ARCHAEOLOGY OF THE VIRGIN ISLANDS

BY GUDMUND HATT

It was my good fortune to do field work in the West Indies from December 1922 until September 1923. The first part of my work was done on St. Thomas and St. John where I had the great pleasure to cooperate with Professor de Josselin de Jong of Leiden. My Dutch colleague went afterwards to the Dutch West Indian possessions, while I went to St. Croix and later on to Santo Domingo where I examined a number of prehistoric Indian sites. In all my field work I was assisted by my wife who accompanied me.

The results of 9 busy months of archaeological survey and digging are of course so extensive that I must refrain from giving a detailed account here. I shall present only a short summary of our work in the Virgin Islands and on St. Croix.

On the map, Fig. 1, the Indian sites on the Virgin Islands and St. Croix are indicated by means of black squares, as far as they are known to us:

The north coast of St. Thomas has four Indian sites: (1), (2) two are found at the Large Northside Bay or Magens Bay; (3) one — very small — at a place called Hull on the Little Northside Bay; (4) and another small site further West at Sorgenri Bay. They are spoiled by cultivation, except the northernmost site at Magens Bay, a considerable village site, discovered by Theodoor de Booy who undertook an excavation here in 1916–17.

On the south coast of St. Thomas (5) three small shellheaps are found at Krum Bay, and traces of one at Nisky.

On St. John, six Indian sites were discovered: (1) one at the large Coral Bay near the east end of the island, (2), (3) two on the north coast (at Francis Bay south of Mary's Point; and at Cinnamon Bay); (4), (5), (6) three on the west coast (two of these at Long Bay and one at Little Cruz Bay). In addition, we found (7) Indian pottery and axes on the surface of a part of Durloe Cay, near the west coast of St. John. Evidently, the good fishing in the northern entrance to the Sound between St. John and St. Thomas has been pretty well utilised from the St. John side in pre-columbian days. In this connection may be mentioned (8) the rock-engravings on the eastern end of Congo Cay, described by Theodoor de Booy.

On the south coast of St. John, we did not succeed in finding any Indian village-sites. It would seem not unlikely that Indians have lived at one time at Reef Bay, because here (9) some Indian pictographs are to be

seen on a rock in a creek \(^1\). We found some scattered pieces of Indian pottery in gravel deposited by the creek.

On Tortola we found one Indian village-site, much destroyed by cultivation, northeast of Road Town on the largest bay of the island. Unfortunately, we had not time to visit the rest of the British Virgin Islands.

St. Croix proved to be very rich in Indian remains. On the north coast of that island, Indian sites were located (1) at Cotton Valley; (2) at Cookley Bay; (3) north of the Christiansted lagoon (a very insignificant, superficial deposit); (4) west of Christiansted, near the sugar factory, a not inconsiderable deposit, destroyed by the road; (5) a superficial deposit, east of the Salt River bay; (6) a very considerable village-site, on the west side of Salt River \(^2\); (7) a smaller site at Cane Bay. On the south coast, a small site (8) was located at Fair Ham, west of Great Pond Bay; a considerable village-site (9) at Longford, at a little distance from the coast; (10) one on Fair Plain, at the Bethlehem creek, some distance from its mouth. At the west coast, one site (11), destroyed by cultivation, was found on Prosperity estate, at some distance from the coast; and another site (12), better preserved, on the coast itself at Sprat Hall. Inland, two sites (13 and 14) were found on Glynn estate; one (15) at Plessen; and one (16) at Grove Place. All those inland sites were spoiled by cultivation. Without doubt, St. Croix has had more Indian dwelling-sites than those which we saw and examined. Mr. Nordby, a Danish planter who has devoted himself to the archaeology of St. Croix and presented considerable collections to the Danish National Museum, has pointed out to me all the sites I saw on the island; and lately he has succeeded in finding two more inland sites.

At a glance, it will be noticed that almost all of the Indian sites are situated on the coast or very near to the coast. Most of them are at well sheltered bays or at least sheltered by reefs or small islands. It would seem that coasts directly opposing the trade-wind and without sheltering reefs were unfavorable places for Indian occupation. This is the most plausible explanation of the fact that while there were three Indian sites on the west coast of St. John and one at Durloé Cay, not one could be located on the St. Thomas side of the Sound. The excellent fishing in the Sound was evidently utilized from the St. John side only.

Fish and shellfish constituted a very considerable part of the food of the prehistoric inhabitants. Also turtle and the manatee were important elements of the diet. Of secondary importance were birds and land mammals. Agriculture played also a considerable part, however. Almost all of the sites contain large quantities of earthenware, and sherds of buréns or griddles, used for preparing cassave, are exceedingly common. The majo-

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\(^1\) Mentioned by John P. Knox in "A historical account of St. Thomas", p. 17 (New York 1852). Described by Theodoor de Booy in his "Archaeology of the Virgin Islands".

