). No griddle fragments were recovered at this site during the survey, although Bullen and Bullen (1972) indicate that griddle fragments were recovered not only at the Sandy Bay site, but also at the nearby sites of Espagnol Point North and Espagnol Point South. Clay griddle sherds were also recovered by the Bullens north of the Sandy Bay site at the site of Owia (Bullen and Bullen 1972:63).

Conclusion

Summing up, the overall contribution to West Indian prehistory that this thesis has made is that it has supported the notion that two distinct archaeological Horizons are identifiable during the Saladoid period. As discussed, Horizon I represents the initial colonisation of the island chain by early Saladoid peoples, and Horizon II represents a period in which a widespread increase of mainland Barrancoid elements in the pottery of these peoples begins to appear. While these have been referred to more commonly as, respectively, the Cedrosan Saladoid and the Cedrosan Saladoid with Barrancoid influences, it is proposed here that they instead be referred as Horizons, as an

archaeological Horizon better reflects the circumstances of widespread similarities in the ceramics.

Perhaps the most significant contribution that the preceding study has made to the archaeology of St. Vincent, however, is the identification of two distinct styles within Horizon I (ca. 200 B.C. - ca. A.D. 350): the Brighton style and the Kingstown Post Office style. The Kingstown Post Office style seems to be unique to St. Vincent, while the Brighton style seems to have more in common with Horizon I elsewhere in the Windward Islands, from Grenada (Pearls style) to at least Martinique (Vivé style). While the difference between the two styles is primarily evident in decorative features, they do not exhibit enough conclusive evidence to suggest chronological divisions, other than the already cited date of A.D. 160 for the Kingstown Post Office site. We assume the differences between these unique ceramic styles to be reflective of specific cultural differences, yet because they share a common ancestor we may also assume some degree of similarity in cultural associations.

The fact that two separate styles can be associated with Horizon I clearly demonstrates that there is a higher degree of variability in the ceramic styles on St. Vincent during this period and within the accepted concept of a Cedrosan Saladoid than was previously assumed. While this variability has yet to be conclusively established on other

islands, it is very likely that a similar diversity can be established elsewhere. This may also shed new light on the controversial issue of the La Hueca style of the northernmost Leeward islands, suggesting once again a higher degree of stylistic and cultural diversity during this initial period of agricultural expansion throughout the entire chain of the Lesser Antilles.

Concerning Horizon II (which begins ca. A.D. 350), while the precise nature of Barrancoid influences could not be firmly established for either St. Vincent or the Windward Islands in general, the preceding study has identified some elements which are associated with the South American Barrancoid series and appear throughout the Saladoid period in the Windward Islands. Examples include zoned paint (although thicker and deeper incisions are more common in Horizon II) and the common scroll motif. Another example can be found in the Bullens' report, which mentions distinct rim flanges associated with the Kingstown Post Office site, and therefore may be earlier than previously suspected. The most definitive association with Horizon II in the Windward Islands is the presence of paint colours other than red and white, and polychrome-painted styles in more elaborate motifs. As well, more elaborate, or "baroque" modelled-incised appendages are also diagnostic. Sites as well as their ceramic remains associated with Horizon II seem to be more abundant, but, both on the island and at a regional

level. Horizon II ceramics also seem to exhibit less variability than those of Horizon I. It can be suggested that an increase in population levels may be associated with Horizon II, as may be consistent with the "prosperity" stage of this early agricultural period. It also suggests that the role of the mainland was at all time active, despite the fact that the evidence for an actual migration of people is lacking in the archaeology.

Overall, we may consider 'Saladoid adaptation' as reflective of the practice of prehistoric agricultural activities, which is perhaps most evident from the presence of griddles in the collection. This is also based on the ancestry of Saladoid potters, which has been traced to the middle Orinoco valley, an area in which agriculture was practised for at least one thousand years prior to their movement into the Lesser Antilles (Rouse 1992; Roosevelt 1980). This evidence for agricultural activities may be coupled with the physical location of the six sites, which were found in coastal, fertile valleys consisting primarily of alluvial soils.

Table 1. Distribution of St. Vincent Collection.

	ARV	BC1	BC2	BC3	BC4	BCC	BCC-A	BCC-B	BCC-C	BCC-D	BER	BRT	ES1	ES2	ES3	SBY	SPG	Totals
<i>Body Sherds</i>	24 39.3	3 75.0	4 40.0	80 62.0	10 34.5	7 46.6	2 100.0	2 66.6	29 72.5	5 45.5	- 0.0	18 60.0	51 70.8	35 72.9	8 57.4	12 46.2	37 56.1	327
<i>Rim Sherds</i>	31 50.8	1 25.0	5 50.0	43 33.3	16 55.2	6 40.0	- 0.0	1 33.3	8 20.0	3 27.3	1 100.0	6 20.0	18 25.0	12 25.0	4 28.6	13 50.0	23 47.9	191
<i>Griddle Fragments</i>	3 4.9	- 0.0	- 0.0	2 1.5	- 0.0	- 0.0	- 0.0	- 0.0	2 5.0	1 9.1	- 0.0	1 3.33	1 1.4	- 0.0	1 7.1	- 0.0	2 3.0	13
<i>Base Fragments</i>	1 1.6	- 0.0	- 0.0	2 1.5	1 3.4	- 0.0	- 0.0	- 0.0	0 0.0	1 9.1	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	1 3.8	1 1.5	7
<i>Other</i>	2 3.3	- 0.0	1 10.0	2 1.5	2 6.9	2 13.3	- 0.0	- 0.0	1 2.5	1 9.1	- 0.0	5 16.6	2 2.8	1 2.1	1 7.1	- 0.0	3 4.5	23
Total	61 100.0	4 100.0	10 100.0	129 100.0	29 100.0	15 100.0	2 100.0	3 100.0	40 100.0	11 100.0	1 100.0	30 100.0	72 100.0	48 100.0	14 100.0	26 100.0	66 100.0	561

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Table 2. Discards from 1993/1994 Field Seasons.

	Arnos Vale	Spring	Escape 2	Sandy Bay	Buccament
<i>Plain ware body sherds</i>	61	37	59	25	24
<i>Painted body sherds</i>	8	9	34	66	-
<i>Plain ware Rims</i>	7	-	7	-	-
<i>Painted Rims</i>	6	-	1	-	-
<i>Griddle sherds</i>	-	-	-	1	-

