JOURNAL OF THE VIRGIN ISLANDS ARCHÆOLOGICAL SOCIETY

NUMBER 5
1978

THE VIRGIN ISLANDS ARCHAEOLOGICAL SOCIETY

Founded and incorporated, January 1974, at St. Thomas, U.S. Virgin Islands as a non-profit, scientific organization.

The object for which this corporate society is formed is to bring together those persons having a serious interest in archaeology, history and related studies; to explore, excavate (under the aegis and direction of the Territorial Archaeologist of the government of the U.S. Virgin Islands), chart and study the cultures of primitive peoples who once inhabited our Islands; to publish the Society's findings; to communicate with other archaeological and historical societies and disseminate knowledge acquired through such activities.

Membership in the Society is open to all persons having an abiding interest in the objectives of the Society and who adhere to the Society's Code of Ethics.

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Manuscripts (drawings, charts, maps, photographs) submitted to the Society's *Journal* shall be in the English language, typewritten and doubled spaced; and shall become the property of the Society unless return is requested and accompanied by a self-addressed, stamped envelope. All correspondence deemed suitable for publication should be sent via air, certified mail: Kenneth C. Dick, Editor, High Road, Star Route, Vessup Bay Estates, St. Thomas, U.S. Virgin Islands, 00801. The Society cannot guarantee publication of unsolicited articles and reserves the right to reject and/or edit all articles, in the best interests of the Society.

Copies of the Society's *Journal* or *Journals* will be sent, free of charge, to all members not in arrears. (One copy per Membership).

SOCIETY MEETING DATES: Members will be informed of place, date and time by advance *Newsletter.*

VIRGIN ISLANDS ARCHAEOLOGICAL SOCIETY

Number Five
1978

Journal

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Erratum

In my article, 'Aboriginal and Early Spanish Names of Some Caribbean, Circum-Caribbean Islands and Cays' (*Journal of the Virgin Islands Archaeological Society,* no. 4, pp. 17-41), the conclusion assumed was that Christopher Columbus must have named St. Thomas (V.I.) 'if only for the reason that this island's name appears on a map in the Royal Library, Copenhagen, Denmark, dated 1513 and signed Bartholomaeus. This seems to be the earliest map on which the name St. Thomas is set down' (the map was apparently made by Christopher Columbus' brother, Bartolomé Colón).

Upon receipt of a facsimile of this map, I found that the information originally furnished me turned out to be erroneous (a very inefficient bit of outside research investigation on this all-important point). The fact is that the name St. Thomas does *not* appear on this map, but simply the name 'Virgin Islands'!

Like so many other facets of history in which there are no known facts, we can only delve into circumstantial evidence and see in what direction it points. As mentioned in my article, the first important map of the New World is that of Juan de la Cosa, dated 1500. It bears the name 'Las Virgenes' but St. Thomas and St. John do not appear.

The second most important map is that of Alonso de Santa Cruz, prepared by 1541, with an entire *Atlas,* and probably based on data collected not much later than 1520. This map is interesting, inasmuch as Santa Cruz has named a couple of islands, with names no longer used. He shows 'virgenes' (Virgin Islands), 'bizgigorda' (Virgin Gorda) and Anegada, but also shows an island which some historians say is 'Cayo de San Juan' and another smaller one which he calls 'isleo blanco'. There is a larger island near that of 'Cayo de San Juan', but it is unnamed.

We must keep in mind that many statements attributed to Columbus were not direct quotations of the Admiral but come to us from letters written by others who were on board, men such as Dr. Chanca, Michele de Cuneo, and Guillermo Coma. Such letters were not written with historical intent. Fairly accurate maps were made only of those islands on which attempts were made to colonize or otherwise explore for gold.

It would seem, however, that we have to leave the Spaniards out of it. They explored to the west and, after Columbus' voyage, showed little or no interest in what we now call the Virgin Islands, except in passing through. The next European nation to penetrate these waters was the English.

Captain John White lingered in the Virgins in 1587 and, of course, Sir Francis Drake passed this way in 1595. By 1610, many English ships on the way to the settlement in Jamestown made the voyage via the West Indies. It

seems that the first leg was from St. Christopher's and Nevis, where after resting and reprovisioning, the long haul to Virginia could continue.

Because of the lack of potable water, there was no reason to lay over in the waters of St. Thomas or St. John, but as the Virgins were doubtless the first land sighted, many an anchorage must have taken place there, if only in order to recover their land-legs, take care of illness, or some other contingency.

In personal correspondence from historian Miles H. Fairbank:

> I am convinced that at that period, about a century after Columbus, the English knew more about these islands than did the Spaniards, and the Anglicized version of St. Thomas and St. John would lead me to believe that the English were responsible for the names we are seeking. We must not forget that during this period England was going through a bit of religious turmoil and the naming for saints may not have been coincidental.

Fairbank suggested trying to locate a copy of an *Atlas,* dated 1611, by the Englishman John Speed in the remote possibility that it might contain a map of the West Indies, showing St. Thomas. In this regard I have sent an inquiry to the British Naval Museum, Greenwich, England.

So, the search for who named St. Thomas continues . . .

Kenneth C. Dick

Notice to Authors

The *Journal of the Virgin Islands Archaeological Society* will consider for publication unsolicited articles submitted in formats which conform to the ones in this issue. Similar standards are those of *American Anthropologist, American Antiquity,* the Modern Language Association, and The University of Chicago Press. Whereas a scholarly *apparatus* is suited to learned essays and notes, the *Journal* will consider also (as in the past) articles of general archaeological or historical interest written for unspecialized readers. The goal is to please *all* subscribers, while retaining a certain basic literary quality.

Virgin Islands Archaeological Society, Inc.

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BIOGRAPHICAL NOTES

STEPHEN DAVEY GLAZIER was born in New London, Connecticut. He studied anthropology at Princeton and Edinburgh, and is now a Ph.D. candidate at the University of Connecticut. Glazier has done anthropological field work in Trinidad during 1976 and 1977, as well as considerable documentary research on the local ethnohistory.

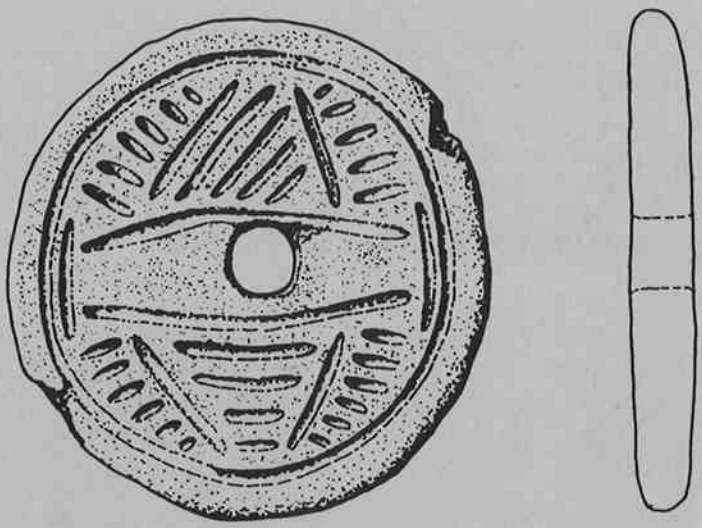
ROBERT CHRISTOPHER GOODWIN is a native of Maryland. He graduated from Tulane University with a double major in anthropology and political science, receiving also a master's degree in the former from Florida State University. Presently director of the Expedition Training Institute, Goodwin is also a candidate for a Ph.D. in anthropology at Arizona State University.

LOUISE KRASNIEWICZ holds a B.A. *magna cum laude* in anthropology and a master's degree in educational media, both from the University of Connecticut. She studied palaeoethnobotany under Jane M. Renfrew at the University of Southampton, and has acquired an interest in the prehistory of the West Indies.

OSWALDO IGNACIO MORALES PATIÑO was born in Havana, Cuba. Besides many other honorary and special titles, he earned an M.D. in surgery from Havana University in 1922. Related to the early Cuban antiquarian and linguist Antonio Bachiller y Morales, he soon developed an interest in archaeology and has contributed important site reports, lexicons, typologies, and theoretical papers. A founding member of the Grupo Etnológico Guamá and President from 1948 to 1952 of Cuba's National Board for Archaeology and Ethnology, he has been active also in public archaeology. Persecuted, tortured, and imprisoned because of his beliefs in Communist Cuba, he was allowed to leave the country in order to seek medical treatment for the after-effects of a prison beating. After his recovery, Dr. Morales practiced medicine briefly in New Jersey and has retired lately to Key West, where he remains active and has become honorary Curator of Archaeology for the East Martello Tower Museum of that Florida city. He is also a Corresponding Member of the Department of Anthropology, Florida State University.

FERNANDO ROYO GUARDIA was born in Barcelona, Spain, but grew up and spent most of his life in Cuba. He holds two doctorates among his many credentials, one in Education and another in Natural Sciences (anthropology), both from the University of Havana. His dissertation for the second degree was *INDIAN BURIALS IN CUBA*. He worked with the late René Herrera Fritot and other Cuban anthropologists, his own work in field archaeology, physical anthropology, ethnohistory and ethnology being quite extensive (in some cases pioneering). Long a prominent member of Cuba's National Board for Archaeology and Ethnology, he resigned from that Board in 1952 protesting Communist infiltration, and, in 1959, also his high-ranking post in the Cuban Ministry of Education, for the same reason. In his middle seventies, Dr. Royo continues to write from his Los Angeles home.

For the biographical notes of Kenneth Charles Dick *and* Alfredo Ezequiel Figueredo, *please see the penultimate pages of issues* number 4 *and* 2, *respectively.*



During June, 1972, an archaeological survey team from the Museum of the American Indian (Heye Foundation) under the direction of Alfredo E. Figueredo discovered an unusual Taíno component in Virgin Gorda, characterized (among other things) by molded and baked clay spindle whorls and an elaborate Chicoid art style. While most of the clay spindle whorls had no decorations at all, a minority of the fragments showed some incised patterns. These patterns were recognized as being part of the same art style that decorates the associated ceramic pottery and baked clay stamps. The style was dubbed 'Fort Point' after the type site.

Only one whole specimen of a decorated clay spindle whorl was recovered, and is illustrated here. It was analyzed by Figueredo at the University of Massachusetts, and has been returned to the government of the British Virgin Islands as a unique object to be displayed in the new local museum. Hopefully, it will be given the care and attention that it deserves.

Description
Munsell Soil Color Chart 5YR 4/4
Dimensions: 8-1/2 by 8 cm., 11 mm. thick

Ripley Pierce Bullen
1902-1976
A Memoir
By Alfredo E. Figueredo

The archaeological community in the Caribbean recently suffered a great loss with the death of Ripley P. Bullen on 25 December 1976. For almost two decades, Dr. Bullen had been active in the study of West Indian prehistory, and was among the founders of the International Association of Caribbean Archaeologists.

Born 21 September 1902 in Winthrop, Massachusetts, Rip (as he was known by his friends) spent part of his childhood in Schenectady, New York. He studied at Cornell University, earning a master's degree in Mechanical Engineering (1925). Bullen worked for the General Electric Co. for 15 years, all the while developing an increasing interest in prehistory and serious research. In 1940, he joined the Robert S. Peabody Foundation for Archaeology, and soon afterward began taking graduate courses in anthropology at Harvard University.