\(^2\) This site has been known for a long time. A small excavation was undertaken here 25 years ago by an officer in the Danish army, H. U. Ransing, who presented some pottery and other artifacts to the Nationalmuseum in Copenhagen. De Booy made an excavation here in 1917.
rity of Indian sites are found near sheltered bays, on flat, cultivable land, generally close to a lagoon. It would seem that the Indians in selecting a site for a village took into account not only the requirements of fishing but also those of agriculture.

Exceptions from this rule are the small shell heaps at Krum Bay, St. Thomas. They are situated at a sheltered bay, but upon rocks, and good farming land is not to be found in the immediate neighbourhood. Furthermore, these shell heaps are almost devoid of pottery — a few fragments only were found quite near to the surface. Small petaloid stone axes are very common in all the other sites which we have examined; but they are conspicuously absent at Krum Bay. On the other hand, we found at Krum Bay a number of specimens of a peculiar long and narrow type of stone axe. Characteristic of the Krum Bay middens is also a great quantity of red ochre; this colouring material has been pounded by means of hammer stones. This seems peculiar, because red ochre was almost entirely absent from all the other prehistoric sites, examined by us. I am strongly tempted to regard the Krum Bay middens as remnants of a culture, earlier and more primitive than those represented in the other sites. Unfortunately, however, we did not succeed in finding any other example of this primitive culture in the Virgin Islands nor in Santo Domingo. And it is not possible to identify it with M. R. Harrington’s primitive „Ciboney culture” in Cuba¹, because the implements found at Krum Bay are quite different from Ciboney artifacts.

In the other sites, we found abundant evidence of the ceramic art. However, the culture is not quite identical everywhere. There is certainly great similarity between the ceramics of Magens Bay, St. Thomas, and Salt River, St. Croix; but the ceramics of Longford and Sprat Hall, St. Croix, have their own characteristics, reminding strongly of Coral Bay and Little Cruz Bay, St. John. On the whole, apart from the Krum Bay middens, the Indian sites of St. Croix and the Virgin Islands seem to belong to two groups. One of these, best represented at Magens Bay and Salt River, shows cultural influences from the Greater Antilles. The other group, best represented at Coral Bay and Longford, is more influenced from the Lesser Antilles. To the Magens Bay-Salt River group belong also the smaller sites on the north coast of St. Thomas and the sites at Glynn and Fair Plain, St. Croix. To the Coral Bay-Longford group belong the sites at Little Cruz Bay, St. John, and at Fair Ham and Sprat Hall, St. Croix. Several sites, I cannot assign definitely to any of the two groups, partly from lack of sufficient material, partly because considerable intermixture has taken place between the groups. The sites at Long Bay and Francis Bay, St. John, and at Road Town, Tortola, have some affinity to both groups, but show a comparatively low degree of ceramic development.

The main characteristics of the two groups may be seen in the illustrations which are given here.

In the Magens Bay-Salt River group we find very often round bowls of the type represented in Fig. 2, a, e and i, and in Fig. 3, a, e and h. The bottom is very narrow, flat or nearly flat, the sides diverge widely, but their upper part is falling inwards, towards the rim. In some instances, this upper part has incised ornamentation (cf. Fig. 2, e and i, Fig. 3, a and e; cf. also the burial vessel Fig. 20, from Salt River). This type of vessel is well known from the Greater Antilles. One single piece from Salt River (Fig. 3, d) has very deeply incised decoration, the lines terminated with small pits; this specimen may have been imported to St. Croix from Porto Rico.

Characteristic of Magens Bay and Salt River are also boat-shaped vessels (Fig. 2, d, and Fig. 3, e, with decoration in relief and head-shaped handle).

Several fragments of double bowls were found at Magens Bay and Salt River (cf. Fig. 2, f), none were recovered in the Coral Bay-Longford group.

Certain negative traits distinguish the Magens Bay-Salt River group from the Coral Bay-Longford group. Loophandles are not entirely absent at Magens Bay and Salt River, but they are rare; Fig. 2, h, is an unusual specimen. Annular base is almost entirely absent — only one fragment of this type was found at Salt River. The vessels have simple flat or rounded bottoms.

Painted decoration is comparatively rare in the Magens Bay-Salt River group, but not entirely lacking. Red-painted rims and black-and-red-painted ornamentation are found on some shallow dishes and plates of the type shown in Fig. 2, g. The use of painted decoration is much more prevalent in the ceramics of the Coral Bay-Longford group. Its occurrence in the Magens Bay-Salt River group constitutes an interesting link between the two groups; and it should be noted that red-and-black painted pottery occurs already at the bottom of the Magens Bay and Salt River deposits.