Table 3. Lip Class Frequency by Site

Class	ARV	BC1	BC2	BC3	BC4	BCC	BCC-A	BCC-B	BCC-C	BCC-D	BER	BRT	ES1	ES2	ES3	SBY	SPG	Total
1	9 29.0	- 0.0	1 20.0	17 39.5	1 6.3	2 33.3	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	1 16.6	3 16.6	4 33.3	1 25.0	1 7.7	- 0.0	40
2	3 9.7	- 0.0	- 0.0	3 6.9	3 18.8	1 16.6	- 0.0	- 0.0	4 50.0	- 0.0	- 0.0	- 0.0	5 27.7	4 33.3	2 50.0	- 0.0	5 21.2	30
3	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	2 25.0	- 0.0	- 0.0	- 0.0	- 0.0	1 8.3	- 0.0	- 0.0	- 0.0	3
4	1 3.2	- 0.0	- 0.0	1 2.3	1 6.3	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	1 16.6	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	4
5	3 9.7	- 0.0	- 0.0	1 2.3	1 6.3	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	3 23.1	1 4.3	9
6	3 9.7	- 0.0	1 20.0	13 30.2	5 31.3	- 0.0	- 0.0	- 0.0	- 0.0	1 33.3	1 100.0	2 33.3	1 5.55	2 16.6	1 25.0	3 23.1	7 30.4	40
7	1 3.2	- 0.0	- 0.0	1 2.3	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	1 5.55	1 8.3	- 0.0	- 0.0	2 8.7	6
8	5 16.1	- 0.0	2 40.0	6 13.9	2 12.5	1 16.6	- 0.0	1 100.0	- 0.0	1 33.3	- 0.0	2 33.3	1 5.55	- 0.0	- 0.0	4 30.8	5 21.7	30
9	3 9.7	1 100.0	- 0.0	1 2.3	2 12.5	2 33.3	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	6 33.3	- 0.0	- 0.0	2 15.4	3 13.0	20
10	1 3.2	- 0.0	- 0.0	- 0.0	1 6.3	- 0.0	- 0.0	- 0.0	2 25.0	1 33.3	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	5
11	1 3.2	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	1
12	1 3.2	- 0.0	1 20.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	1 5.55	- 0.0	- 0.0	- 0.0	- 0.0	3
Totals	31 100.0	1 100.0	5 100.0	43 100.0	16 100.0	6 100.0	0 100.0	1 100.0	8 100.0	3 100.0	1 100.0	6 100.0	18 100.0	12 100.0	4 100.0	13 100.0	23 100.0	191

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Table 4. Vessel Class Frequency by Site

Class	ARV	BC1	BC2	BC3	BC4	BCC	BCC-A	BCC-B	BCC-C	BCC-D	BER	BRT	ES1	ES2	ES3	SBY	SPG	Total	
A1	10 32.2	- 0.0	- 0.0	20 46.5	5 31.3	- 0.0	- 0.0	1 100.0	2 20.0	2 66.6	1 100.0	4 66.6	2 11.1	4 33.3	- 0.0	4 30.8	14 60.1	69	
B/C	10 32.2	- 0.0	1 20.0	13 30.2	6 37.5	3 50.0	- 0.0	- 0.0	6 80.0	1 33.3	- 0.0	2 33.3	9 50.0	8 66.6	3 75.0	4 30.8	6 26.1	72	
B2	2 6.4	- 0.0	3 60.0	1 2.3	2 12.5	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	1 5.55	- 0.0	1 25.0	- 0.0	- 0.0	10	
C3	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	1 7.7	- 0.0	1
D2	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	1 7.7	- 0.0	1
D3	2 9.6	1 100.0	- 0.0	1 2.3	2 12.5	2 33.3	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	6 33.3	- 0.0	- 0.0	- 0.0	2 15.4	3 1.7	19
V	4 12.9	- 0.0	1 20.0	7 16.3	- 0.0	1 16.6	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	1 7.7	- 0.0	14
IB	3 9.7	- 0.0	- 0.0	1 2.3	1 6.3	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	5
Totals	31 100.0	1 100.0	5 100.0	43 100.0	16 100.0	6 100.0	0 100.0	1 100.0	8 100.0	3 100.0	1 100.0	6 100.0	18 100.0	12 100.0	4 100.0	13 100.0	23 100.0	191	

Table 5. Frequency Distribution of Painted Styles

	ARV	BC1	BC2	BC3	BC4	BCC	BCC-A	BCC-B	BCC-C	BCC-D	BER	BRT	ES1	ES2	ES3	SBY	SPG
Positive White-on-Red	2	-	-	10	-	-	-	-	1	-	-	3	1	-	-	2	2
Negative White-on-Red	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-
Red-on-Buff	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-
Orange-on-Red	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-
Pink-on-Buff	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Purple-on-Buff	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	1
Yellow-on-Red	2	-	-	7	2	-	-	-	1	-	-	2	2	-	-	1	-
Yellow-on-White	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Red, White, and Yellow Polychrome	1	-	-	6	-	-	-	-	-	-	-	1	-	-	-	-	1
Zoned Red and White	2	-	-	3	1	-	-	-	2	1	-	2	4	1	-	-	2
Zoned Red and Purple	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Zoned Red and Orange	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Zoned Red and Buff	-	-	-	1	-	1	-	-	-	-	-	-	-	1	-	-	-
Zoned Red and Grey	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Black	4	-	-	2	1	-	-	-	6	1	-	-	3	-	-	2	2

Table 6. Frequency Distribution of Incisions

	ARV	BC1	BC2	BC3	BC4	BCC	BCC-A	BCC-B	BCC-C	BCC-D	BER	BRT	ES1	ES2	ES3	SBY	SPG
Interior Rectilinear	4 22.2	- 0.0	1 33.3	8 24.2	2 20.0	2 33.3	- 0.0	- 0.0	2 18.2	- 0.0	1 50.0	1 11.1	4 23.5	1 5.2	- 0.0	1 25.0	2 16.6
Exterior Rectilinear	7 38.8	3 100.0	1 33.3	15 45.5	2 20.0	1 16.6	- 0.0	2 100.0	4 36.4	1 50.0	- 0.0	6 66.6	7 41.2	11 57.9	1 100.0	1 25.0	7 58.3
Interior Curvilinear	2 11.1	- 0.0	- 0.0	3 9.1	1 10.0	2 33.3	- 0.0	- 0.0	1 9.1	- 0.0	- 0.0	- 0.0	4 23.5	2 10.5	- 0.0	2 50.0	- 0.0
Exterior Curvilinear	3 16.6	- 0.0	- 0.0	2 6.1	3 30.0	1 16.6	- 0.0	- 0.0	1 9.1	- 0.0	- 0.0	- 0.0	1 5.9	2 10.5	- 0.0	- 0.0	- 0.0
Interior Angular	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	1 50.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0
Exterior Angular	2 11.1	- 0.0	1 33.3	2 6.1	1 10.0	- 0.0	- 0.0	- 0.0	3 27.3	1 50.0	- 0.0	2 22.2	1 5.9	2 10.5	- 0.0	- 0.0	2 16.6
Curvilinear on Top of Lip	- 0.0	- 0.0	- 0.0	2 6.1	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0
Curvilinear ending in Point	- 0.0	- 0.0	- 0.0	1 3.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0
ZIC	- 0.0	- 0.0	- 0.0	- 0.0	1 10.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	1 5.2	- 0.0	- 0.0	1 8.3
Totals	18 100.0	3 100.0	3 100.0	33 100.0	10 100.0	6 100.0	0 100.0	2 100.0	11 100.0	2 100.0	2 100.0	9 100.0	17 100.0	19 100.0	1 100.0	4 100.0	12 100.0

Table 7. Frequency Distribution of Exterior Surface Treatments.