Bullen became an assistant archaeologist with the Florida Board of Parks and Historic Memorials in 1948, entering the Florida State Museum in 1952 as its first Curator of Social Sciences. After an important career in the U.S. Southeast (he has been referred to as 'the dean of Florida archaeology'), Rip cultivated an interest in the Caribbean.

Field work sponsored by the William L. Bryant Foundation and the National Park Service in St. John and St. Thomas during 1959-1960 gave him the opportunity to visit the Virgin Islands in a professional capacity, and in 1960 Bullen participated in the surveys and excavations that were to lead to an important series of articles and monographs on our local prehistory. His Virgin Islands bibliography is appended to this Memoir.

Besides reporting his own collections, Ripley P. Bullen performed an inestimable service to Virgin Islands archaeologists by photographing, analyzing, and publishing some of the material from the Dano-Dutch Archaeological Expedition to the West Indies of 1922-1923, long stored in Copenhagen. In his papers on Krum Bay and the ceramic sequence of the central Virgins can be appreciated an eye for detail and concern for meticulous analysis that earned him a well-deserved reputation as a veritable encyclopaedia of cultural data. At the various congresses or even by mail, Rip was one of our most valued works of reference.

Chairman of the Department of Social Sciences, Florida State Museum, for 17 years before his retirement in 1973, he then became Curator Emeritus at that institution, which established the Bullen Medal (for outstanding anthropology students) in his honor. Bullen will be remembered as editor of many publications, among them *The Florida Anthropologist* and the *Pro-*

ceedings of the second through the sixth International Congresses for the study of Pre-Columbian Cultures of the Lesser Antilles.

Nine months before his death, the University of Florida awarded him a Doctor of Science degree recognizing his many contributions to various archaeological disciplines. He has left us a legacy of energy and enthusiasm which will be hard to match, as is evident in his many methodic and timely publications. Ripley P. Bullen is survived by his wife Adelaide (a distinguished anthropologist in her own right), two sons and four grandchildren.

Virgin Islands Bibliography

1962a The Preceramic Krum Bay Site, Virgin Islands, and its Relationship to the Peopling of the Caribbean. *Akten des 34. Internationalen Amerikanistenkongresses (Wien, 18. bis 25. Juli 1960),* pp. 398-403. [23.3 cm.

1962b Ceramic Periods of St. Thomas and St. John Islands, Virgin Islands. The William L. Bryant Foundation: *American Studies,* Report Number Four. (4), map, 1-74 p. [22.8 cm.

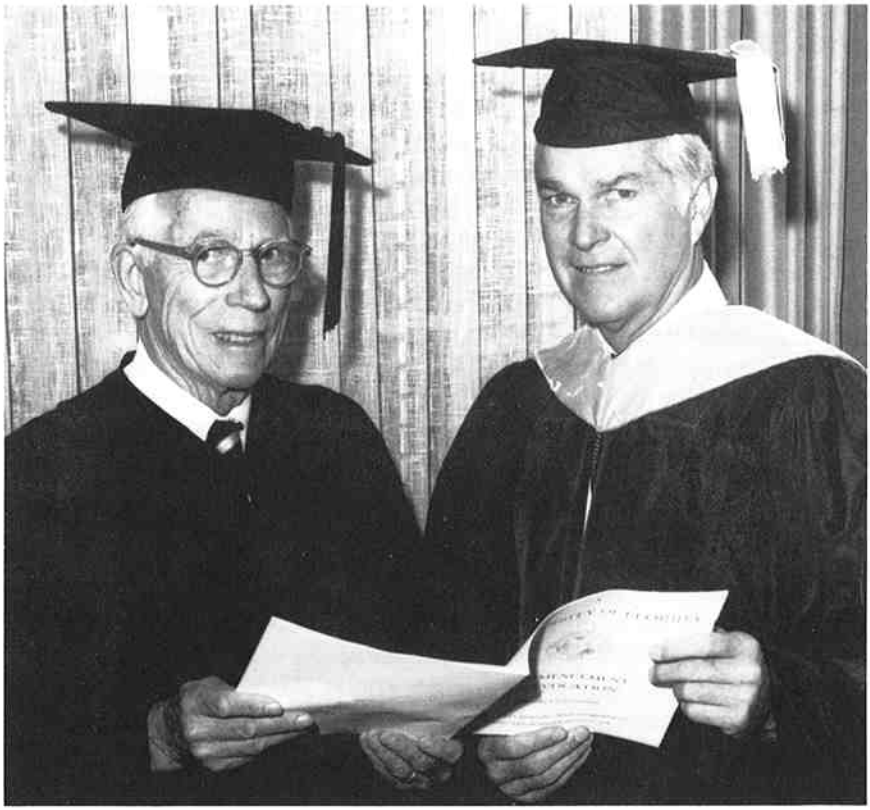
1964 Krum Bay, A Preceramic Workshop in the Virgin Islands/Krum Bay, un atelier préceramique aux Iles Vierges. *First international Convention for the Study of pre-Columbian culture in the Lesser Antilles (Fort-de-France, July 3-7, 1961),* Part II, pp. [107]-126. [26.1 cm.

1973a Petroglyphs of the Virgin Islands and Puerto Rico. *Proceedings of the Fourth International Congress for the Study of Pre-Columbian Cultures of the Lesser Antilles (Reduit Beach, St. Lucia, July 26-30, 1971),* pp. 13-16. [27.4 cm.

1973b Krum Bay, A Preceramic Workshop on St. Thomas. *Proceedings of the Fourth International Congress for the Study of Pre-Columbian Cultures of the Lesser Antilles (Reduit Beach, St. Lucia, July 26-30, 1971),* pp. 110-114. [27.4 cm.

and in collaboration with **Frederick W. Sleight:**

1963 The Krum Bay Site. A Preceramic Site on St. Thomas, United States Virgin Islands. The William L. Bryant Foundation: *American Studies,* Report Number Five. [i]-iii, 1-46 (2) p. [22.5 cm.



Ripley P. Bullen awarded honorary Doctor of Science degree by the University of Florida. Shown with President Robert Q. Marston (right).

THE CUBAN SCIENTIFIC EXPEDITION TO THE VIRGIN ISLANDS (1951)

by
Oswaldo I. Morales Patiño
and
Fernando Royo Guardia

Translated and Annotated
by
Alfredo E. Figueredo

Translator's Note

Cuban archaeologists had long been active in the rest of the Spanish Caribbean when, in 1951, they had their first opportunity to visit some of the English- and French-speaking areas. The project seems to have been envisioned since 1944, and was meticulously planned for.

The Cuban National Board for Archaeology and Ethnology (at that time presided by the senior author) coöperated with the Grupo Etnológico Guamá and several amateur entities in order to organize the expedition. Carlos Prío Socarrás, then president of Cuba, authorized the project, and Rear Admiral Pedro Pascual Borges, Chief of Staff of the Cuban Navy, offered logistical support (including the use of the cruiser *Cuba* during part of the itinerary).

The Cuban Scientific Expedition had a 10-point program:

1. To study and identify the possible routes through which prehistoric cultures may have reached Cuba;
2. To seek evidence for the presence of Cuban Complex I in Jamaica, Puerto Rico, and the Virgin Islands;
3. To seek evidence for the presence of Cuban Complex II in Jamaica, Puerto Rico, and the Virgin Islands;
4. To ascertain the spread of Carib influence and identify the culture found by Columbus on St. Croix;
5. To gather anthropometric data from skeletal remains;
6. To compile local place-names that may be useful in the study of aboriginal philology;
7. To examine museums and private collections;
8. To collect archaeological samples for the Guamá Ethnological Museum in Havana;
9. To publicize the accords of the First Round Table Meeting of Caribbean Archaeologists (1950);
10. To pursue scientific research related to the foregoing.

The Expedition was originally composed of 9 members constituted into a Commission; however, only 4 visited the Virgin Islands, and these were the authors and their wives. Since only that part of the Expedition's report relative to the Virgin Islands is translated here, the title of the original publication (cited at the end of this note) has been slightly altered, and the authors' number reduced accordingly.

Drs. Morales and Royo have been very kind in granting me permission to translate and publish this portion of their work. It is something that I have long wanted to do, in order to fill a gap in the list of available sources for Virgin Islands archaeology. As most readers will know, outside our western (Culebra and Vieques) and southernmost (St. Croix) islands, few Virgin Islanders read Spanish.

The Cuban Scientific Expedition to the Virgin Islands provides extremely valuable information on the condition and extent of 4 major sites in 1951. The earlier reports are vague on this matter and, for all practical purposes, there are no later ones. This is therefore a crucial paper for students of Virgin Islands prehistory.

The importance of this work is not due solely to its reports of archaeological remains, however; it is also a historical document, offering us interesting information on the state of affairs, beliefs, and personalities of its time. The Cubans came during one of our minor dark ages—when archaeological work had come to a near standstill, and the history and historiography of the islands (something common enough) were in abject abandon.

The golden age of our archaeology was the period from 1916 to 1925, when rare was the year that no excavations or publications took place. After a quiet 11 years, there was a minor burst of activity between 1937 and 1938. From 1939 to 1971, though, the picture is bleak indeed. The workers are less than half a dozen: Bullen, Flaherty, Rutsch, Sleight, and Vescelius, and the publications are fewer still. It is almost half-way into this period that our article was first published: an important link for the modern reader.

It is rewarding also to have available the impressions of archaeologists *not* from the United States. In our golden age we had two Dutchmen (de Booy and de Jong) and one Dane (Hatt) to share their experiences with us; later, we had two Englishmen (Buxton and Trevor). From 1939 to the present, however, the Cubans are the only refreshing wind from the outside. May we have more!

I have added 67 footnotes to the text. Some help to explain it, and to provide the references that were missing; others were added in an attempt to up-date the article. Occasionally the Spanish was ambiguous or unclear, and that was another reason for footnotes.

It should be clear to all concerned that *any* work a quarter of a century old can be (at least) as heavily annotated as this one was. In all fairness, then, it must be said that of all the expeditions to the Virgin Islands up to 1951, only three others (Hatt's, Rouse's, and Vescelius') had comparable organization and rigor; these too need extensive revision in the light of recent work, and contain analogous historical inaccuracies.

The modern Virgin Islander well-versed in local history will find many of my footnotes on the subject unnecessary; however, since the Cubans were largely faithful recorders of what they came across, it must be borne in mind that what they copied down 'wrong' was taken from the literature of the time, and that our contemporaries in the islands are as likely to be confused as they were.

It will come as no surprise to the reader (our other affairs being in quite a concordant disorder) that there is no historiography of the Virgin Islands.

Indeed, there is precious little published under the heading of local history (and these are mainly redundant and apish general treatments) and *nothing at all* when it comes to geography. Though I lay claim to no special gift for scholarship, few are those today who can provide information in equal depth to what is offered here. That the Cubans were unable to provide it is not to their discredit, since it requires a specialist to go beyond where they stopped.

If a translator may be permitted a privilege usually reserved for real authors, I would like to dedicate this English version as my personal tribute to the two great men who were responsible for the original, Spanish version.