A few other traits connect the oldest parts of the Magens Bay-Salt River deposits with the Coral Bay-Longford group. At the bottom of the Magens Bay deposit, about 1½ m below the surface, were found two pots of the type represented in Fig. 2, c, with narrow neck. By their shape, and also by the thinness and fineness of the ware, these pots are distinctly different from the general types at Magens Bay and Salt River. They belong, however, to a type of which many sherds have been found at Longford and Fair Ham, St. Croix. Fig. 2, f, and Fig. 3, g, are also of a fine, thin ware, often found at the bottom than at the top of the Magens Bay and Salt River deposits, and reminding of the Coral Bay-Longford pottery.

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1 Cf. e. g. Adolfo de Hostos: Prehistoric Porto Rican ceramics, Am. Anthropologist, N.S. vol. 21, p. 387, Fig. 48 a, i; Theodoor de Boyy: Santo Domingo kitchen-midden and burial mound, Indian notes and monographs, vol. 1, 2, pl. VIII, b; M. R. Harrington: Cuba before Columbus, vol. II, pl. LXXXII.


3 Double bowls, supposed to have been used for paint, have been found at Erin Bay, Trinidad, and at Carricou (cf. Theodoor de Boyy in American Anthropologist, N.S., vol. 19 pl. VI, d, and J. W. Fewkes in 34. annual Rep. Bur. Ethn., pl. 62 D). I have found half part of a double bowl in a shell heap at the mouth of Rio Neibon, Santo Domingo.
While the interrelation between the two groups is most evident in the lower and older part of the Magens Bay and Salt River deposits, it is in the upper and younger parts of these deposits that ceramic influence from the Greater Antilles is most clearly to be seen, especially in the use of incised decoration and of pottery heads, used as handles.

In Fig. 4 is shown a selection of pottery heads from Magens Bay. The less developed forms, with the eyes indicated as simple round or oblong pits, were found not only near the surface but also at a greater depth. More complicated forms, where the eyes are generally shaped like rings, were found only quite near to the surface. Some of these more developed forms, e.g. Fig. 4, b, remind so strongly of Porto Rican ceramics that one is tempted to assume importation.

In Fig. 5, a selection of pottery handles and figurines from Salt River is represented. The diversity of types is still greater than at Magens Bay. In Santo Domingo, I found the Indian middens very much richer in pottery heads than at St. Croix and the Virgin Islands; but Magens Bay and especially Salt River excel in the number of different types. Some of the forms remind strongly of Porto Rico; e.g. Fig. 5, a and h, may be compared to H. K. Haeberlin’s Fig. 38 in the American Anthropologist. N.S. Vol. 19, p. 237, and the rather realistic head Fig. 5, j, is somewhat similar to de Hostos’ Fig. 49, h, in Am. Anthropologist Vol. 21, p. 388. Fig. 5, l, suggesting an old man’s wrinkled face, is unique. Fig. 5, m, is a small clay figurine, probably representing a bird-man. Pottery handles, shaped like bird and bird’s head, are seen in Fig. 5, s and t. Fig. 5, g, is a fragment of an effigy vessel, representing a woman. The flat relief faces, Fig. 5, v and x, are fragments from the rim of shallow plates, decorated with red paint, of a type that is more prevalent the Coral Bay-Longford group than in the Magens Bay-Salt River group. The existence at Salt River of these flat relief faces is one of the points that indicate connection between the Magens Bay-Salt River and the Coral Bay-Longford group.

Among the traits that characterize the ceramics of Coral Bay-Longford, the following should be emphasized (cf. Figs. 6 and 7): Loop handles are prevalent. The sides of the bowls are in many cases straight (Fig. 6, h, i, j); in other cases, the upper part of the side is almost vertical (Fig. 6, a, b, c, e; Fig. 7, d); and in some examples, where the upper part of the bowl falls inward, that part is joined to the lower part at a prominent, sharp angle (cf. Fig. 6, f, g, k). The bottom is often flat; but in many instances we find the middle part of the bottom raised, as in a beer-bottle, whereby a sort of annular base is produced. High and heavy annular bases are also found, e.g. in the beautiful vessel Fig. 7, c. Incised decoration is very rare. But the use of paint is not uncommon, especially red and white, seldom yellow. Bowls and plates are in some instances provided with flat handles with faces in relief; examples from Coral Bay are seen in Fig. 7, a, and Fig. 8, a and b. The handle Fig. 8, e, represents a bird’s head. Fig. 8, h, is a fragment with a relief face from Little Cruz Bay. Fragments of effigy vessels are seen in Fig. 8, c, from Coral Bay, and Fig. 8, g, from Little Cruz Bay.
The ceramics of the Coral Bay-Longford group have very little in common with the art of the Greater Antilles, but more with that of the Lesser Antilles, especially with that of St. Kitts and Nevis, described by C. W. Branch in *American Anthropologist, N. S.*, Vol. 9, and that of Sint Eustatius, lately excavated by de Josselin de Jong and still unpublished. Similarities may even be pointed out between the Coral Bay-Longford group and Erin Bay on Trinidad; the peculiarly tipped handles of the vessel Fig. 7, c, remind of those from Erin Bay, figured by Fewkes, *American Anthropologist, N. S.*, Vol. 16, pl. XIV. The annular base is also a trait, indicating influence from the Lesser Antilles. Likewise the use of painted decoration is characteristic of the Lesser Antilles; the western outposts of that trait — in the West Indies — seem to be on Porto Rico, where de Hostos, has pointed out the use of red paint on vessels.¹