	Arnos Vale	Buccament Cluster	Brighton	Escape Cluster	Sandy Bay	Spring
Smoothed	22 39.3	174 76.9	17 70.8	54 42.2	19 73.1	36 60.0
Polished	1 1.8	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0
Eroded	31 56.4	49 21.7	7 29.1	74 57.8	7 26.9	24 40.0
Corroded	1 1.8	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0
Scratched	- 0.0	3 1.3	- 0.0	- 0.0	- 0.0	- 0.0
Total	55 100.0	226 100.0	24 100.0	128 100.0	26 100.0	60 100.0

Table 8. Frequency Distribution of Interior Surface Treatments

	Arnos Vale	Buccament Cluster	Brighton	Escape Cluster	Sandy Bay	Spring
Smoothed	22 40.0	154 68.1	17 70.8	41 32.0	18 69.2	36 60.0
Polished	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0	- 0.0
Eroded	29 52.7	61 27.0	7 29.2	83 64.8	3 11.5	21 35.0
Corroded	2 3.6	9 3.9	- 0.0	3 2.3	5 19.2	3 5.0
Scratched	2 3.6	2 0.89	- 0.0	1 0.78	- 0.0	- 0.0
Total	55 100.0	226 100.0	24 100.0	128 100.0	26 100.0	60 100.0

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Plate 1 (top) and Plate 2 (bottom)



Plate 3 (top) and Plate 4 (bottom)



Plate 5 (top) and Plate 6 (bottom)



Plate 7 (top) and Plate 8 (bottom)

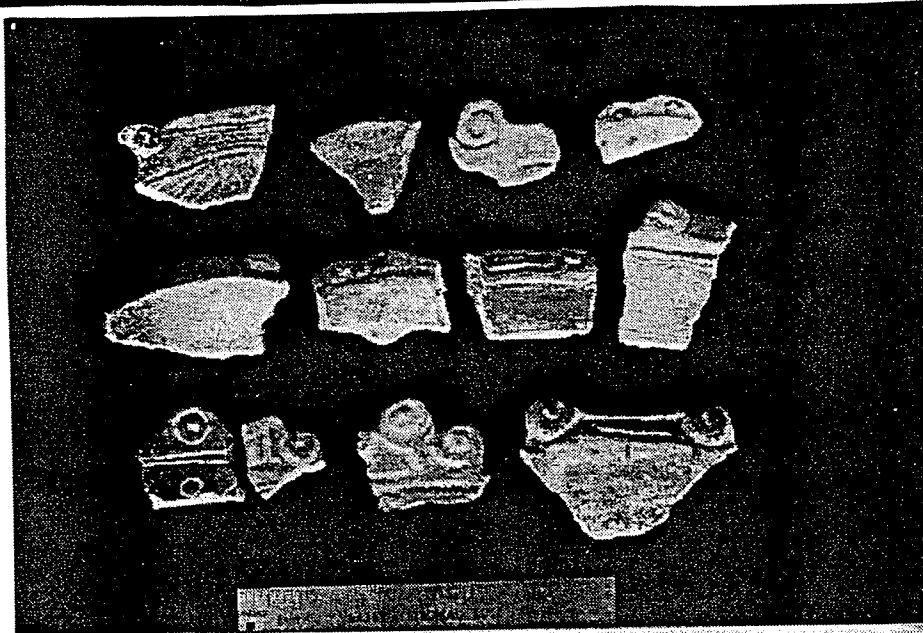
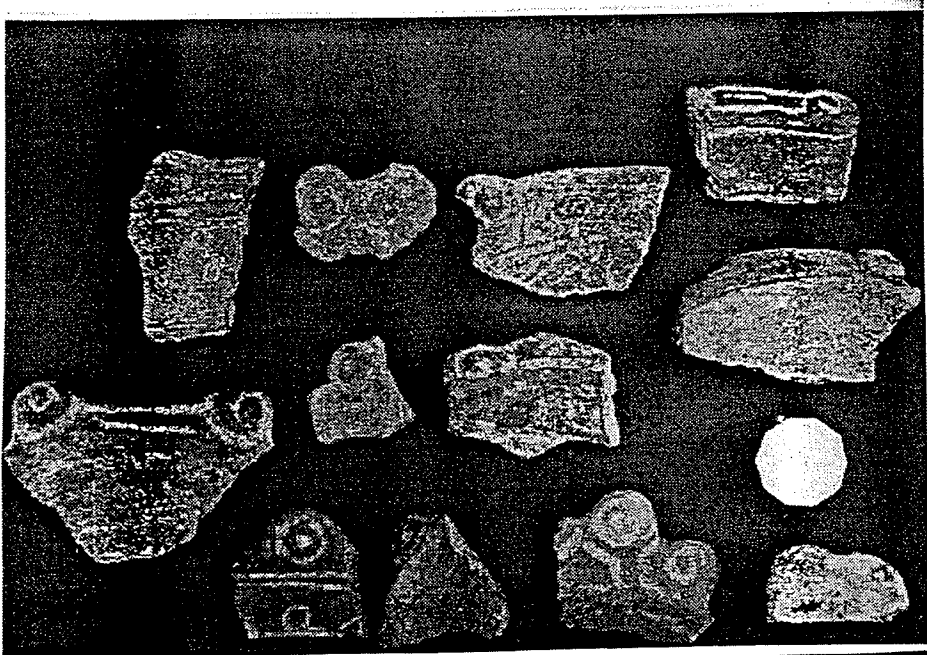
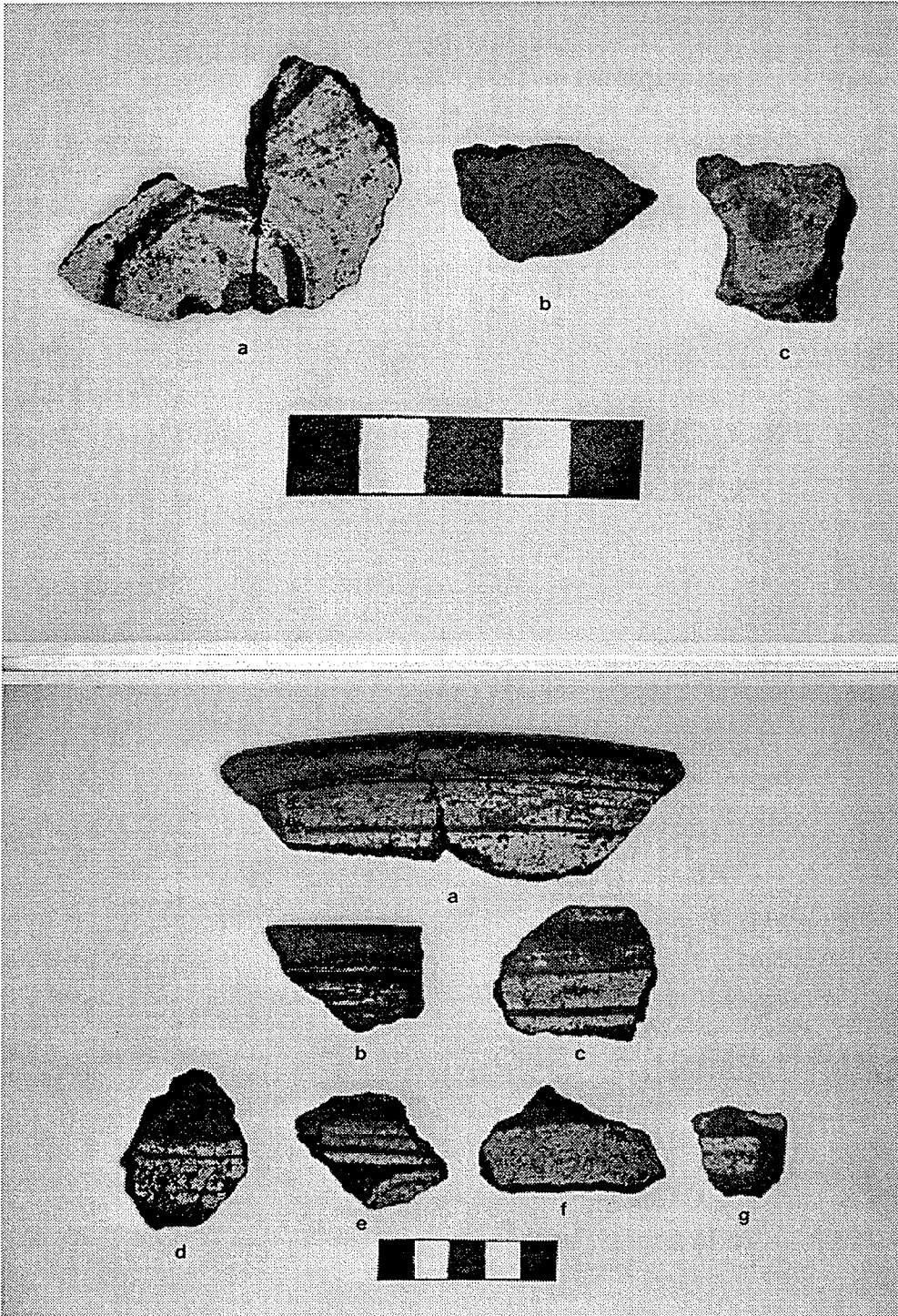
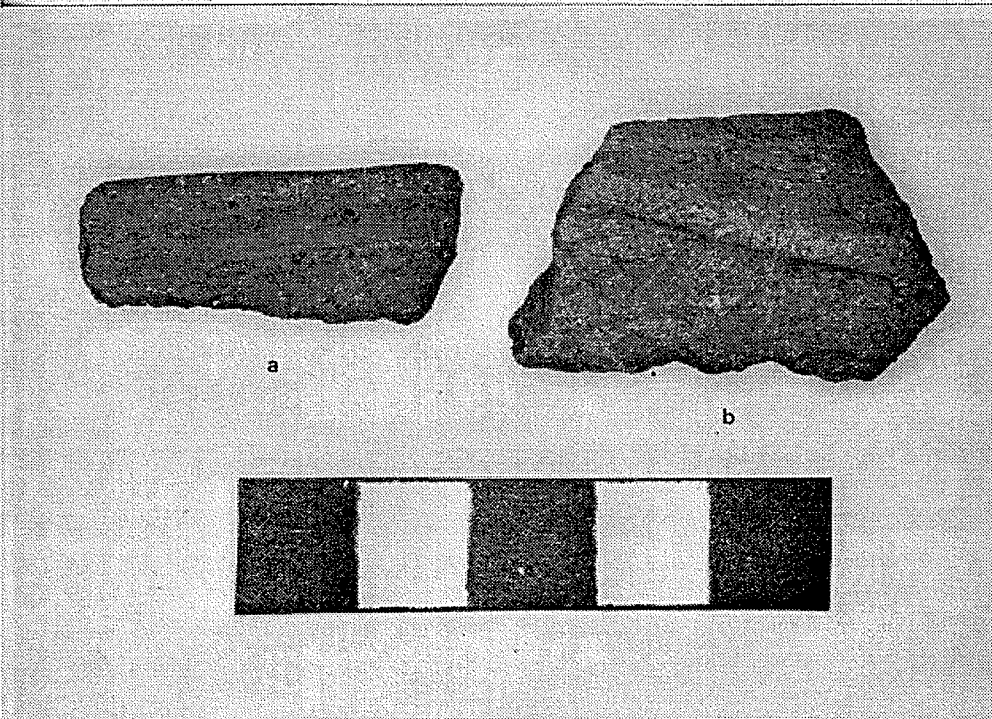
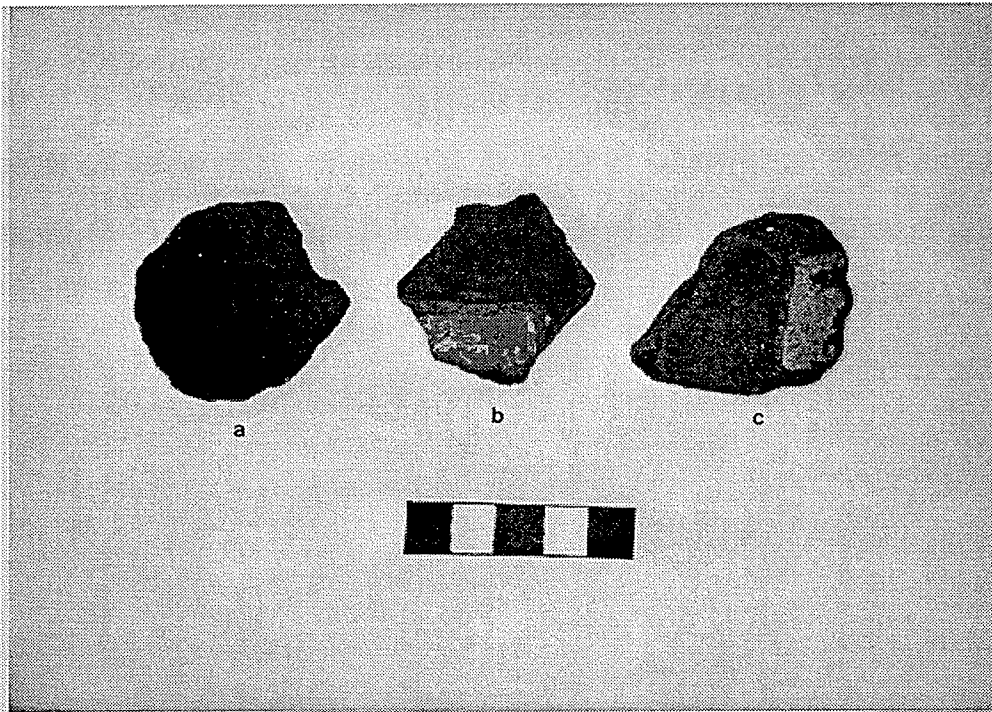