Alfredo E. Figueredo

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Oswaldo Ignacio Morales Patiño, Fernando Royo Guardia, Luis Cabrera Torrens, Leandro de Oña, and Justo Salvador Cabrera

1952 La Expedición Cientifica Cubana. Jamaica, Haiti, Puerto Rico e Islas Vírgenes. *Revista de Arqueología y Etnología,* nos. 15-16, pp. 93-202.

THE CUBAN SCIENTIFIC EXPEDITION TO THE VIRGIN ISLANDS (1951)

Text and Notes

Christopher Columbus, in the course of his second voyage, came to an Archipelago that he named *The Eleven Thousand Virgins,* and in one of them (St. Croix[1]), he encountered what he called 'Caribs'. The island of St. Thomas was occupied by Danes in the XVII Century;[2] they unsuccessfully attacked the English that were by then already established on St. Croix.[3] These last were defeated by the French in the XVIII Century.[4] The French set their island on fire in order to clear it for agricultural purposes. The Danes bought St. Croix in 1726[5] and recently the United States have acquired the three former Danish islands of St. Thomas, St. John, and St. Croix.

St. Thomas is perhaps the most beautiful American possession, and its capital, Charlotte Amalie (where the government of all three islands is located), conserves the aspect and manners of the northern Europeans that lived there for more than two centuries. Its houses and its fort[6] are of a style completely different from what predominates in the West Indies. The houses offer the peculiarity of being prepared for frequent hurricanes; their doors and windows (which open to the outside) are of iron and hardwoods reinforced with metal and set on strong hinges. In one section, a French colony[7] persists: the descendants of Bretons[8] still devoted to fishing.

What a lesson for Cubans is the way in which these people care for and preserve the relics of the past! They are proud of their old houses. In Cuba, that selfsame antiquity would be the best incentive possible for many a modern architect to exercise his generally intranscendental destructive ability; here the same reason affords these houses the best guarantee for their protection. We visited Government House, with old cannons; other ancient artillery pieces that were buried vertically in front of the old Danish fort,[9] and the watchtowers built by celebrated pirates: Blackbeard and the legendary Bluebeard.[10]

Bluebeard's almost incredible story seems but one of Perrault's fairy tales; indeed, Perrault used for his version the account of one that escaped the power of this pirate. Bluebeard frequented the coasts of Algeria and Tunisia before settling in St. Thomas. In front of his tower are 9 of the 11 cannons that defended it, and 7 mysterious tombs are attributed to his butchered wives.[11] At present, next to those relics (surrounded by beautiful

gardens), there are comfortable hotels that make clever use of the past; typical is one that has for its name the date on which it was built: *1829.* There are also other hotels, such as the *Caribbean,* with excellent food (also the best and most modern), and the *Virgin Islands,* situated on a height that commands some of the most beautiful views. On the slopes of the mountains are seen large trapezoidal spaces entirely lacking in vegetation and paved at a slant. When we inquired the reason for these structures, we were informed that the island is lacking in potable water. There are no rivers or wells,[12] for which reason rain water is used instead, collected from the inclined paved surfaces into great cisterns that store it for use in the city.

The governor's *Annual Report* shows the administration's effort in carrying out a program of public works to the tune of ten million dollars, increasing public education through a responsible pedagogical plan. There are 6 medical doctors in St. Thomas and 5 in St. Croix. Typhoid fever is unknown, there is Social Security, and tourism brought St. Thomas alone the sum of $1,797,566 during 1950 (36,000 tourists). The islands have 26,654 inhabitants in 132 square miles of surface area.

Although one deals here with a free port, prices are not lower than those in Cuba; however, European and even Asiatic goods are found.

Amiably escorted by the governor (the Honorable Morris de Castro), we travelled through most of the island in his automobile.

The roads are excellent and of recent construction, though there are unpaved stretches. The terrain is predominantly hilly, with few flat areas and, all along the coast, numerous small horseshoe-shaped bays, whose waters change colors as those of Varadero;[13] nearly always they have a beach at their end, and two mountainous points. Everywhere one sees numerous islands and cays in the distance, all covered with vegetation. On one side St. John may be seen, where petroglyphs have been reported.[14] From a height that commands Magens Bay, the famous Drake drew a chart, and the place is now called Drake's Seat.

There are few reports that deal with this island from an archaeological point of view; those few almost entirely limit their scope to the site at Magens Bay (studied by Hatt[15] and de Booy[16] toward the end of last century[17]). Alegría[18] visited the site in 1950, but did not excavate in it.

Magens Bay is roundish and has at its end a beautiful beach fringed by numerous coconut trees; the rest of its shoreline is formed by high hills with great stones that come right down to the sea. Far away, before its entrance, there is an island that has the exact form of a three-pointed stone.[19] It is curious that there are other cays that also have the appearance of three-pointed stones.[20]

Royo and Morales Patiño walked the entire edge of the beach up to the extreme northeastern part (looking for the site according to the location that had been given for the Indian settlement), yet nothing was found

though they reached the point where sand meets rock. They then turned round away from the beach, through a light wood. Near the coconut grove there were some potsherds, more commonly met with as one approaches the road.[21] The soil was hard, dry, and difficult to excavate; notwithstanding, a rimsherd and several shells were collected. Leaving the road, information was asked of a colored man who could provide none, but he left and brought a tall white man (who turned out to be French): the latter stated to have heard of an 'Indian town' by the road. In effect, a few meters away, by the edge of a low hill (formed of soft sand), one could see a roadcut, and the cut was through a midden.

It was easy to excavate and at simple sight[22] potsherds and shells showed up. This cut was studied: measured, photographed, and filmed. It extends along the road for about 150 meters, and yielded numerous and varied rimsherds, the base of a round jar or bottle (along with part of its walls), and a handle (found by Mrs. Royo). All the potsherds were plain, and some of them were reddish.

Beyond the road and southward, the midden extends through the coconut grove, and many mounds (that overlap and confound each other) may still be distinguished. In that direction, the Indian site extends some 200 meters. Its northern edge could not be defined as it rises up the hill through brush, though it was observed that its thickness lessens as elevation increases. All the material collected, as well as what was observed in this archaeological site of a large Indian village, corresponds to Arawakan Culture (Complex III); a few specimens are Igneri.

St. Croix.—Though the airplane flight from St. Thomas takes only 15 minutes, from the air one may confirm the observation that is suggested by a glance at the map: St. Croix is somewhat distant from and outside the chain formed by the Lesser Antilles.[23] It is also possible to appreciate how a series of medium-elevation hills divide it irregularly into two parts, to wit: a northern, generally narrow drainage area, and an extensive southern plain.

We were pleased to meet the governor at the airport, where he introduced us to his delegate, Harry E. Taylor, who is the Administrator and supreme authority on the island.[24] Taylor is a jovial and pleasant man, over six feet tall. He is 72 years old (though he does not look it), and 25 years ago he suffered an embolism in his right arm (which he can scarcely use). However, he drove marvelously well the automobile in which he took us through excellent, asphalted roads to the Buccaneer Hotel (about half an hour from the airport). Taylor, as is the case with Cotter[25] in Jamaica, has specialized in the history of Columbus' voyages, and he worked with Morison[26] toward determining the place where the great admiral dropped anchor upon reaching St. Croix.

On this island there are two towns: Christiansted (which is the capital) and Frederiksted. In the first town, a fort built in 1645[27] is noteworthy,

whose old cannons adorn the shore and some street corners. Government House (the former residence of Danish governors) is a sample of Old World architecture; there are old houses and, 50 meters from shore, there is a hotel upon an islet[28]—Hotel-on-the-Cay—surrounded by gardens; it is reached by boat.

St. Croix is characterized by ancient windmill towers[29] and the ruins of the greathouses of former plantations. The towers were used by the danes to harness windpower and move the mills of their primitive sugar factories. With the passing of time, due to lack of water[30] sugar cane cultivation has been slowly given up and the towers are left without sails. The Buccaneer Hotel is in one of these old sugar factories and preserves its windmill tower, but the greathouse has been modernized: terraces and a row of rooms with modern baths have been added. The house was built by a French corsair named Martel in 1625.[31]

Fair Plain.—On the way to the hotel, Taylor showed us an archaeological site right by the road; he told us that many important artifacts had been found there, but, as the place has been cultivated for many years, plowing has broken the pottery, and it appears now in small pieces. It was then a recently-cut cane field, whose ratoons were 40 cm. high. The following day we explored it. It is an Arawak midden about 70 square meters in extent and some 40 cm. thick, but that archaeological depth has been much stirred up. It resembles the Cantabria site near Cienfuegos,[32] but with slightly more elaborate material (both these sites belong to Complex III[33]). We picked up many rimsherds (few of which were decorated), and some handles. As in Puerto Rico, handles do not seem to be very common. This site produced very abundant shell samples. There are many *Lucina* shell scrapers, whelks, and many broken fragments of *Arca, Ostraea, Cassis,* etc. Morales Patiño had the good fortune of finding, excitedly, a shell celt that is a magnificent specimen. It is a tool shaped out of the thick lip of a large whelk (Queen Conch or *Strombus*). The working edge of the celt is beveled on one side and on the other is evenly ground down and polished. The tip is rounded. All that saw this piece, considered it the best of its type yet found on this island. There is no similar one in the local collections.

Through a letter from Professor Rouse[34] (whose information was confirmed by Dr. Alegría[35] in Puerto Rico), we knew that some students from Yale were doing archaeological work on this island, and that at the University, Rouse was classifying the Andersen Collection (gathered in St. Croix and considered to be the largest and best from there).[37] This coincidence of scientific interest, confirmed the felicity of our plan of explorations throughout the Caribbean area.

One of the students (Vescelius) is Taylor's nephew, so he naturally rushed to get us together. They are the following young men: Gary S. Vescelius, Allen M. Croft, and Colin T. Eisler.[38] They have been here a month, and

propose to stay until mid-August. Besides Taylor's coöperation, they have had the aid of Mr. George Van Riper, Chairman of Christiansted,[39] who gave them a house to stay in and has even lent them a jeep. These young men are possessed of excellent charts and maps, and brought with them copies of the archaeological works written about the island. They have been able to determine the existence of 45 archaeological sites,[40] two of which they have excavated extensively. They lack assistants and themselves wield shovel and pick.

To this group we owe valuable observations, offered simply and generously and confirmed in many respects by the data which we gathered directly. There are no caves on the island,[41] and many of the archaeological sites are but camp-sites. Until the present time those burials found have been few; human bones have been recovered, but no crania. Only in the two sites that were excavated extensively was it possible to determine a superposition within Arawak Culture. Shell heaps are unknown, and there is no information about Complexes I and II.[42]

Shell gouges[43] were unknown in St. Croix. It was a pleasure for us to show our friends one, and a conch shell pick; these were part of a small Cuban collection presented to Taylor,[44] in order for it to join the exhibits at Government House. Taylor's own collection comes principally from the three sites that we were able to study, though there are in it some specimens collected elsewhere. There are axes represented (some of them large battle-axes), and beautiful whole vessels. To the students we presented a copy of the last issue of the *Revista de Arqueología y Etnología,* photographs of the assemblages of each Complex, and a copy of the work by Morales Patiño[45] translated into English. They in return took us around in their jeep and served us as guides.