The types of axes, found on St. Croix and the Virgin Islands, I shall refrain from discussing here, only mentioning that there are two main types of stone axes, 1) the common petaloid, made of very hard stone, and 2) a long, thin and in most instances narrow axe, made of a less hard, in some cases slaty stone. I suspect that 2) is the oldest type, as the Krum Bay axes belong here. The axe with side notches, so exceedingly common at Guadeloupe and other islands of the Lesser Antilles, has not been found on the Virgin Islands, as far as I know, and a few specimens only of that type are known from St. Croix. Axes made of shell have been very much used; they occur of two types, 1) the most common form is long and rather narrow and has parallel sides, 2) the short, petaloid shell axe is rare. In addition may be mentioned that narrow chisels occur, some made of stone, some of shell. A shell chisel from Magens Bay is shown in Fig. 9, c. — With regard to axes, no difference has been noted between the Magens Bay-Salt River and the Coral Bay-Longford group of sites.

A curious cutting implement of a hard, blue stone was found at Salt River; it is shown in Fig. 10, c. It is beak-shaped with a short, heavy cutting edge. Probably, it was for cutting hard material, such as shell.

Scrapers, made of clam shells, were found in many of the sites, also at Krum Bay.

Flint implements were entirely lacking. Also in eastern Santo Domingo, flint implements seem to have been unknown. The only place where I have found flint artifacts — of a very rude description — is in an Indian village site at La Barrera, near Azua, in the southwestern part of the Dominican Republic.

The Indian archers of St. Croix, who fought so gallantly against the Spaniards, have left nothing behind them of their weapons. Evidently, they used no arrow heads of a durable material. We recovered, however, at Salt River quite a number of arrowshaft rubbers, made of coral rock.

Large quantities of hammerstones and pestles were found. Very often, petaloid axes had been used as pestles or rubbing stones. Flat slabs, used for grinding of axes, or perhaps as metates, were found at Salt River and at Long Bay, St. John. Several small mortars, found on St. Croix, and one

¹ *American Anthropologist, N. S. vol. 21, p. 383.*
specimen, found on St. John, are in the Copenhagen museum; curiously enough, we did not find any mortars in our excavations.

Spindle-whorls, generally of a circular disc shape and cut out of pot sherds, were among the most common artifacts. Fig. 9, m, is a disc shaped spindle-whorl of bone, and 9, k and l, are conical spindle-whorls of pottery; they were of rare occurrence.

Shell ornaments were found in many of the sites, especially small perforated shells, used as pendants, and perforated shell discs. Oblong rectangular shell plates with carved ornaments were also found; examples are given in Fig. 9, g, from Magens Bay, and Fig. 10, h, i, from Salt River. A fragment of a carved shell disc from Magens Bay is seen in Fig. 9, h. Shell carvings, representing frogs, are characteristic of some St. Croix sites, especially at Glynn. Fig. 10, f, g, are two almost cylindrical objects of a yellowish, translucent stone, found at Salt River; they may perhaps have been used as ear plugs. A pendant of bone with a carved face, found at Salt River, is shown in Fig. 10, d. There were also found, at Salt River and Magens Bay, some tubular stone beads.

In the midden at Coral Bay, a shell trumpet was found, made of a "tobacco couch" with the top nearly cut off. Similar trumpets, but made of the more common large conch shell Strombus gigas, are used by the native fishermen to-day.

Another musical instrument, a bone flute, was found in the midden at Magens Bay (cf. Fig. 9, b).

The rough stone carving, Fig. 9, i, is probably meant to represent a woman. It should, however, not be taken as a standard of the sculptor's art at Magens Bay. Fig. 9, j, shows a very fine piece of work, a thin plate of greenish stone with two neatly carved bird's heads at one end. The bird motive is also utilized in the beautiful shell carving Fig. 9, a; the bird's tail is long and shaped like a spatula. It is probably an implement used for some ceremonial purpose. As a swallowing-stick, it can hardly have been used, though, as the spatula ends in a sharp edge. We found still another shell carving representing a bird and somewhat like Fig. 9, a, but unfinished. Broad spatulas of turtle bone, in some instances neatly carved, were not uncommon at Magens Bay and Salt River (cf. Fig. 9, d, e, and Fig. 10, j, k), and fragments were also found at other sites. These spatulas cannot very well have been used for any practical purpose, because they are so very thin and fragile; they are probably ceremonial objects of some kind.