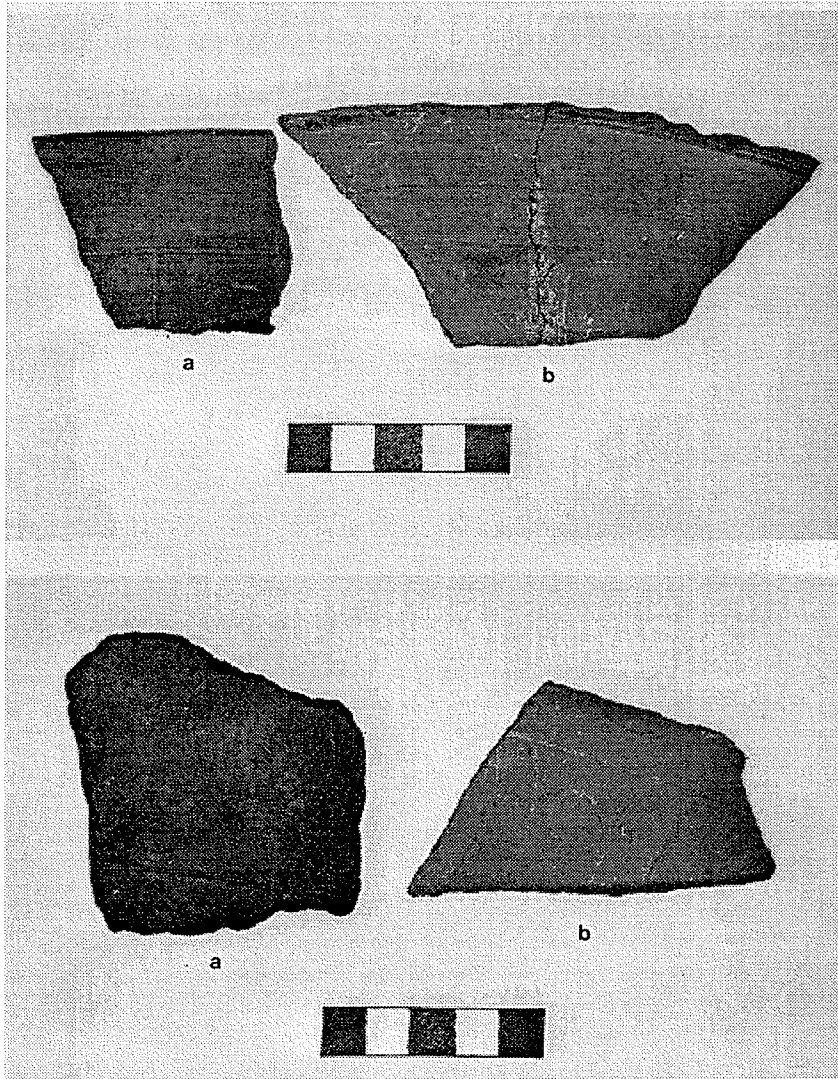
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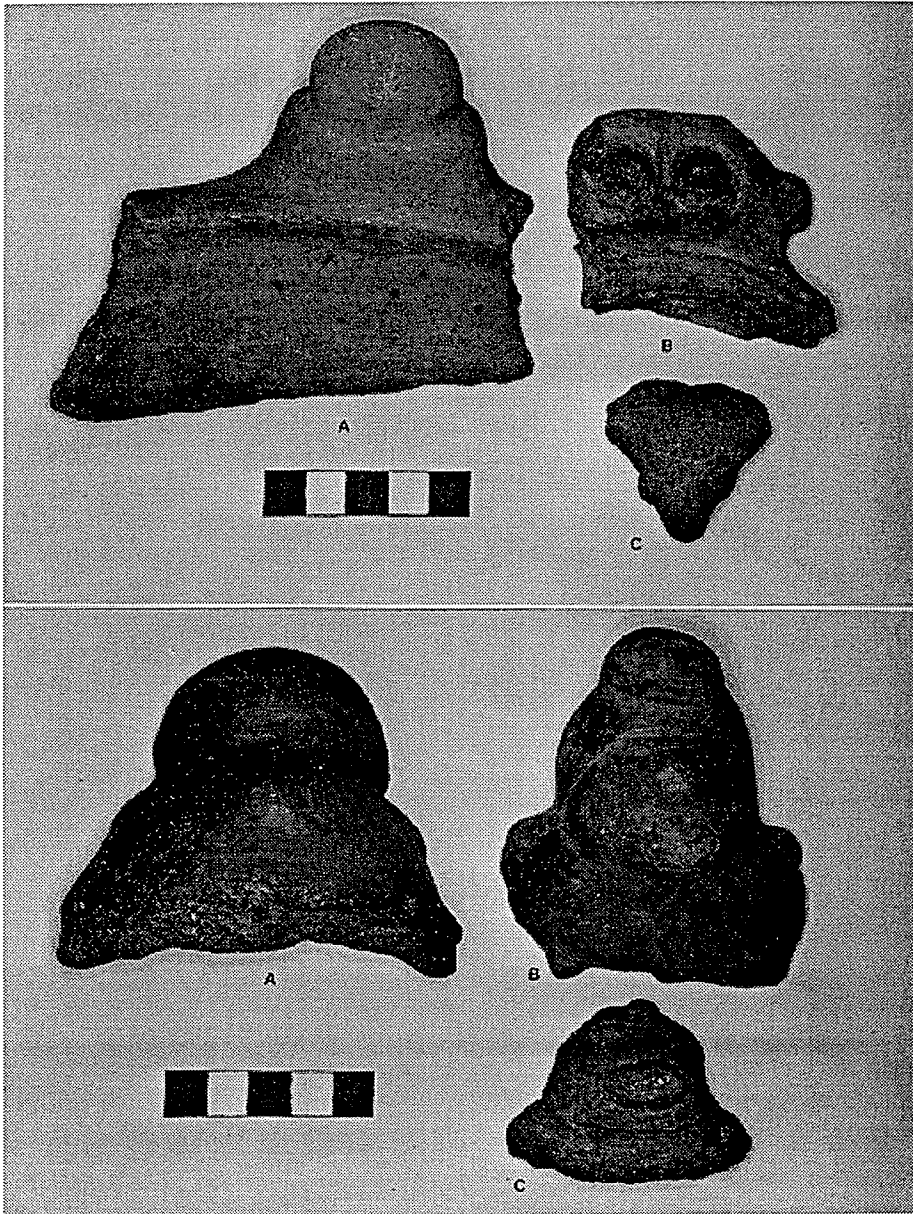
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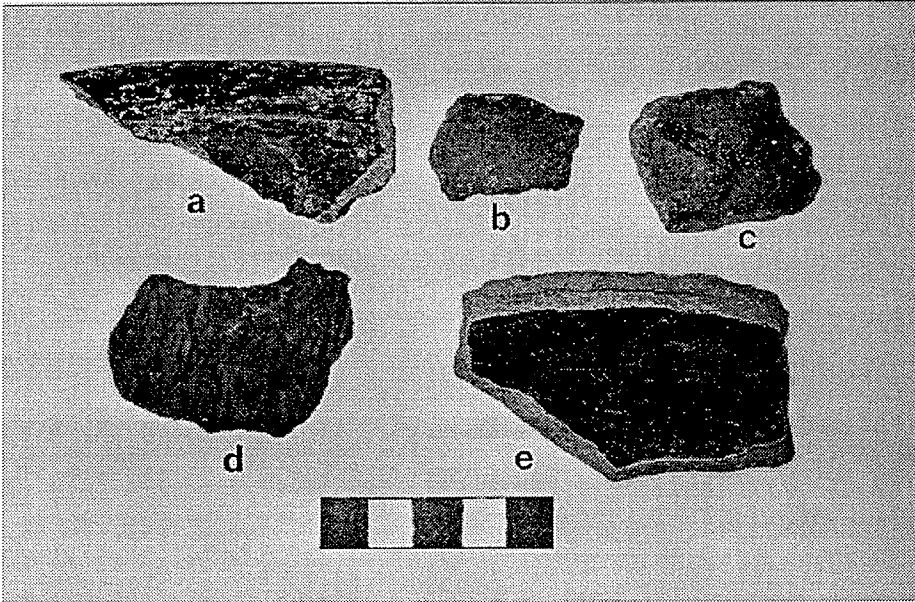
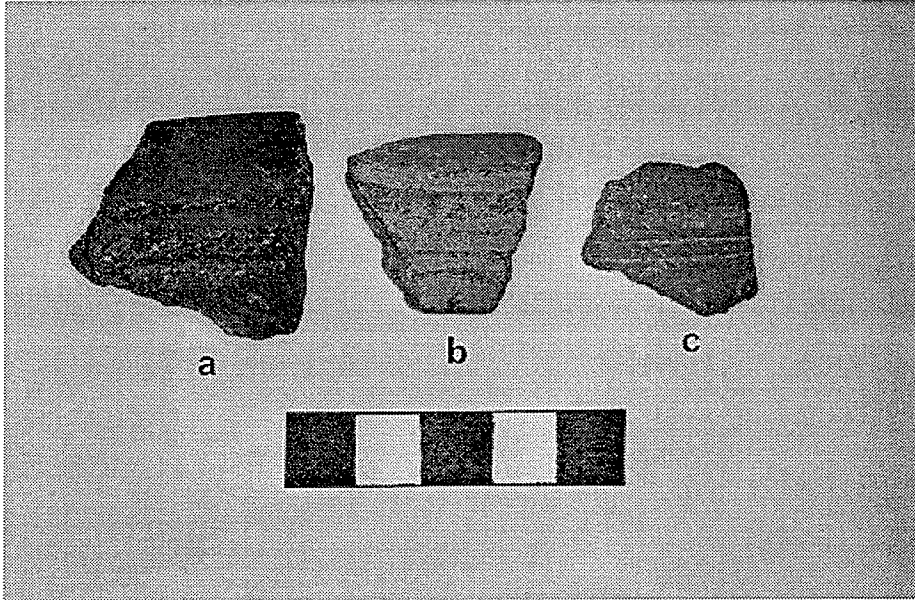