Salt River.—It is a most important site from the point of view both of archaeology and the history of the discovery of America. Its identification is due to Morison and Taylor.[46] During Columbus' second voyage, here took place the historic encounter with some Indians in a canoe (that they defended tenaciously), and the capture of a woman that was given to Michele de Cuneo.[47] Columbus did not land but his men did, onto an Indian town that was on the western part of the entrance to the small bay. The Indians, infuriated by the capture of the canoe's crew, gathered in great number, but their weapons did not permit them to reach the ships anchored off-shore.

We spent a day at this site, having lunch under the bush that partially covers the mounds of the old Indian town. This settlement, mentioned by Hatt[48] and by de Booy,[49] is extensive, occupying the whole point at the northwestern portion of the river mouth; southward the estuary widens forming a bay. The young Yale archaeologists, using a transit, have rectified some of the details of Hatt's plan of the site,[50] of which they have an enlarged copy. The river, due to its proximity to sea water, is salty at its mouth

(hence its name, 'Salt River'), but, going upstream (as the Indians must have done), drinkable water is found.[51]

The midden area is about 200 square meters in extent, scattered through what we in Cuba call 'creole bush'.[52] At the highest point and within the midden are left the foundations of a fort that the French[53] had here. The Yale students were working the site at the time and we were able to photograph various places that they were excavating stratigraphically. We also found some old excavations and other, more recent ones made by Mrs. Miller (who has a collection at her house near Christiansted). However, over 60% of the mounds are still untouched.[54] It has been impossible to relocate the place where engraved stones designated a ball-court (according to Hatt[55]); these stones regrettably have gone to European museums.[56] The depth of the midden is variable, even if at places a maximum depth of over a meter may be reached.

Our own excavations produced numerous specimens of pottery, stone, and shell (*Strombus, Ostraea, Arca, Cassis, Lucina*). Morales Patiño found (while excavating by an old pit of Mrs. Miller's) various griddle fragments, hammerstones, and another shell celt (which was not as outstanding as the one from Fair Plain). While excavating a mound by the shore with his wife, Dr. Royo found several shell beads, quite perfect, round and flat as buttons. Next to where they were, one of the students picked up a peridotite celt.

The material collected for the Guamá Museum[57] filled one of the sacks that we carried for the purpose. Vescelius and his companions consider Salt River an Arawak (Complex III) site, and also that it is not Carib as has been thought; that is also our belief. From this, one may conclude that it was the Arawaks who fought Columbus, and that it was he who initiated the policy (so often later to be favored by Spaniards) of calling 'Carib' all the Indians that defended themselves and fought for their freedom, or just presented opposition.

Richmond.—It is the plantation owned by Mrs. Miller, which is two kilometers outside Christiansted. The midden is near the house (between it and the coast).[58] It is Igneri (with an Arawak superposition) but less extensive than Salt River.

Mrs. Miller was out; her husband (an old Dane) very kindly showed us his ancient home and the collections obtained from Salt River as well as that from the Indian site on his plantation. He has some petaloid celts and a burin,[59] but in general the celts are of the type described from Haiti and Puerto Rico: somewhat wider at the base than Cuban specimens. The Igneri pottery, comprised in great part of large sherds and whole vessels, is very interesting. Outstanding were half of a large, flat receptacle, beautifully painted in red; two jar fragments, and a large sherd from a libation vase, painted white and red (which are the predominant colors of all Ignerian pottery).

Conclusions About The Virgin Islands St. Thomas and St. Croix

1.—In neither of these islands have been found sites (nor artifacts) attributable to Complexes I and II.[60]

2.—At Magens Bay, St. Thomas, and at Salt River, St. Croix, as well as occasionally elsewhere on either island, the superposition of a later Arawakan culture over Ignerian has been determined. The settlement of both these islands seems to have been within Complex III times.

3.—In Ignerian pottery, decorative motifs based on white paint over red (and *vice versa*) predominate.

4.—The axes termed 'Carib' are very rare.[61]

5.—There is no evidence for Carib Culture,[62] and those which Columbus considered such at Salt River were Taínos.

Review Of The Observations About the Virgin Islands St. Thomas and St. Croix

The following were studied:

Aboriginal Archaeology:

Three sites

Magens Bay, St. Thomas—village site.
Fair Plain, St. Croix—village site.
Salt River, St. Croix—village site.

One Museum

Christiansted, St. Croix.

One Private Collection

Mrs. Miller's, St. Croix.

Colonial Archaeology:

Ten sites

St. Thomas:

Government House
Danish Fort
Bluebeard's Tower
Blackbeard's Tower
Streets and houses of Charlotte Amalie

St. Croix:

Danish Fort (1645)
Buccaneer Hotel
Windmill towers
Richmond House
Streets and houses of Christiansted

Places connected with Christopher Columbus:

Two sites

St. Thomas—north coast.

St. Croix—Salt River.

Historic sites:

One site

St. Thomas—Drake's Seat.

List of Archaeological Samples Obtained From The Virgin Islands

St. Thomas—Magens Bay:

4 coral rasps;[63] 2 large shell hammers; 1 fragment of a *Strombus* collumela; 1 tip of a shell pick; 3 shark vertebrae; 1 everted rimsherd; 4 straight rimsherds; 1 large, flat rimsherd; 1 thick potsherd; 1 large fragment of a deep Taíno vessel; 1 large fragment of a deep Taíno vessel with an inverted rim; 1 large fragment of a shallow vessel; 1 large rounded rimsherd in two pieces; 1 sherd from a small, deep vessel; 1 jar base fragment; 37 plain bodysherds; 4 sherds from thin griddles; 1 sherd from a very thin griddle; 1 red-painted Igneri sherd; 1 large Igneri sherd; 1 large sherd from a red-painted Igneri platter; 8 unpainted reddish sherds; 2 sherds of white clay. Total: 79.

St. Croix—Fair Plain:

1 fragment of a diorite stone collar; 1 coral rasp;[64] 5 *Codakia orbicularis* scrapers; 1 shell pick; 1 shell hammer; 1 shell celt; [65] 2 *Strombus* lips; 1 thick rounded rimsherd; 1 rounded rimsherd from a shallow vessel; 1 thick sherd from a deep vessel; 1 tabular handle with incised lines; [66] 1 large strap-handle; 1 large fragment of a deep vessel with an inverted flat rim; 1 sherd from a platter; 10 plain bodysherds; 5 griddle fragments. Total: 34.

St. Croix—Salt River:

1 hammerstone; 1 coral rasp;[67] 6 rounded shell beads; 1 *Strombus* fragment; 2 *Codakia* scrapers; 1 Ark shell; 1 shell spoon; 1 turtle bone; 1 straight rimsherd; 1 rounded rimsherd from a deep vessel with thin walls; 1 inverted rimsherd from a deep vessel with thin walls; 1 large fragment from a thick deep vessel; 1 large rounded rimsherd with thick walls; 1 large potsherd; 1 flat rimsherd; 18 plain bodysherds; 6 small sherds; 6 griddle fragments. Total: 51.

Total samples collected in St. Thomas 79

Total samples collected in St. Croix 85

Total from the Virgin Islands 164

In the pottery one may notice two types according to clay thickness: one thick and roughly made and another thin and better fired. Straight rims predominate in St. Thomas. The abundance of Igneri platters is remarkable.

ANNOTATIONS
By Alfredo E. Figueredo

[1]Columbus did *not* consider St. Croix one of the Virgins; until quite recently, the term *Virgin Islands* was applied exclusively to those islands rising out of the eastern portion of the Puerto Rican Insular Shelf. The inclusion of St. Croix in modern usage, as well as the occasional exclusion of Culebra and Vieques (sometimes known as the *Spanish* Virgin Islands), are due to passing political concern, and not to geographical considerations.

[2]*Effective* Danish occupation of St. Thomas dates from 1672.

[3]It is unclear as to which attack is meant; the English were off St. Croix by 1650.

[4]The French held St. Croix from 1650 to 1696.

[5]The actual date of purchase was 1733. As the preceding notes show, there are wide discrepancies in the literature regarding the dates and events of early colonization in the Virgin Islands. I am preparing a book that will (hopefully) set much controversy to rest.

[6]*v.* John Lightbourn, 'The Story of Fort Christian, 1672-' (Virgin Islands Museum: *Leaflet Series,* no. 1 [1973], 80 p.

[7]*Carénage* or Frenchtown.

[8]Not all *Frenchies* are of Breton stock; for a detailed study of St. Barths families, *v.* Jean Deveau, 'Le peuplement de Saint-Barthélemy' (Extrait du *Bulletin de la Société d'Histoire de la Guadeloupe,* nos. 17-18 [1972], 48 p.

[9]A barbarous arrangement that is still with us.

[10]These traditional attributions are controversial.

[11]Probably a story told to tourists at the time that the authors visited the popular resort.

[12]There *are* more-or-less permanent streamlets and springs on St. Thomas, and dozens of productive wells. This is more popular information inadvertently collected.

[13]A beach resort in Cuba, famous for its attractive sands and water.

[14]*v.* Theodoor de Booy, 'Archaeological Notes on the Danish West Indies: The Petroglyphs of the Island of St. John and on Congo Cay' (*Scientific American* Supplement, vol. LXXXIV [1917], no. 2189, pp. 376-377.

[15]'Archaeology of the Virgin Islands' (*Proceedings of the XXI International Congress of Americanists* [The Hague, 1924], Part I, pp. 29-42); also, *v.* Sven Lovén, *Origins of the Tainan Culture, West Indies* (Göteborg: Elanders Boktryckeri Aktiebolag, 1935), ix, 696 p.

[16]'Archeology of the Virgin Islands' (*Indian Notes and Monographs,* vol. I [1919], no. 1, pp. 13-100).

[17]Morales and Royo may have confused the dates for de Booy's and Hatt's excavations with that of Holger Utke Ramsing's in 1899; this seems likely as that date is a prominent note in Hatt, *op. cit.,* p. 30.

[18]Ricardo Enrique Alegría, foremost Puerto Rican archaeologist.

[19]Outer Brass Island.

[20]*v.* Fred Olsen, *On the Trail of the Arawaks* (Norman: University of Oklahoma Press, 1974), pp. 96-102, for a similar view.

[21]*King's Road,* no longer used at that point.

[22]*i.e.,* without the need to sift mechanically first.

[23]*v.* note 1.

[24]The position of Administrator is of limited executive power.

[25]C.S. Cotter, author of 'The Aborigines of Jamaica' (*Jamdica Historical Review,* vol. I [1946], no. 2, pp. 137-141). Taylor wrote 'Pre-Columbian Inhabitants of the Islands', found in Stuart Murray's *The Complete Handbook of the Virgin Islands* (New York: Duell, Sloan and Pearce, 1951), pp. 105-108.

[26]The late Samuel Eliot Morison, author of *Admiral of the Ocean Sea* (Boston: Little, Brown and Company, 1942), 2 vols.

[27]If this refers to Fort Louisa Augusta, it may be correct.

[28]Protestant Cay; also the site of Fort Sofia Frederika.

[29]Frederik C. Gjessing (the foremost authority on these towers) wrote a fascinating study of them which remains unpublished.

[30]Cruzan cane culture was suited to its climate.

[31]There is no evidence to confirm this; the date is an *erratum.*

[32]*v.* Antonio González Muñoz and Ignacio Avello, 'Asiento Cantabria: descubrimiento del residuario de cultura alfarera más occidental de Cuba' (*Revista de Arqueología y Etnología,* no. 3 [1946], pp. 11-25).