Fig. 9, f, is a boat-like object, made of bone. A small rupture has been repaired in Indian days by the boring of holes on each side of the break, probably to hold a binding. A fragment of another specimen of the same form was also found at Magens Bay. I would suggest that this object is a boat-effigy, and that it may give us an idea of the type of boat, used by the Magens Bay Indians. It must have been a long and narrow craft, hollowed out of a trunk, but very different to the clumsy trough-like affair which Oviedo has pictured from Hispaniola.
A beautiful bone-sculpture found at Salt River, representing the head of some reptile, is shown in Fig. 10, c; unfortunately, it is a fragment. A number of sculptures in coral and stone were recovered at Salt River. They were almost all found within a certain part of the Salt River village site, evidently a sort of a sanctuary. Therefore, it will be convenient now to look at the plan of the Salt River site, Fig. 11.

The village site is on a small peninsula, stretching east, towards the mouth of the Salt River inlet. On the top of a natural hill on this peninsula is seen a triangular earth work, an old fortification from the 17th century. A lot of kitchen midden material has been used in erecting that earth work. The Indian village has occupied the hill and its near surroundings and left considerable deposits of shells—especially of mangrove oyster—crab claws, fish bones, ashes, and potsherds. North of the hill, however, is an open, flat area (marked with an x on the plan) where no kitchen midden material has been deposited; here an open place must have existed in the village. On the north and west side, this open area is surrounded by a ridge, composed of kitchen midden material. We made one of our excavations, marked A on the plan, right through the ridge; and this excavation gave particularly interesting results. At the foot of the ridge, covered by the soil, we found a row of flat stone slabs, standing on edge, some of them with incised petroglyphs on the side towards the open area. The length of the stone row was 8 m. The height of the slabs was 0.29—0.42 m. The row was incomplete. Probably some of the slabs have been taken away at an earlier time; there were two considerable breaks in the row. We found nine slabs standing, four of them with petroglyphs.

In Fig. 12, the southwestern end of the stone row is seen. Three of the stone slabs have pictographs. The figure upon the nearest stone, at the end of the row, is particularly interesting. The head and body of a person is delineated in a horizontal position; and inside the body, another person is represented with the head in the opposite direction. It seems to me highly probable that this pictograph was meant to represent a pregnant woman—perhaps a symbol or a goddess of fertility or of childbirth.

At the northeastern end of the stone row, another interesting stone was standing. It is shown in Fig. 13. It has a pictograph, representing a face with five vertical lines over it. The face is roughly done, only the eyes and the mouth are represented. To the right, a small circle is incised upon the surface of the stone slab; and in the centre of this circle, a tiny hole is visible, being the aperture of a canal that goes right through the stone slab. On the hind side of the slab, shown in Fig. 14, the canal is seen to be funnel-shaped. This neatly drilled funnel, ending in an exceedingly narrow canal leading to the tiny aperture on the front side of the slab, is a fine piece of work, and it must of course have been made for some purpose, most likely for some ceremonial or magical purpose. It is well known that 1

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the Indians of Hispaniola used certain tricks in connection with their zemis or idols. Ferdinand Columbus relates how an idol was made to speak by means of an ingenious device, a tube leading to the idol from a corner of the cacique's house where a man was hiding who really spoke the words that appeared to come from the idol. The curious perforated stone from Salt River may have been used for some pious artifice of a similar kind. It would be possible, for instance, by pouring water into the funnel from behind to let that water ooze through the small aperture and make the front side of the stone wet. Ramon Pane mentions a sacred cave in Hispaniola where there were two small stone-zemis, about a quarter of a yard long and looking as if they sweated. "These zemis they honoured very much; and when they wanted rain, they say they used to go visit them, and they presently had it".

In the ridge behind the stone row, a tremendous amount of human bones were found, mostly splintered and scattered in all possible ways. Only four skeletons seemed to represent burials. Two of these were found close behind the southwestern end of the stone row, in a slightly lower niveau than the stones, lying in a stratum of clayey soil which formed a sort of platform behind the stone row. This platform, extending a little further northeast and southwest than the stone row and about 4 m northwest from the stone row, may have been the floor of a house. Unfortunately, however, it was not possible to discover any post-holes or other reliable indications of a structure. Above the clayey stratum, the ridge had the character of a kitchen midden consisting of earth mixed with ashes and a lot of shells of mangrove oysters and conchs, bones of fishes and mammals, and large quantities of human bones. It was evident that offal from repasts had repeatedly been thrown out from the place immediately behind the stone row towards the northwest, where the village site is bordered by an old, now dry lagoon. Above the platform, the kitchen midden material was lying in horizontal strata, but behind, i.e. northwest of the platform, the strata were sloping down towards the old lagoon. In the kitchen midden two skeletons were found; one of them is shown in Fig. 15, lying on the left side with the knees drawn up. But all through the ridge, scattered and often splintered bones were found of a large number of human skeletons, evidently the remains of cannibalistic feasts. A typical sample of the composition of this midden may be seen in Fig. 16, showing a mixture of skeleton remains, conch shells, and potsherds, and a large spindle-whorl.