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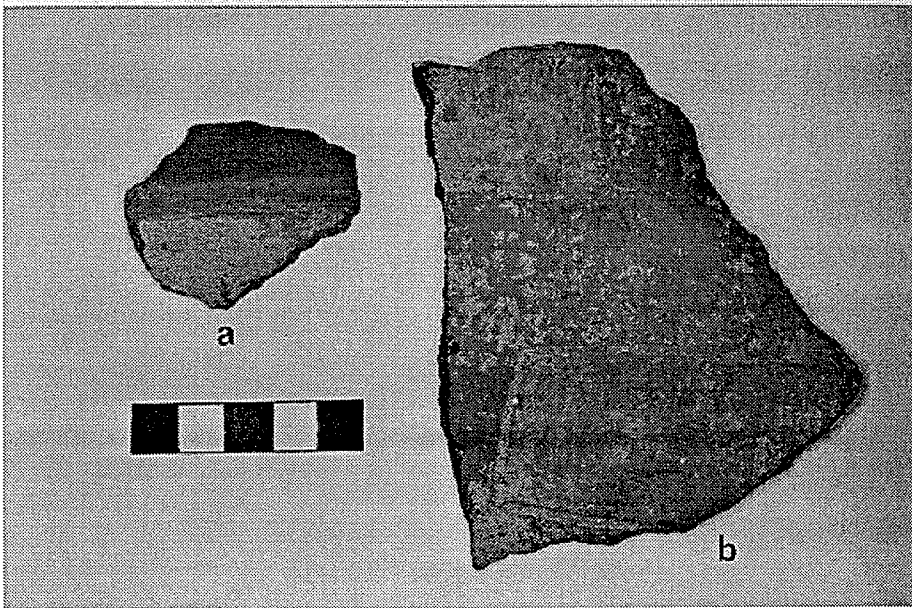
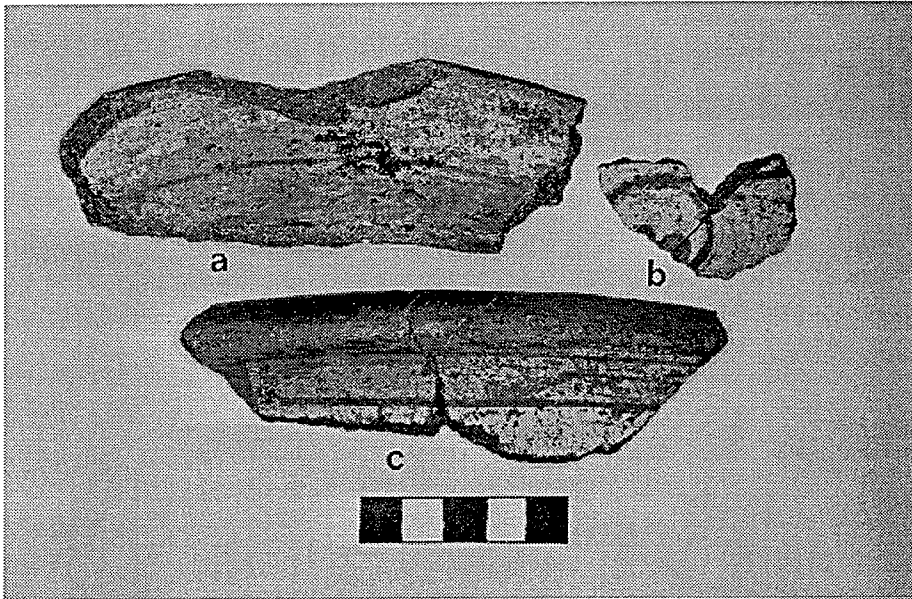
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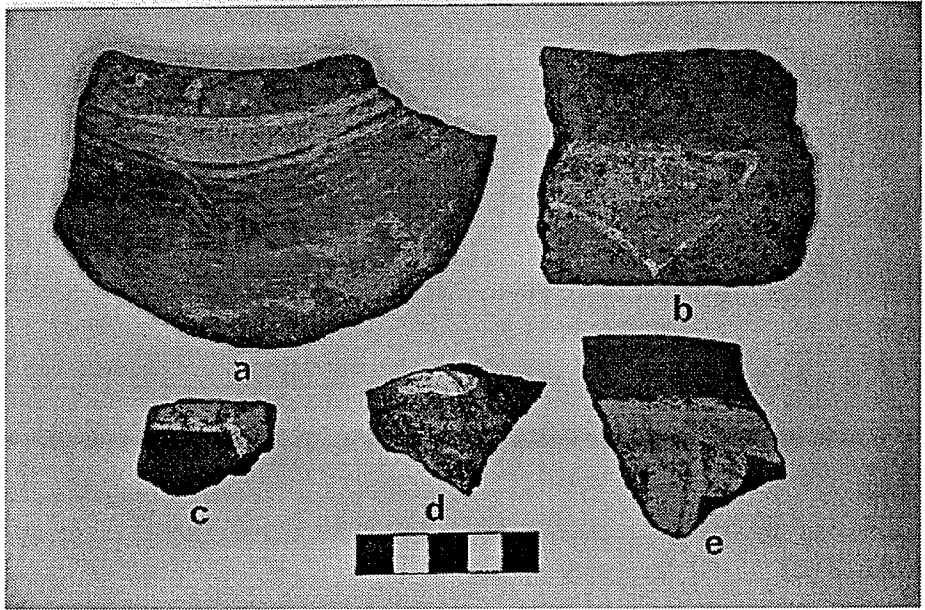
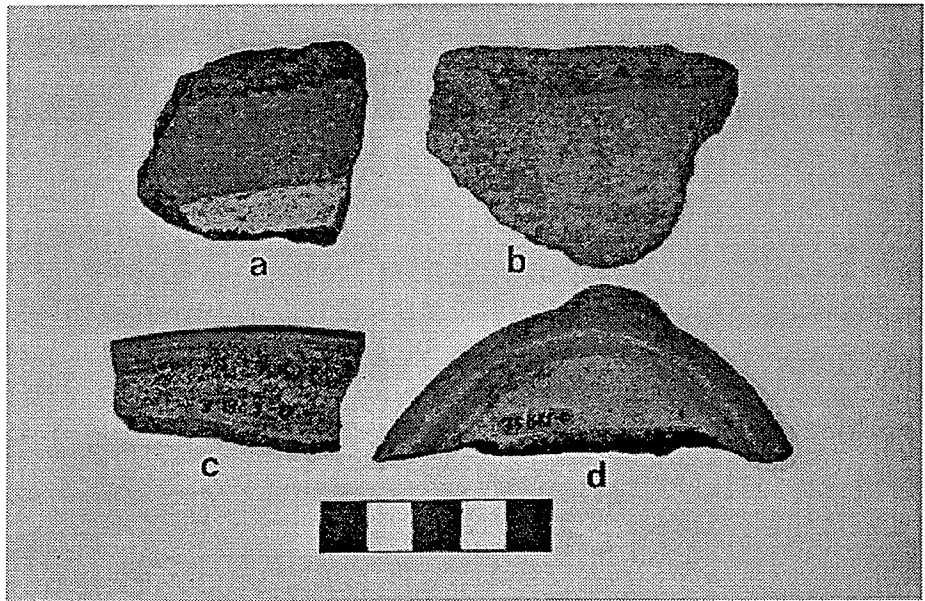
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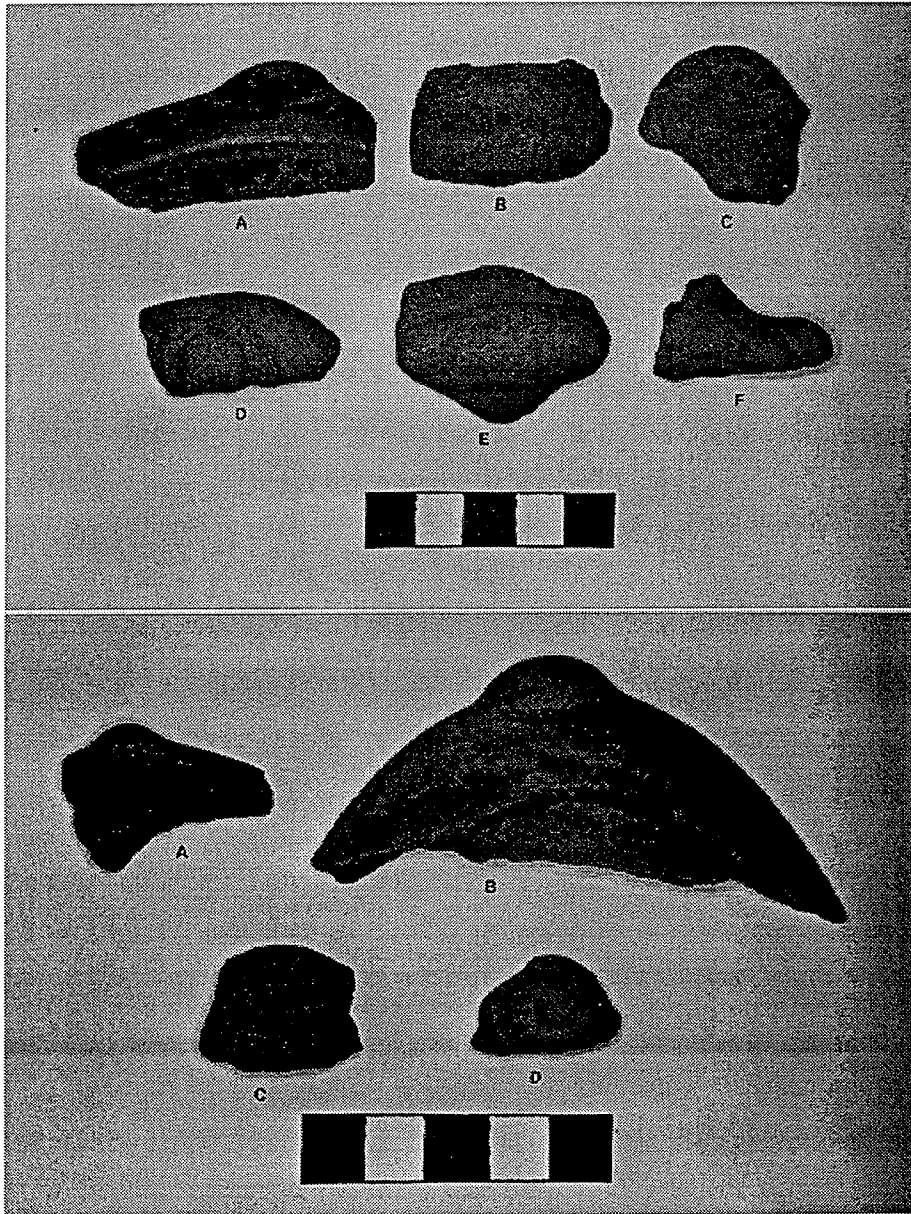