[33]Morales and Royo refer to the tripartite taxonomy adopted in 1950 by the Reunión en Mesa Redonda de Arqueólogos del Caribe (sponsored by the Cuban Junta Nacional de Arquelogia y Etnologia; *v. Actas y trabajos,* Habana, 1951). In this system, three *complexes* are identified and labelled with Roman numerals. Complexes I and II are preceramic; Complex III includes all the ceramic cultures. Internal divisions were recognized (*cf.* conclusion no. 2 in this article), but not elaborated upon. Perhaps a chronological position is suggested in the comparison between Cantabria and Fair Plain. The Cruzan site was disturbed rather grossly last year, by roadbuilding and the construction of a bridge.

[34]Benjamin Irving Rouse, leading Caribbeanist at Yale University. Rouse informs me that he was working from slides only, as the collection itself was housed on Long Island at the time.

[35]*v.* note 18.

[36]Folmer Andersen, author of *Notes on St. Croix* (Christiansted: St. Croix Museum Commission, 1954), 36 p.

[37]The Andersen Collection, much diminished, now forms the core of the prehistoric holdings at the Steeple Building (National Park Service), Christiansted, St. Croix; some of it is handsomely displayed.

[38]Vescelius is currently Territorial Archaeologist of the Virgin Islands of the United States. Allen M. Croft was a student at Harvard University; Vescelius and Eisler were Yale students.

[39]Van Riper was Chairman of the St. Croix Museum Commission.

[40]At the end of field work, Vescelius reported 60 sites.

[41]Kai Lawaetz knows of one cave in northwestern St. Croix; there are doubtless others. Despite a high relative population density, most of the Virgin Islands countryside has yet to be explored.

[42]These are preceramic complexes not found on St. Croix to date; *v.* note 33.

[43]For a full description and typology of these artifacts, *v.* José Manuel Guarch Delmonte and Rodolfo Payarés García, *Excavaciones en El Caney del Castillo* (La Habana: Academia de Ciencias, 1964), pp. 15-21.

[44]What became of this representative collection is not known to me; while inspecting the remnants of the Folmer Andersen Collection in 1973, I came across some uncatalogued Cuban material in the Steeple Building's storage area; it was packed in envelopes bearing the logo of the Grupo Etnológico Guamá.

[45]Probably 'Los complejos o grupos culturales indocubanos' (*Revista de Arqueología y Etnología,* nos. 15-16 [1952], pp. 259-267). If an English edition exists, I have not seen it.

[46]*v.* note 26.

[47]The account that follows is at odds with our two best sources for the incident; *cf.* Michele de Cuneo, 'Let-

tera' (*Raccolta di Documenti e Studi Pubblicati dalla R. Commissione Colombiana pel Quarto Centenario dalla Scoperta dell'America,* Parte III, Volume II [Rome: Auspice il Ministerio della Pubblica Istruzione, MDCCCXCIII], pp. 95-107), and Diego Álvarez Chanca's version (Martín Fernández de Navarrete, ed., *Colección de los viages y descubrimientos que hicieron por mar los españoles desde fines del siglo XV* [Madrid: en la Imprenta Real, 1825], vol. I, pp. 198-224).

[48]*op. cit.,* pp. 36-39.

[49]*op. cit.,* pp. 42-47.

[50]Gudmund Hatt lacked surveying equipment.

[51]Salt River is mostly intermittent now; *v.* George A. Seaman, 'Bring Back Our "Lost Paradise" ' (*Virgin Islands Forum,* vol. III [1975], no. 6, pp. 15-19).

[52]*lo que conocemos en Cuba como un monte criollo.*

[53]A Spanish map predating 1650 (a copy of which is available for consultation at the West Indian Room, St. Thomas Public Library) shows a fort on the future site of Fort Salé; the original builders of the triangular earthworks, then, may have been Dutch or English.

[54]Wholesale disruption has occurred since, but most of the site (including the fascinating earthworks mentioned in note 53) is now an archaeological preserve; for more details, *v.* my manuscript *Report of an Inspection Tour to the Island of St. Croix* (1972), filed at the Department of Conservation and Cultural Affairs; most of my recommendations have yet to be implemented.

[55]*loc. cit.;* Lovén, *op. cit.,* pp. 89-92, and Hatt, 'Had West Indian Rock Carvings a Religious Significance?' (Copenhagen: *Nationalmuseets Skrifter,* Etnografisk Raekke I, 1941), pp. 189-196. Morales and Royo use the original Taíno term *batey* to refer to the ball-court.

[56]In the Ethnographic Department, Danish National Museum, Copenhagen.

[57]Now reportedly incorporated to the Academy of Sciences, Havana.

[58]According to Gary S. Vescelius, who visited it recently (1975), the site is still well-preserved.

[59]Cuban archaeologists use the term 'burin' (*buril*) to refer to an elongated celt (*cf.* René Herrera Fritot, *Estudios de las hachas antillanas* [La Habana: Academia de Ciencias, 1964], 146 p).

[60]Apparently, Morales and Royo chose to accept de Booy's and Hatt's conservative interpretations regarding the preceramic shell middens around Krum Bay, now dated to *ca.* 1700-1450 B.C.

[61]For an illustration of what a Cruzan 'Carib axe' is, *v.* Carl Christian Rafn, 'Cabinettet for Americanske Oldsager' (*Antiquarisk Tidsskrift,* 1852-1854, pp. 398-449), p. 438; *cf.* Laudelino Trelles Duelo, '¿Estuvieron los caribes en Sancti-Spíritus?' (*Carteles,* vol. XVIII [1932], no. 32, pp. 46-47, 50, 55), pp. 46-47.

[62]Hatt, 'Archaeology of the Virgin Islands' (*op. cit.*), Plate III, illustrates pottery heads found at Magens Bay and Salt River, some of whose traits are interestingly similar to those of late ceramic styles in the Lesser Antilles. Were the Virgin Islands ever inhabited by true *Callinago* or 'Island Caribs', it may be that their occupation was relatively brief (perhaps mostly circumscribed to the protohistoric period), and therefore material remains are difficult to find. The shifting nature of Carib settlement during early historic times, however (*if* valid for pre- and protohistory), favors widespread remains, and therefore easy detection; *v.* Simone Dreyfus-Gamelon, 'Rémarques sur l'organisation socio-politique des caraïbes insulaires au XVIIème siècle' (*Proceedings of the Sixth International Congress for the Study of Pre-Columbian Cultures of the Lesser Antilles* [Pointe-à-Pitre, 1975], pp. 87-97). For a review of the historical documents referring to the Virgin Islands, *cf.* my article 'The Virgin Islands as a Historical Frontier Between the Taínos and the Caribs' (in press, *Interamerican Review*).

[63]Richard A. Dewey suspects 'coral rasps' to be produced naturally.

[64]*v.* note 63.

[65]The three preceding items may be considered to be of conch.

[66]Quite possibly a Chicoid lug of a common type.

[67]*v.* note 63.

THEORETICAL APPROACHES TO THE STUDY OF TRINIDAD'S PREHISTORY

By Stephen D. Glazier

This is a historical account of the various theoretical approaches taken in the study of Trinidad's prehistory from 1913 to the present. There is no attempt to provide an exhaustive listing of research efforts including minor and/or unpublished reports; nor is there an attempt to provide a general summary of Trinidad's archaeology. The focus is on major developments in archaeological techniques and their applications to the situation in Trinidad.

Historically, interest in Trinidad's prehistory has been sporadic. Between 1913 and 1924 there were a number of excavations including those of Fewkes, de Booy, and Bullbrook; this was followed, however, by a *lacuna* of twenty years in which little was accomplished and even Bullbrook became discouraged. A rekindling of interest resulted in the formation of an archaeology section within the Trinidad and Tobago Historical Society during the 1940's. This continued through the mid-50's, sparked by the visits of Rouse and John and Rita Goggin in 1953. After the death of Bullbrook, interest declined and there was not much work done until the late 1960's, when members of the Trinidad and Tobago Historical Society (Southern Section) again engaged in active research. More recently, scholars from the Dominican Republic participated in excavations at Banwari-Trace sponsored, in part, by the Historical Society (*v.* Veloz Maggiolo 1972).

As Figueredo (1974) has noted previously, the major theoretical contributions to Caribbean prehistory usually have come from outside the area. Fewkes and de Booy conducted their research under the sponsorship of American museums, and, of course, the leading figure in Caribbean prehistory, Dr. Irving Rouse, is professor of Anthropology at Yale University.

Most importantly, Bullbrook (who was the first to use modern stratigraphic techniques in Trinidad) was educated in Great Britain and had previous field experience in the Anglo-Egyptian Sudan. His techniques represent a significant advance over the 'museological' approach that characterized the work of Fewkes and de Booy (*cf.* Figueredo 1974).

Fewkes and de Booy did not dig stratigraphically; they mixed cultural levels and interpreted all findings as evidence for one uniform aboriginal culture. Fewkes, writing in 1914, saw Trinidad as an island unto itself, separate from South America and only distantly related to the cultures of

the Greater Antilles. He sought additional support for this position by analyzing place names in Trinidad and comparing them to place names on the other islands. From this, he concluded that the prehistoric inhabitants of Trinidad were distinct linguistically and culturally from those of the other islands (Fewkes 1914: 203).

Bullbrook also believed that Trinidad was inhabited by one distinct cultural group only throughout most of its prehistory. He interpreted the two strata that he was able to distinguish at his Palo Seco site in 1919 as two phases of the same culture which could be best explained in terms of 'improvements such as would naturally be evolved as time went on and population increased' (Bullbrook 1953: 68 *et seq.*). For Bullbrook, there was no essential difference between the culture of his earlier ceramic style and that of the later one.

In 1946, Rouse dug at the Palo Seco site and uncovered a sequence of ceramic styles with implications for the entire Circum-Caribbean region. Cedros pottery of Trinidad was found to resemble the Cuevas style of Puerto Rico. Rouse suggests that this may have been the result of early Arawak migration. On the other hand, similarities between Erin style pottery in Trinidad and Los Barrancos of the lower Orinoco River (Osgood and Howard 1943) was seen as a result of trade between the natives of Trinidad and those of the Orinoco Delta (Rouse 1947: 103). This shows a reluctance to deal with prehistoric Trinidad in terms of multiple ethnic migrations.

In the course of his extensive and largely unreported fieldwork, Rouse was unable to discover evidence for ceremonial centers on Trinidad (*i.e.*, ball courts and dance plazas). He concludes that Trinidad did not participate in the ceremonial developments which took place during ceramic times in other parts of the Caribbean area; in this respect, the island appears to have been more akin to the Guianas and Amazonia than to the rest of the Caribbean (*v.* Rouse 1953: 111). This is a considerable elaboration and/or modification of Fewkes' original position.

The recent work of Peter O'Brian Harris is very much in the tradition of Bullbrook and Rouse, although Harris appears to be more interested in preceramic cultures than either of the earlier researchers. His major concern is to establish an accurate chronology for Trinidad, a task which he believes is far from accomplished (Harris 1974). José M. Cruxent (a key figure in the history of Caribbean archaeology) is a definite influence behind the sophisticated ecological approach evident in Harris' investigations of preceramic sites.