Among the artifacts found in this ridge were a considerable number of clay vessels which had evidently been placed there whole. Two very large vessels are seen in Fig. 3, f and h; they are about \( \frac{1}{4} \) m in diameter. Decorated vessels from the ridge are seen in Fig. 5, c and e. Some of the vessels were placed so that they may possibly — but not necessarily — be considered as sepulchral vessels associated with the buried skeletons; on the other hand, the majority of the vessels and other artifacts found in the

1 A plan of excavation A, showing the position of skeleton remains and artifacts found cannot be given here because it contains too many details to be reduced to a small scale.
ridge does not seem to have anything to do with the burials. On Fig. 12, five vessels may be seen in the position wherein they were found, standing upon the above-mentioned clayey platform, behind the southwestern end of the stone row; and in a somewhat higher niveau, a large head of coral is seen as it was uncovered, lying at the end of a rough column of coral rock. Probably, this column, 0.47 m long, has served as a pedestal for the coral head. The head, of a triangular shape with a roughly cut face on both sides, may be seen in Fig. 17, a. Its length is 0.28 m. Without doubt, this head has served as an idol, a "zemí". And so has a number of smaller coral heads, found in the same excavation, behind the stone row. Three of these are pictured here, Fig. 10, a, b, and Fig. 17, b. Evidently, they have been mounted on sticks; Fig. 10, b, and Fig. 17, b, are provided with notches for binding; and Fig. 10, a, has a hole in the back, probably meant for the insertion of a stick.

A stone slab with an incised pictograph, representing a face, was found lying in the ridge, and fragments of two stone slabs with low reliefs were recovered; one of them, representing a frog, may be seen in Fig. 17, c.

Without doubt, the stone row and the area behind it was a sort of a sanctuary where zemís have been worshipped and cannibalistic feasts held. The open place in front of the stone row may perhaps have been used for ball-playing. In Hispaniola, according to Las Casas, there was often a plaza, used for the ball game, in front of the cacique's house.

In other parts of the village site of Salt River, we did not find unmistakable evidence of cannibalism. Several burials were found, however, and curiously enough they were almost all of children. The skeletons were found in the kitchen midden deposits, generally at the bottom of the midden and without any associated objects, although pottery, axes, and other artifacts were found scattered through the midden everywhere. In one case, however, a child's skeleton was found covered by a beautiful inverted bowl, decorated with black paint, and surrounded by artifacts — a petaloid axe, a carved pendant of conch shell, representing a fantastic head, a shell disc and a few other things. Fig. 18 shows the inverted burial vessel and associated artifacts in the position where they were found, and Fig. 19 the uncovered, much disintegrated skeleton, resting on the left side with the knees drawn up. Near by, another child's skeleton was uncovered beneath the griddle Fig. 3, b. And on the hill, immediately west of the redout, where the kitchen midden deposit was rather thin, the beautiful bowl Fig. 29 was found standing about 0.30 m beneath the surface and containing the skeleton of a newborn infant.

I shall not describe the burials in any detail here. At several of the Indian sites burials were found, always in the midden itself, near the bottom of the deposit. At Magens Bay, seven skeletons were uncovered; one of them was a child's skeleton, covered by two large inverted bowls. The other ones were of adults. Vessels were found very close to

1 Las Casas: Apologética Historia de las Indias, ed. Serrano y Suanz, Madrid 1909, p. 538.
two of them. A pendant, made of a perforated shell, was found near to the left ear of a skeleton, and another perforated shell near the left elbow of another skeleton. Two of the Magens Bay skeletons were resting on the right side with the knees drawn up, one on the left side, two on the back. The orientation was evidently quite accidental, here as at the other sites examined. One of the Magens Bay skeletons, of an elderly man with a somewhat flattened forehead, was lying prostrate, face downwards, and its femurs and hip bone were entirely lacking, although the skeleton was otherwise rather well preserved. That may perhaps be a case of partial cannibalism. — The skeleton material has not yet been studied.

In this preliminary report of our work in the Virgin Islands and St. Croix, I shall not go into further details; it will be necessary however, to mention the three-pointed stones and the stone rings.