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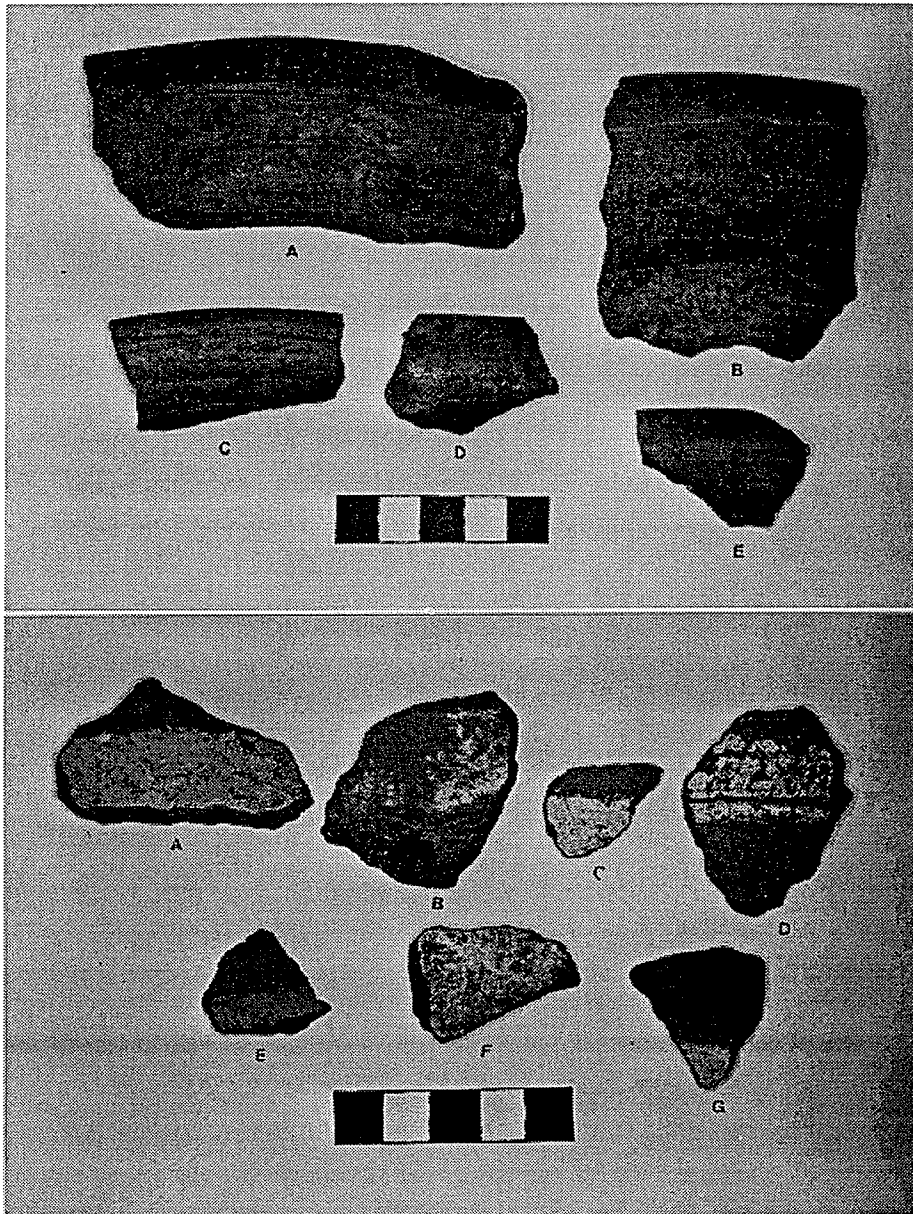
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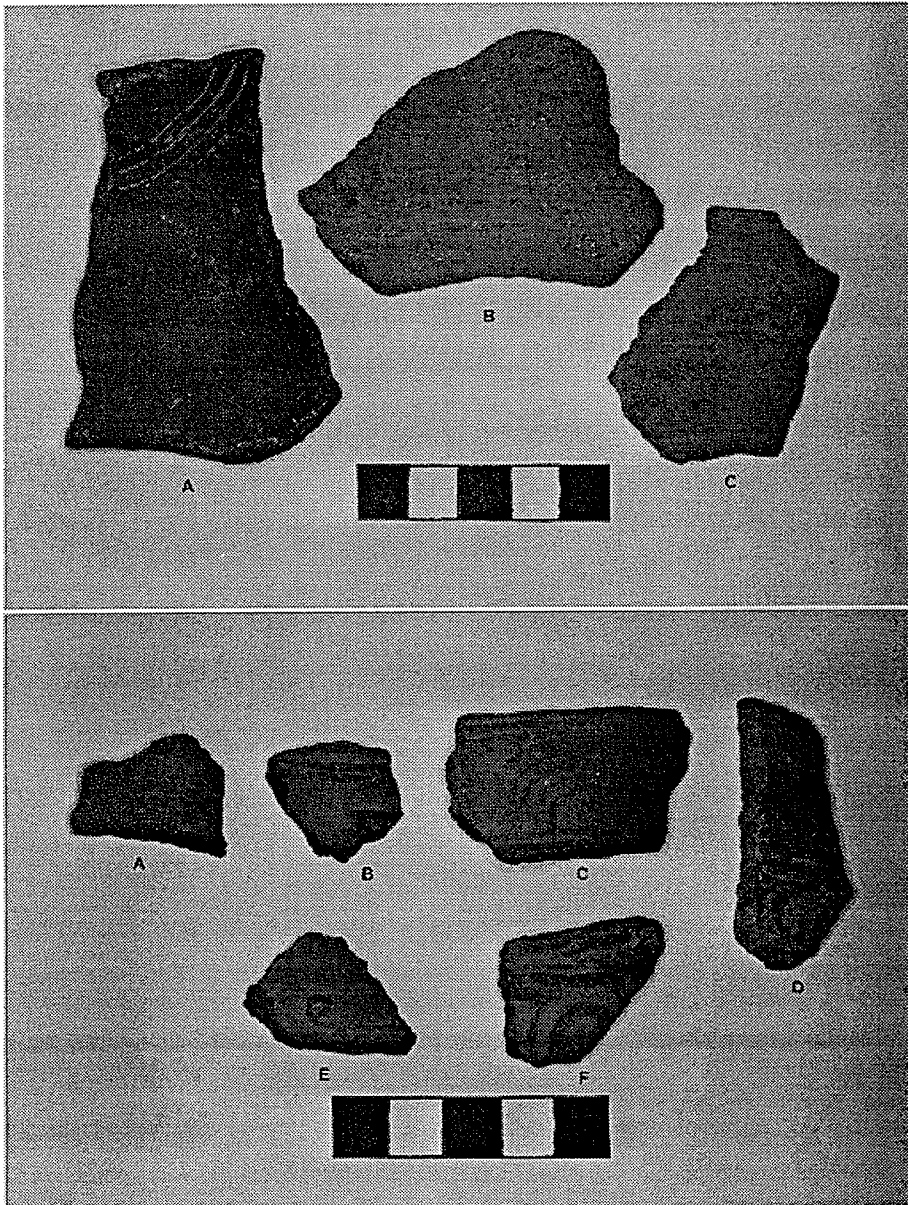
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Plates 25 (top) and 26 (bottom). Scale is 5 cm.