What is woefully lacking in the study of Trinidad's prehistory is a concern with cultural process as well as chronology. There is a need for a more 'conjunctive' approach (*cf.* Taylor 1948) emphasizing settlement patterns, subsistence bases, *etc.*, in order to 'flesh out' the chronological framework. Archaeologists will need to expand their excavations in order to obtain

necessary data, and they will also have to become conversant in other fields such as geology, human geography, ethnography, and ethnohistory. There is much to be gained in coöperation and/or collaboration with other scholars (*cf.* Newson 1976; Figueredo and Glazier *in press*). A direct historical approach (*cf.* Steward 1942), such as that begun by John and Rita Goggin in their unpublished study of mission sites, may provide a convenient starting place for such coöperation (Rouse 1953; *v.* Bullbrook 1960).

In conclusion, it can be stated that the study of Trinidad's prehistory has seen a gradual progression from the 'museological' approach of Fewkes and de Booy to the chronological approach of Bullbrook, Rouse, and Harris. There are also changes in interpretation, as scholars no longer consider Trinidad to have comprised a single cultural entity and are beginning to recognize the various ethnic groups which may have played a part in Trinidad's prehistory (*cf.* Figueredo and Glazier *in press*). Hopefully, the current emphasis on culture history and/or chronology will give way to a 'conjunctive' approach, and it will be possible to find out not only *when* a certain people lived on Trinidad but *how* they lived as well.

Acknowledgements

This paper has benefited from discussions with Alfredo E. Figueredo and David Maharaj. I also wish to thank the staff of the J.F.K. Library (University of the West Indies at St. Augustine) for their kind assistance.

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THE LESSER ANTILLEAN ARCHAIC: NEW DATA FROM ST. KITTS

By R. Christopher Goodwin

Two Archaic middens were accidentally encountered in July, 1976, during the second consecutive field season at the Sugar Factory Pier site (Sk-SFPl) 1.6 kilometers east of Basseterre, St. Kitts (Fig. 4). Because very few well-documented Archaic sites are known for the Lesser Antilles, the St. Kitts find is noteworthy. This Archaic site has added value because the Archaic refuse was located stratigraphically below both a Saladoid occupation floor and a dense stratum of volcanic ash and tuff, or tephra. Since analyses of the data have not been completed, this constitutes a preliminary report; it will be primarily descriptive. In order to place the St. Kitts discovery in perspective, major definitions of the Archaic in the Caribbean Area (after Rouse and Allaire *in press*) will be reviewed. Some ramifications of the find that may be helpful to other practitioners in the Area will be suggested.

Prior to the 1975 field season, the SK-SFPl site had not been extensively sampled, although Charles A. Hoffman (1973) conducted brief salvage excavations. The current research program, which is sponsored by the Behavioral Sciences Foundation and by the Government of St. Kitts, Nevis, and Anguilla, has as its objective the elucidation of the Saladoid occupation sequence, with special emphasis on patterns of change in subsistence. To date, twenty-four two-meter pits and eighteen additional archeological features have been excavated.

During the 1976 field season a series of test units was established in a grid network near the shoreline at the western perimeter of the site. This was done because previous tests indicated that the initial Saladoid Period was well-represented in this area, and the 1975 samples were biased in favor of late Saladoid refuse. Too, it was necessary to correlate the stratigraphy of this area with that of the more intensively studied eastern portion of the grid. Excavations well below the last level containing ceramic refuse were part of the effort to correlate stratigraphy in the site, and they led to the discovery of the Archaic middens.

The Saladoid materials were located within a stratum comprised primarily of the protosols that are characteristic of the Basseterre Valley in general (Christmas 1971). This soil base decomposes gradually and is extremely fertile. At around sixty centimeters below surface, these soils begin to grade into an increasingly dense stratum of tephra, deposited by the island's youngest and largest volcano, Mount Misery, during its last major eruptive

episode, the Mansion Series (Baker 1969). The beginning of the Mansion Series of eruptions has never been adequately dated. However, Baker (1969:220) obtained carbonized wood samples from contexts indicating the end of the eruptive sequence, and the resultant radiocarbon date places that geologic event at 3658 B.P. Below this volcanic stratum is a silty loam, indicating the fringes of a shallow lagoon environment, which averages about forty-five centimeters in depth. In four adjacent test units an Archaic midden was found at the interface of these last two strata. In three other units a second, distinct Archaic midden was located about fifteen centimeters into the silty loam matrix (about 1.35 meters below surface).

A *tentative* temporal placement for the upper Archaic midden can be extrapolated from the stratigraphic evidence and from the single extant radiocarbon date for the Mansion Series of eruptions. It should be noted that radiocarbon dates express a statistical tendency, and a single date should always be suspect. Nevertheless, it seems likely that the upper Archaic midden will date from before 2000 B.C. The earlier midden within the silty loam stratum is more difficult to date because of the lack of a geologic referent. Radiocarbon dates now in process from the SK-SFPl site should clarify both the temporal placement of the Archaic middens and the beginning of the Mansion Series of eruptions.

The two Archaic deposits at the SK-SFPl site appear similar in that both were almost entirely marine shells. In both cases the vast majority of refuse was composed of only two species of clam, *Anadara notabilis* (Röding) and *Arca zebra* (Swainson). Large soil samples were subjected to salt water flotation in an attempt to recover additional faunal remains; results were entirely negative. It may prove to be significant that not a single fish bone was recovered from either assemblage. One major difference between the two deposits is that in the deeper assemblage the shells were apparently opened by smashing a small hole in the shell near the hinge to extract the animal; this damage is absent in shells from the midden located at the interface of the strata.

Although tools were rare in both assemblages, there are a number of differences that should be noted. First, in the deeper midden one large chert flake was found, while no chert was recovered from the shallower Archaic refuse. It is possible that this represents an accidental inclusion due to crab activity, although there was no visible sign of intrusion. However, there is no natural chert outcrop on St. Kitts. If this flake was, in fact, part of the Archaic tool kit, it would have been brought from another island. Second, a fragment of a ground stone cylindrical mano was found in the stratigraphically later midden. If grinding is viewed as a procedure of manufacture, then no other ground stone was found. However, one edge-ground stone (through use as opposed to manufacture) was also recovered from the later deposit. A few small, battered cobbles were excavated from

each of the middens. Two large celts, made from the outer lip of *Strombus gigas* conch shells were recovered from the shallower deposit; in addition, one shell celt from the deeper deposit (Figs. 2 & 3) has an interesting fishtail form at the poll that distinguishes it from the petaloid *S. gigas* celts that are found in later, Ceramic period sites. A small shell tool was also found in the deeper refuse (Fig. 1).

So little is known about the way of life of Archaic peoples in the Lesser Antilles that it is difficult, on the basis of the scanty technological data from the SK-SFPl site, to determine if the two deposits constitute habitation refuse or single activity loci. Before this issue can be adequately resolved, cultural complexes will have to be established, and for this additional data will be needed. The Lesser Antillean Archaic is poorly understood not only as a function of the small number of known sites, but because of the nature of the remains themselves. Just as at the SK-SFPl site, the Archaic sites that Davis (*in press*) has studied on Antigua are poor in terms of artifact yield, especially insofar as 'diagnostic' artifacts are concerned.

These shortcomings in the data, coupled with a variety of theoretical orientations, have led to a number of different definitions of the Archaic in the Caribbean Area. Actually, the Archaic middens at the SK-SFPl site fulfill all of the stated criteria. This is especially the case because of the clarity of the stratigraphic situation. It might be valuable to review what is meant by Archaic in the Caribbean Area, and to determine how these con-

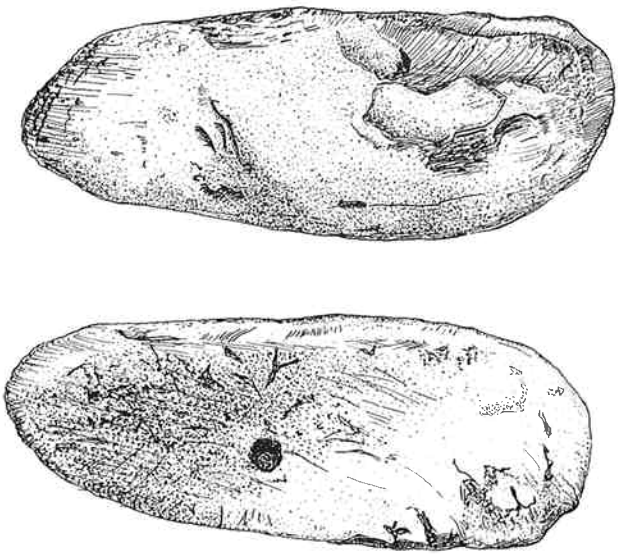

FIGURE 1

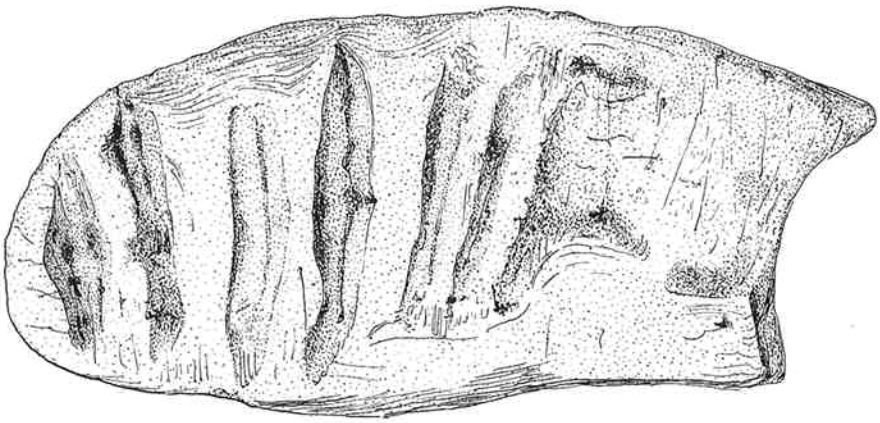

FIGURE 2

cepts relate to the Sugar Factory Pier site data. Briefly, the Archaic has been defined alternatively as a stage, an age, and as a subsistence or economic pattern.