Three-pointed stones, of Fewkes's fourth type, are exceedingly common at Salt River. We found more than 70 there. They were particularly numerous in the ridge, behind the stone row, but many were also found in the other excavations. At several other St. Croix sites, three-pointers were recovered, especially at Fair Plain and Longford. They were quite common also at Magens Bay, St. Thomas; and in the small Indian site at Hull, St. Thomas, a fragment of a very large three-pointer was found. At Krum Bay, three-pointers did not exist. On St. John they were rare; two were found at Coral Bay, though, and one at Little Cruz Bay. The two Coral Bay specimens are pictured in Fig. 21, bb and cc; they are made from the tips of conch shell. This material was also much used for three-pointers in St. Croix. The natural shape of the conch tip is well adapted for the purpose. With the exception of bb and cc, all the other three-pointers in Fig. 21 are from Salt River; dd, ee, ff, gg, and hh are made of conch shell, h, i, j, k, o, p, q, r, s, t, u, v, x, y, z, aa and ii are of different kinds of coral rock, the rest of other varieties of stone. The fragmented specimen g has two cup-shaped cavities on each side, m has a little primitive face near the upper tip, n has incised decoration.

The three-pointers must have played a role in the life of the Indians of St. Croix and of Magens Bay, being so numerous. Half-finished specimens show that three-pointers were made at Salt River and Magens Bay. It is one of the traits which prove a strong cultural influence from Porto Rico. There can hardly be any doubt that the three-pointers must have had some religious or magical use. T. A. Joyce is probably right in his identification of the three-pointers with those zemis about which Roman Pane says that they have three points and are believed to cause the Yucca to thrive. Adolfo de Hostos has tried to interpret the upper part of the three-pointer as a representation of vegetable growth, originally imitating the growing buds of Yautia tubers.¹

The stone collar, the other great mystery of Tainan archaeology, had also spread to St. Croix. We found a considerable number of fragments at

Salt River and at Fair Plain, and Mr. Nordby has collected fragments also at other sites. No whole specimen was found, and the fragments recovered by us seem to belong to as many different specimens of stone collars. The Nationalmuseum in Copenhagen possesses from older time a whole stone collar from St. Croix and another whole specimen said to be from St. John. Furthermore, the British Museum possesses a stone collar said to have been found at St. Thomas¹. We did not find any fragments of stone collars at St. Thomas or St. John. The existence of stone collars at St. Croix and — perhaps — the Virgin Islands must have been due to importation from Porto Rico. They are not numerous enough in St. Croix to suggest local manufacture.

Whatever the ideas were that found their expression in the three-pointers and the stone collars, we must assume that the spread of these objects from Porto Rico to St. Croix meant the transmission of ideas and rites, and not of material forms only. — Possibly, fragments of stone collars had some value or virtue attached to them as we found them rather widely spread in the Indian village sites of St. Croix.

— The prehistoric culture of St. Croix, St. Thomas and St. John was not uniform. Aside from the Krum Bay culture — whose status may seem a little doubtful as long as it has not been identified with the culture represented in any other site — it is quite evident that two different cultural movements have met and mingled on these islands. One of them, coming up along the chain of the Lesser Antilles, is characterized by certain ceramic traits, as the use of painted decoration, loop-handles, flat handles with relief faces, certain types of bowls with vertical sides and with annular bases. These characteristics are mostly in evidence at Coral Bay and Little Cruz Bay, St. John, and at Longford and Sprat Hall, St. Croix. Another movement must have come from the Tainan area and is characterized by other ceramic traits, e.g. certain types of bowls with round or flat bases and the upper parts slanting inwards, boat-shaped vessels, certain incised ornaments and elaborate pottery handles, shaped like fantastic anthropomorphic or zoomorphic heads and reminding more of Porto Rico than of Trinidad; also the use of three-pointed stones and stone collars and other sculptural forms in stone, coral and shell.

In accordance with the historic tradition that the Caribes were late invaders and had conquered an earlier Arawak population, we should expect to find a more or less distinct Caraïbean layer deposited on top of an Arawakan layer. However, the archaeological facts show, that influences from the Lesser Antilles and from the Tainan area have mingled here throughout a very long time; and it is quite evident that the Tainan

¹ T. A. Joyce, Prehistoric Antiquities from the Antilles in the British Museum. Journal of the Anthr. Inst. of Great Britain and Ireland. Vol. XXXVII, p. 409. — Probably this stone collar is identical with one that in 1860 was sent from the Museum in Copenhagen to Mr. Henry Christy in exchange of a „sacrificial collar“ from Mexico. In our inventory nothing is said about the origin of this particular stone collar; but it is stated that „a similar stone ring was found in the harbour of St. Thomas some years ago.\"
influence had not disappeared towards the close of the prehistoric period — on the contrary, Tainan cultural traits are especially strong in the upper layers of the deposits of Magens Bay and Salt River. From Salt River a sphere of influence of Tainan culture can be traced southwards, over Glynn to Fair Plain near the south coast of St. Croix, characterized by the prevalence of pottery heads, fragments of stone collars and beautiful shell carvings. Less strong the Tainan influence was at Sprat Hall and Longford and on St. John.