Plates 27 (top) and 28 (bottom). Scale is 5 cm.



Plates 29 (top) and 30. Scale is 5 cm.

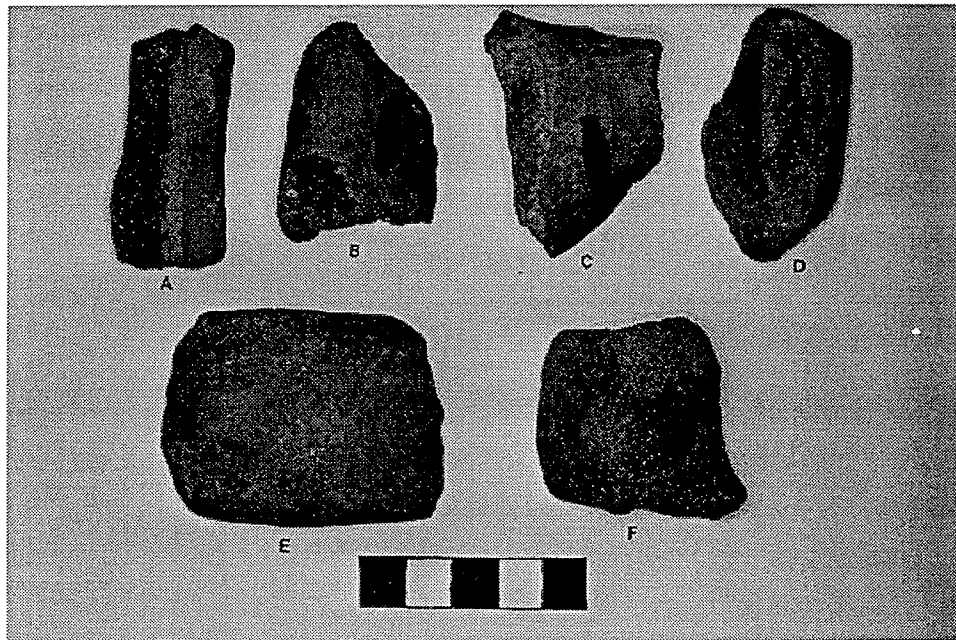


Plate 31. Scale is 5 cm.