Emphasizing the evolution and change of traditions, rather than chronology (*cf.* Rouse 1972:212-216), Willey (1976) has defined the Archaic as the *stage* of cultural development characterized by a marine-oriented subsistence that followed the terrestrial, hunting-based economy of the earlier Paleo-Indian stage and preceded the agriculture of the Neo-Indian stage. The Archaic can be recognized in the archeological record by virtue of certain 'diagnostic' traits, both positive and negative. Of course, the preeminent negative traits are the absence of pottery and of evidence for horticulture. For positive diagnostics, Willey (1976:3) lists 'stone grinding tools,' of which the pebble-edge grinder is cited as the most common example, shell and bone tools, and some polished stone objects. The pebble-edge grinder was the principal tool recovered from Loíza, Puerto Rico (Alegría, Nicholson, and Willey 1955). However, this class of artifact is ground through use, rather than as a product of manufacture. This complicates the picture for two reasons. First, the classification of artifactual materials in order to establish complexes, or to determine the nature of the culture responsible for those artifacts, and the analysis of behaviors of that people or culture are logically distinct procedures (*cf.* Rouse *in press*). The first requires classification primarily on the basis of form, *e.g.*, stylistics, while

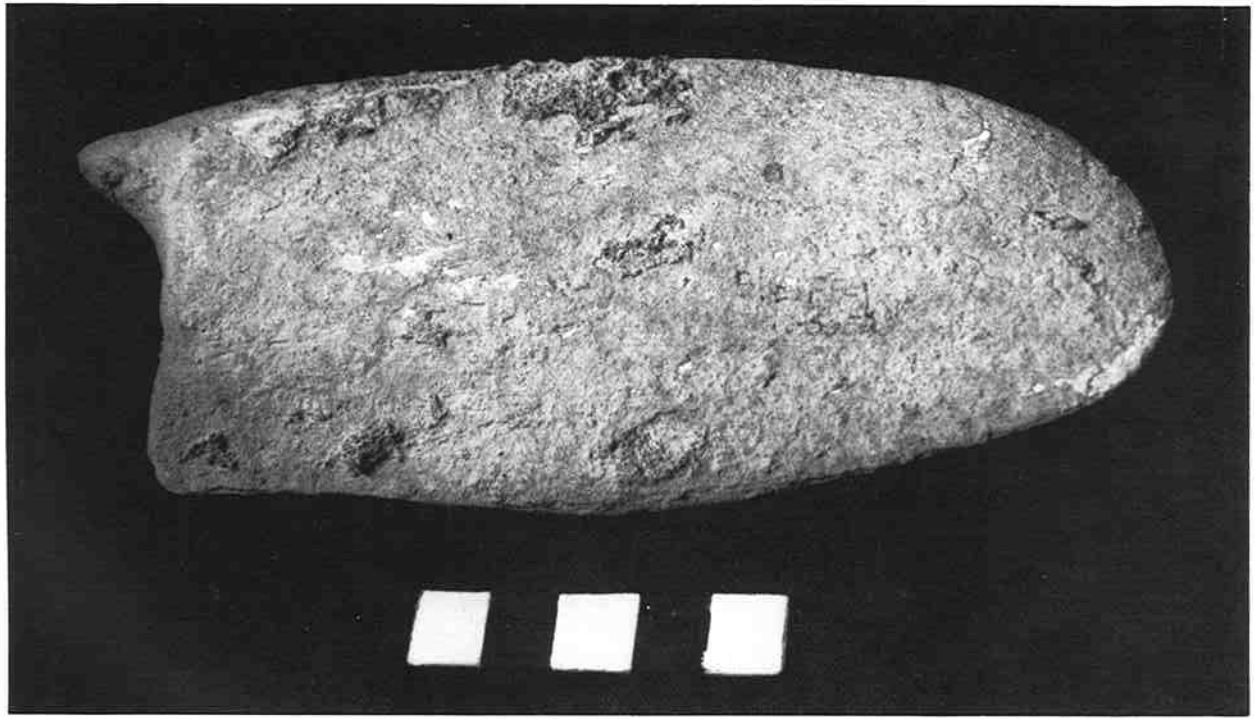

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FIGURE 3

the second presupposes the antecedent existence of that classification as a framework for determination of function or behavioral context. Second, there is a likelihood that unmodified stones might be used for grinding in different places and times by different peoples for different purposes. This is precisely the kind of simple tool usage that should be expected to have occurred over and over throughout prehistory, independent of origins or traditions. For these reasons, then, it is doubtful that the edge-grinder *per se* is a good diagnostic of the Archaic in the Caribbean Area.

Rouse and Allaire (*in press*) view the Archaic in the Caribbean Area as an *age,* or as an essentially arbitrary division in the areal chronology. An age is defined on the basis of technology alone; it records the occurrences of certain key innovations, artifacts or traits, irrespective of context. For Rouse and Allaire, the Archaic division in the chronology of the area begins with the appearance of either ground stone or ground shell, specifically excluding those implements ground only through use, and persists until the appearance of pottery.

A third point of view has recently been articulated by Davis (*in press*). Because of difficulty in operationalizing either age or stage definitions of the Archaic on Antigua due to the extreme scarcity of diagnostic artifacts, especially in surface collections from aceramic sites, he has argued for the Archaic to be defined as a subsistence or economic pattern (*cf.* Sears 1948). According to Davis, shellfish remains in aceramic context would be a necessary criterion for an Archaic site. The problem of a confounding, earlier Paleo-Indian occupation is obviated by the near total absence of an exploitable prehistoric land mammal population (Davis *in press*). Veloz (1976) reached a similar conclusion based on his researches in the Dominican Republic, and has suggested that the terminology be changed from Paleo-Indian to Paleo-archaic, to denote the lack of early hunting peoples in the Antilles. Of course, the problem of distinguishing an aceramic, Archaic midden from an aceramic, single activity locus of a subsequent ceramic period has yet to be solved. This presupposes more knowledge of Saladoid subsistence patterns than is presently available, as well. Hopefully the research program on St. Kitts will prove to be illuminating in this regard.

Interestingly, Veloz (1976), following Meggers (1972: 18-41), uses Archaic and Transitional interchangeably, in order to emphasize the formation processes (*e.g.* hybridization of Archaic cultures responding to local problems of subsistence (*cf.* Caldwell 1962, for a similar emphasis on Archaic adaptation).

Returning to the data from St. Kitts, if the Lesser Antillean Archaic is viewed as an *age*, defined by the absence of pottery and by the presence of ground stone and/or shell, then clearly the SK-SFP1 finds belong somewhere within that chronological division. If the Archaic is viewed as a

developmental *stage,* then, too, the SK-SFPl deposits belong in this category, albeit the absence of fish bones suggests that a littoral, rather than marine, orientation describes the situation more precisely (*cf.* Willey 1976:4). Finally, the SK-SFPl data strongly suggest that shellfish exploitation was in fact the bulwark of the Lesser Antillean Archaic subsistence pattern. If the deposits prove to represent habitation sites, as opposed to single activity loci, then the hybridization that Veloz (1976) has postulated would have already occurred: in that case the subsistence pattern could be characterized as highly specialized. More work will be needed before this proposition can be substantiated, however.

The St. Kitts discovery raises a number of other issues that warrant attention. First, as Desmond Nicholson pointed out in this *Journal* (1976), there is every reason to suspect that changes in sea level may have been a significant factor in the settling of the Antilles and was responsible, in part, for the dearth of data on Archaic cultures, because a number of those sites may now be underwater. To this I should like to add that, in a sense, volcanic activity on some of the Lesser Antilles may have played a parallel role. The data from St. Kitts show that vulcanism also 'submerged' sites; it did so while changing the island's surface dramatically. At SK-SFPl, for example, the Mansion Series of eruptions apparently filled part of what was previously a shallow lagoon, perhaps constraining to some degree the habitat of some economically important shellfish species. It may also have been the case that volcanic activity played a significant role in the movement of peoples. The stratigraphic situation at SK-SFPl suggests the probability that Archaic people were on St. Kitts when Mount Misery began a major eruptive episode. If it is reasoned that this caused a secondary migration to a neighboring island, *i.e.,* Nevis, then a number of avenues for further research are opened. Questions of differential adaptation (*e.g.,* how did local environmental conditions and concomitant problems of subsistence modify Archaic culture(s) in the Lesser Antilles) might profitably be pursued on other islands in the Archipelago where volcanic activity and human occupation may be found to have overlapped.

Finally, Allaire (1974: 158) had previously suggested that there were no Archaic sites on St. Kitts, because of the absence of a natural chert outcrop and due to the 'apparent scarcity of shellfish resources.' We now know that a readily available supply of chert or flint was not prerequisite to an Archaic occupation; it is also clear that an assumption of ecological stasis on a volcanic island is not a tenable position. Perhaps cognizance of the geologic history of other islands in the Lesser Antilles, coupled with an appropriate sampling strategy that is not based solely on the surface characteristics of sites, will lead to the discovery of other sealed Archaic contexts where previously none were known.

Postscript

It has been almost one year since the preliminary report of the Kittitian Archaic was written. Additional data, including radiocarbon dates, have been assembled in the interim. Therefore, a brief addendum to this report is needed. First, single radiocarbon dates for each of the two Archaic middens were obtained, helping to clarify their temporal placement. The deeper midden from a silty loam matrix was dated, using a sample of *Anadara notabilis* (Röding 1798) shell, to 4100 ± 60 radiocarbon years (UCLA 2111A), or, at 2123 B.C. (Z-60). The shallower midden from the interface of the silty loam with a stratum of tephra was dated, using a sample of *Arca zebra* (Swainson 1833) shell, to 2175 ± 60 radiocarbon years (UCLA 2111B), or, at 198 B.C. (Z-60). This new evidence suggests that the initial chronological estimate for the middens needs revision. First, the date for the older midden seems to fit fairly well with Baker's (1969) date for the terminus of the Mansion Series. But, the date for the shallower midden, which was expected to correlate even more closely with the Mansion Series, is almost 1500 years more recent than the only radiocarbon date for that event.

Three explanations for this discrepancy may be suggested. First, it is possible that there is something wrong with the ^{14}C date for the later Archaic midden. In order to test this possibility additional assays are being conducted. However, there was no stratigraphic evidence of contamination. Of course, it is also possible that Baker's (1969) determination for the age of the Mansion Series was somehow in error. Finally, it is possible that all three radiocarbon dates are essentially sound, and that they reflect the temporal placement of the archeological and geological events with which they are associated. In this case, contrary to what was previously thought (*viz.* Christmas 1971), it is not the Mansion Series that is represented at SK-SFP1, but some other more recent geologic event. *e.g.,* the Steel Dust Series. Baker's date for the Mansion Series was taken from contexts over ten kilometers from SK-SFP1. All of this points to a need for further documenting both the archeological and geological sequences, a process that is presently under way. Because of the problem in correlating the archeological and geological data bases, then, it is probably most efficacious to divorce the two and tentatively accept the ^{14}C dates for both of the Archaic middens.

In this regard the almost two thousand year span between the two Archaic middens is noteworthy, especially in light of a quantitative comparison, conducted by Douglas Armstrong, of the shellfish remains from the middens. It may be recalled that after a preliminary inductive examination of the data it was concluded that both middens were similar insofar as both were comprised almost entirely of marine shells. While this was the

case, it is now known that 87.1 per cent of shellfish individuals ($n = 31$) from the earlier midden were from species that inhabit a sandy bottom habitat, whereas only 8.2 per cent ($n = 680$) of the shellfish from the later midden can be attributed to this habitat type (Douglas V. Armstrong, personal communication). While this may reflect some sort of regional environmental alteration, such as sea level fluctuations (Fairbridge 1976), as an alternative the long span of time indicated between the two middens makes it possible that two distinct Archaic traditions are represented at SK-SFPl. At any rate two specialized subsistence patterns seem to be represented. There appears to be a degree of diversity in the Lesser Antillean Archaic, as seen on St. Kitts. Determination of the significance of these differences is a matter for further research.