Magens Bay and Salt River were the largest Indian villages on the islands. At Salt River we have found strong proofs of cannibalism. The so-called Caribs of St. Croix, who fought with Columbus’ men a day in November 1493 and who harassed Porto Rico, must have had their principal seat at Salt River.

The Indians at Salt River and Magens Bay must have had a rather lively connection with the Tainan area, especially towards the close of the prehistoric epoch; and their predatory habits may have been the very cause of the Tainan culture influence. These seafaring robbers did not only bring home victims for their cannibalistic feasts but also Taino women. And a very large part of the culture, especially the ceramic art, was woman’s domain.

We have not found any archaeological fact which necessarily indicates a Carib population on the islands. What I have called the Coral Bay—Longford ceramics must have reached St. John and St. Croix rather early, long before any Carib invasion. And towards the close of the prehistoric epoch the Tainan influence was particularly strong. This does not compel us to assume that the Carib invasion had not reached St. Croix. A change in the ethnic composition of a population does not necessarily coincide with a change in the visible aspects of culture which are accessible to the archaeologist — or vice versa. The Carib conquest of an island would not necessarily change the ceramics of that island; the Arawak women who remained as the wives of the conquerors would of course keep up their old ceramic industry. And it is quite possible that cultural influences from the Greater Antilles might be stimulated by the raids of the Caribs.

There is, however, a historical fact which speaks against the assumption that the Indians of St. Croix were Caribs. In the description of Columbus’ discovery of St. Croix and of the sea-fight between the crews of a Spanisch boat and an Indian canoe, as told by Peter Martyr and Ferdinand Columbus, we hear of Indian women fighting together with the Indian men, and according to Peter Martyr a woman chieftain was the leader of the Indian party. That does not agree very well with the social condition which existed among the Caribs of the Lesser Antilles where the women were a despised class, being descendants of the conquered Arawaks and speaking a language of their own much mixed with Arawak words. Woman chieftains would hardly be possible under such conditions. On the other hand, among the Tainos of Hispaniola some women had actually chieftain’s rank. The fighting women and the valiant woman chief of St.
Croix seem to argue that the St. Croix Indians were Arawaks rather than Caribs.

The Spaniards regarded the inhabitants of St. Croix as Caribs on account of their warlike character and cannibalism—traits which were characteristic of the Caribs of the Lesser Antilles. Warlike habits and cannibalism may, however, very well be transmitted from one ethnic group to another, like almost any other cultural trait. It seems that the Carib invasion of the Antilles threw a shadow of militarism in front of itself. The Tainan inhabitants of Porto Rico were much more warlike than the Tainos of Hispaniola.

Taken together, the facts at our disposal would seem to indicate that the Indians of St. Croix, found by Columbus, were Arawaks who had adopted certain Carib traits.

1 With regard to the question of Carib influence in Porto Rico, cf. the discussion by Sven Lövén: Über die Wurzeln der Tainischen Kultur, Göteborg 1924, p. 40—45.
Fig. 1. Indian sites on St. Croix and the Virgin Islands.
Fig. 2. Pottery from Magens Bay, St. Thomas.

Fig. 3. Pottery from Salt River, St. Croix.
Fig. 4. Pottery heads from Magens Bay, St. Thomas.

Fig. 5. Pottery heads, a figurine (m), and a fragment of an effigy vessel (g) from Salt River, St. Croix.
Fig. 8. Pottery from Coral Bay (a, b, c, d, e), Francis Bay (f), and Little Cruz Bay (g, h, i) on St. John.
Fig. 10. Artifacts of coral, bone, stone and shell from Salt River, St. Croix.

Fig. 9. Artifacts of shell, bone, stone and clay from Magens Bay, St. Thomas.
Fig. 12. View of the south western end of the stone row at Salt River, St. Croix. Behind the stone row a clay vessel is uncovered.

Fig. 13. The southeastern end of the stone row at Salt River, St. Croix. Behind the stone row a clay vessel is uncovered.

Fig. 14. The northeastern end of the stone row at Salt River, seen from behind. The funnel-shaped perforation of the stone is visible.

Fig. 15. A buried skeleton in the ridge behind the stone row at Salt River, St. Croix.
Fig. 16. A part of the midden of which the ridge was composed behind the stone row at Salt River, St. Croix. Human bones, conch shells, potsherds and a spindle whorl are seen.

Fig. 17. Heads of coral and a stone relief representing a frog, from Salt River, St. Croix.

Fig. 18. Inverted bowl covering a child's skeleton and surrounded by several artifacts. Salt River, St. Croix.

Fig. 19. Child's skeleton, Salt River, St. Croix. This skeleton was covered by the inverted bowl in fig. 18.
Fig. 20. Bowl with incised decoration, containing the skeleton of an infant.
Salt River, St. Croix.

Fig. 21. Three pointers. They are from Salt River, St. Croix, except bb and cc which were found at Coral Bay, St. John.