R. Christopher Goodwin

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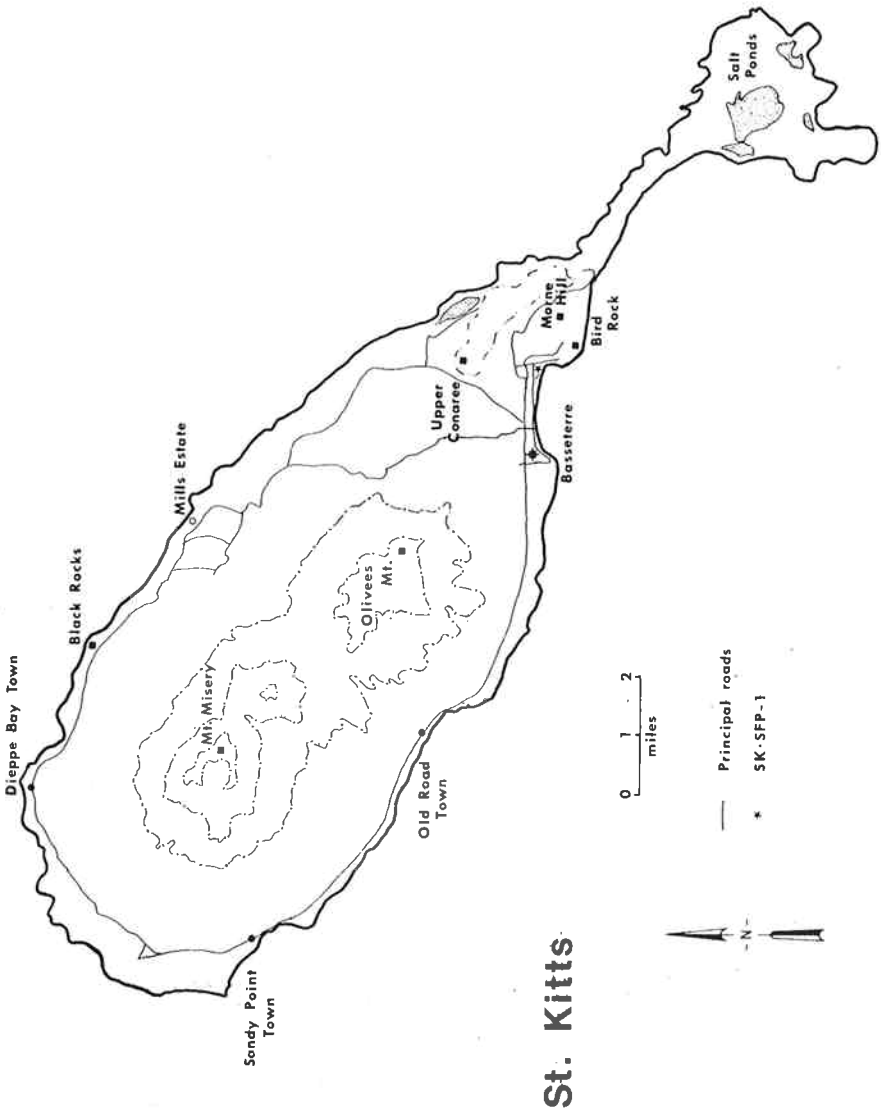
Dieppe Bay Town
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Mills Estate
Mt. Misery
Olivees Mt.
Upper Conaree
Basseterre
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Bird Rock
Salt Ponds
Old Road Town
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FIGURE 4

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THEORETICAL APPROACHES TO THE STUDY OF TRINIDAD'S PREHISTORY

By Stephen D. Glazier

This is a historical account of the various theoretical approaches taken in the study of Trinidad's prehistory from 1913 to the present. There is no attempt to provide an exhaustive listing of research efforts including minor and/or unpublished reports; nor is there an attempt to provide a general summary of Trinidad's archaeology. The focus is on major developments in archaeological techniques and their applications to the situation in Trinidad.

Historically, interest in Trinidad's prehistory has been sporadic. Between 1913 and 1924 there were a number of excavations including those of Fewkes, de Booy, and Bullbrook; this was followed, however, by a *lacuna* of twenty years in which little was accomplished and even Bullbrook became discouraged. A rekindling of interest resulted in the formation of an archaeology section within the Trinidad and Tobago Historical Society during the 1940's. This continued through the mid-50's, sparked by the visits of Rouse and John and Rita Goggin in 1953. After the death of Bullbrook, interest declined and there was not much work done until the late 1960's, when members of the Trinidad and Tobago Historical Society (Southern Section) again engaged in active research. More recently, scholars from the Dominican Republic participated in excavations at Banwari-Trace sponsored, in part, by the Historical Society (*v.* Veloz Maggiolo 1972).

As Figueredo (1974) has noted previously, the major theoretical contributions to Caribbean prehistory usually have come from outside the area. Fewkes and de Booy conducted their research under the sponsorship of American museums, and, of course, the leading figure in Caribbean prehistory, Dr. Irving Rouse, is professor of Anthropology at Yale University.

Most importantly, Bullbrook (who was the first to use modern stratigraphic techniques in Trinidad) was educated in Great Britain and had previous field experience in the Anglo-Egyptian Sudan. His techniques represent a significant advance over the 'museological' approach that characterized the work of Fewkes and de Booy (*cf.* Figueredo 1974).

Fewkes and de Booy did not dig stratigraphically; they mixed cultural levels and interpreted all findings as evidence for one uniform aboriginal culture. Fewkes, writing in 1914, saw Trinidad as an island unto itself, separate from South America and only distantly related to the cultures of

the Greater Antilles. He sought additional support for this position by analyzing place names in Trinidad and comparing them to place names on the other islands. From this, he concluded that the prehistoric inhabitants of Trinidad were distinct linguistically and culturally from those of the other islands (Fewkes 1914: 203).

Bullbrook also believed that Trinidad was inhabited by one distinct cultural group only throughout most of its prehistory. He interpreted the two strata that he was able to distinguish at his Palo Seco site in 1919 as two phases of the same culture which could be best explained in terms of 'improvements such as would naturally be evolved as time went on and population increased' (Bullbrook 1953: 68 *et seq.*). For Bullbrook, there was no essential difference between the culture of his earlier ceramic style and that of the later one.

In 1946, Rouse dug at the Palo Seco site and uncovered a sequence of ceramic styles with implications for the entire Circum-Caribbean region. Cedros pottery of Trinidad was found to resemble the Cuevas style of Puerto Rico. Rouse suggests that this may have been the result of early Arawak migration. On the other hand, similarities between Erin style pottery in Trinidad and Los Barrancos of the lower Orinoco River (Osgood and Howard 1943) was seen as a result of trade between the natives of Trinidad and those of the Orinoco Delta (Rouse 1947: 103). This shows a reluctance to deal with prehistoric Trinidad in terms of multiple ethnic migrations.

In the course of his extensive and largely unreported fieldwork, Rouse was unable to discover evidence for ceremonial centers on Trinidad (*i.e.*, ball courts and dance plazas). He concludes that Trinidad did not participate in the ceremonial developments which took place during ceramic times in other parts of the Caribbean area; in this respect, the island appears to have been more akin to the Guianas and Amazonia than to the rest of the Caribbean (*v.* Rouse 1953: 111). This is a considerable elaboration and/or modification of Fewkes' original position.

The recent work of Peter O'Brian Harris is very much in the tradition of Bullbrook and Rouse, although Harris appears to be more interested in preceramic cultures than either of the earlier researchers. His major concern is to establish an accurate chronology for Trinidad, a task which he believes is far from accomplished (Harris 1974). José M. Cruxent (a key figure in the history of Caribbean archaeology) is a definite influence behind the sophisticated ecological approach evident in Harris' investigations of preceramic sites.

What is woefully lacking in the study of Trinidad's prehistory is a concern with cultural process as well as chronology. There is a need for a more 'conjunctive' approach (*cf.* Taylor 1948) emphasizing settlement patterns, subsistence bases, *etc.*, in order to 'flesh out' the chronological framework. Archaeologists will need to expand their excavations in order to obtain

necessary data, and they will also have to become conversant in other fields such as geology, human geography, ethnography, and ethnohistory. There is much to be gained in coöperation and/or collaboration with other scholars (*cf.* Newson 1976; Figueredo and Glazier *in press*). A direct historical approach (*cf.* Steward 1942), such as that begun by John and Rita Goggin in their unpublished study of mission sites, may provide a convenient starting place for such coöperation (Rouse 1953; *v.* Bullbrook 1960).

In conclusion, it can be stated that the study of Trinidad's prehistory has seen a gradual progression from the 'museological' approach of Fewkes and de Booy to the chronological approach of Bullbrook, Rouse, and Harris. There are also changes in interpretation, as scholars no longer consider Trinidad to have comprised a single cultural entity and are beginning to recognize the various ethnic groups which may have played a part in Trinidad's prehistory (*cf.* Figueredo and Glazier *in press*). Hopefully, the current emphasis on culture history and/or chronology will give way to a 'conjunctive' approach, and it will be possible to find out not only *when* a certain people lived on Trinidad but *how* they lived as well.

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PREHISTORIC ETHNOBOTANY AND WEST INDIAN ARCHAEOLOGY

By Louise Krasniewicz

Reports on prehistoric subsistence patterns in the entire West Indian area often have been based more on conjecture than on solid environmental and archaeological evidence. Until recently, most of the researchers have relied on indirect sources to support their hypotheses: *e.g.*, 'The settlement pattern was one of sedentary or semi-sedentary small villages with exploitation of marine resources and the cultivation of manioc, as indicated by the presence of fish and shellfish remains and of griddles for the baking of cassava' (MacLaury 1970:44). While this hypothesis may be legitimate, data to support it is far from complete. The argument for the cultivation of manioc which uses the presence of ceramic griddles as its only evidence does not take into account the numerous other uses that the griddles may have been put to (*cf.* De Boer 1975), nonetheless it surfaces regularly in articles on the region: *e.g.*, 'The presence of griddles (about 3 per cent of the total sherd count) implies that at least manioc was grown and made into bread or cakes' (Hoffman 1970:16), and: 'Manioc undoubtedly was raised as implied by the presence of griddles' (*ibid.*).

The main question is not, of course, whether we can prove the cultivation of manioc by the presence of griddles. Rather, we should become more concerned with directing our efforts toward collecting more substantial supportive data. It should be apparent that the collection of environmental materials (including samples of pollen) is essential to an understanding of many aspects of West Indian archaeology. Without these materials we cannot be certain of the patterns of resource exploitation employed at various times in the region. We cannot really understand continuous changes in material culture unless we can relate these changes to adaptive strategies.

It should be emphasized that there has not been a complete lack of interest in collecting environmental data in this area (*cf.* Bradstreet 1975). Excavators have collected much faunal material which has proven invaluable in discovering patterns of resource use (*cf.* Figueredo *in press*). The collection of botanical materials, unfortunately, has been neglected. Whether a researcher is trying to determine the extent of the gathering of plant materials in an initial hunting-gathering-fishing adaptation, or is more concerned with studying the adaptation or introduction of agricultural crops into the region, he or she should be aware that the collection of botanical samples is essential. We cannot evaluate fully the use of either wild or domesticated plant materials until we have this direct evidence.

Many researchers believe that here (as in many other parts of the world) botanical materials are not preserved. For researchers who use the more recently developed techniques, however, these materials are readily available. Figueredo (1974), for instance, reports on the recovery of nuts from Krum Bay. Since charcoal is recovered and used for radioisotopic dating, it is quite conceivable that carbonized seeds are also available. Under certain conditions (such as dry caves, ash lenses, shell middens, and similarly favored contexts) non-carbonized materials may be preserved also. With the many improved techniques in the sampling and processing of data that are available (*vid.* Renfrew 1973), this sort of information certainly *can* and *must be* recovered.

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