

## Kelbey's Ridge 2, A 14th Century Taino settlement on Saba, Netherlands Antilles

*Archaeological research has revealed 1000 years of Amerindian habitation on the island of Saba on the northern Lesser Antilles from 450 AD to 1450 AD.<sup>1</sup> The latest phase is represented by the pre-colonial settlement site of Kelbey's Ridge 2. Culturally affiliated with the so-called Taino culture, the site is, presumably, to be considered a peripheral settlement of one of the chiefdoms on the Greater Antilles. In this paper the presence of a Taino site on the northern Lesser Antilles will be further explored and several hypotheses are presented as to the possible mechanisms behind this expansion during late pre-Columbian times.*

### 1. Introduction

Saba is the smallest island of the Lesser Antilles with a surface area of 13 km<sup>2</sup>. It is situated approximately 150 km from the U.S. Virgin Island of St. Croix, which is considered to be the eastern outpost of the 'Classic Taino interaction sphere' during late prehistoric times (Allaire 1987; Hatt 1924; Morse Faber 1991; Rouse 1992) (figs 1, 2). During this period, between 1200 and 1500 AD, an increased level of social differentiation and political complexity is evidenced on the Greater Antilles with the rise of the Taino chiefdoms (Rouse 1992; Wilson 1990). The developments on the northern Lesser Antilles are so far unknown for this period; no evidence has yet been found of a ceramic complex that would post-date 1200 AD. However, recent archaeological research has proved that the ceramic developments on the northern Virgin Islands (Lundberg *et al.* 1992) and also on Saba (Hofman 1993) parallel those of the Chican Ostionoid subseries on the Greater Antilles. The pottery, although simpler and less sophisticated, can be assigned to be an offshoot of the developments in the Taino centre meaning that the eastern border of the Chican-Ostionoid subseries should be shifted down to Saba. The location of a Taino settlement outside the centre of the Greater Antilles suggests an extension of the Taino occupation to the south-east. Economic or socio-political incentives are proposed here as possible mechanisms behind this expansion.

### 2. Site location

The site of Kelbey's Ridge 2 is situated in the north-eastern part of the island on an elevation of 140 m msl

(= mean sea level) (fig. 3). Kelbey's Ridge is a cone-shaped volcanic dome (Westermann/Kiel 1961, 38). Towards the east, the dome is extended by a ridge which represents the northern border of the Spring Bay basin. The site is located on a triangular, slightly sloping terrain of approximately one hectare between the ridge and the lava flow of Flat Point in the north. The substrate consists predominantly of agglomerates and tuffs, covered by debris from the ridge and the lava flow.

The site location will have provided pre-Columbian people with easy access to a wide range of ecological zones and resources. Kelbey's Ridge 2 is located 300 m from marine resources on the coast. In addition, the occupants of the site would have had access to the rainforest on the higher slopes, a resource of wild fruits, birds and small mammals.

Due to its elevated position Kelbey's Ridge provides a good view of the neighbouring islands and permanent control can be exercised over the sea.

### 3. Archaeological fieldwork

A survey on Kelbey's Ridge was executed in 1988 and revealed two artefact clusters, labelled as Kelbey's Ridge 1 and 2 (fig. 4), and artefacts and remains testifying of a colonial occupation. The colonial component includes low stone walls, a collapsed cistern and a stone structure.

Kelbey's Ridge 1 appeared to be an oval distribution of pottery and shell fragments with a surface area of 150 m<sup>2</sup>. Excavations revealed that the site consists of a discard area of settlement refuse and a distinct, small crab midden. A sample of exoskeletons of landcrab was submitted for radiocarbon dating and indicated an age in the seventh century (GrN-16033 1280 ± 60 BP). The pottery belongs to a late phase of the Cedrosan Saladooid subseries (Hofman 1993).

Kelbey's Ridge 2 consists of a long, curved scatter along the ridge with a surface of 2000 m<sup>2</sup> of which 382 m<sup>2</sup> were excavated between 1988 and 1991. This is about 19% of the total surface area of the site.

The sections of the excavation units showed a simple stratigraphy: on top of the sterile subsoil there is a very thin (5-10 cm) level with dispersed artefacts, which contains only pre-Columbian material: potsherds and low quantities



Figure 1. Map of the Caribbean Region.

of subsistence debris. This layer seems to represent the remainder of a living surface. On top of this layer there is a ploughzone 30-40 cm thick containing most of the pre-Columbian artefacts, nearly exclusive potsherds, and colonial artefacts. Part of the actual living surface was taken up in the ploughzone due to colonial and recent agricultural activities.

The pottery in the living surface and the ploughzone is unevenly distributed over the excavated area of the site. Pottery occurs in large quantities in two concentrations (see fig. 5). The quantities of pottery diminish towards the ridge and the central area of the terrain. The excavations revealed many features: hearths, burials and a large number of quite shallow postholes. The pattern in the pottery densities and the arrangement of the features provide insight into the settlement structure and spatial organisation of the site.

#### 4. Radiocarbon and accelerator mass spectrometry (AMS) dates

Seven charcoal and one shell sample obtained from three postholes and three of the hearths (F503, F524 and F526) have been submitted for radiocarbon dating (for the location of the features see fig. 6). One of the hearths (F526) appeared to belong to the colonial occupation of the site. The determinations of the other samples point to a calibrated age in the 14th century (see tab. 1). Besides conventional radiocarbon dating there are determinations by the accelerator mass spectrometry (AMS) technique. For this technique collagen samples have been extracted from the molars of six individuals. Six burials were dated by this method. Primarily the AMS analysis is executed for the dietary reconstruction, specifically the contribution of marine resources in the diet, but it also provides

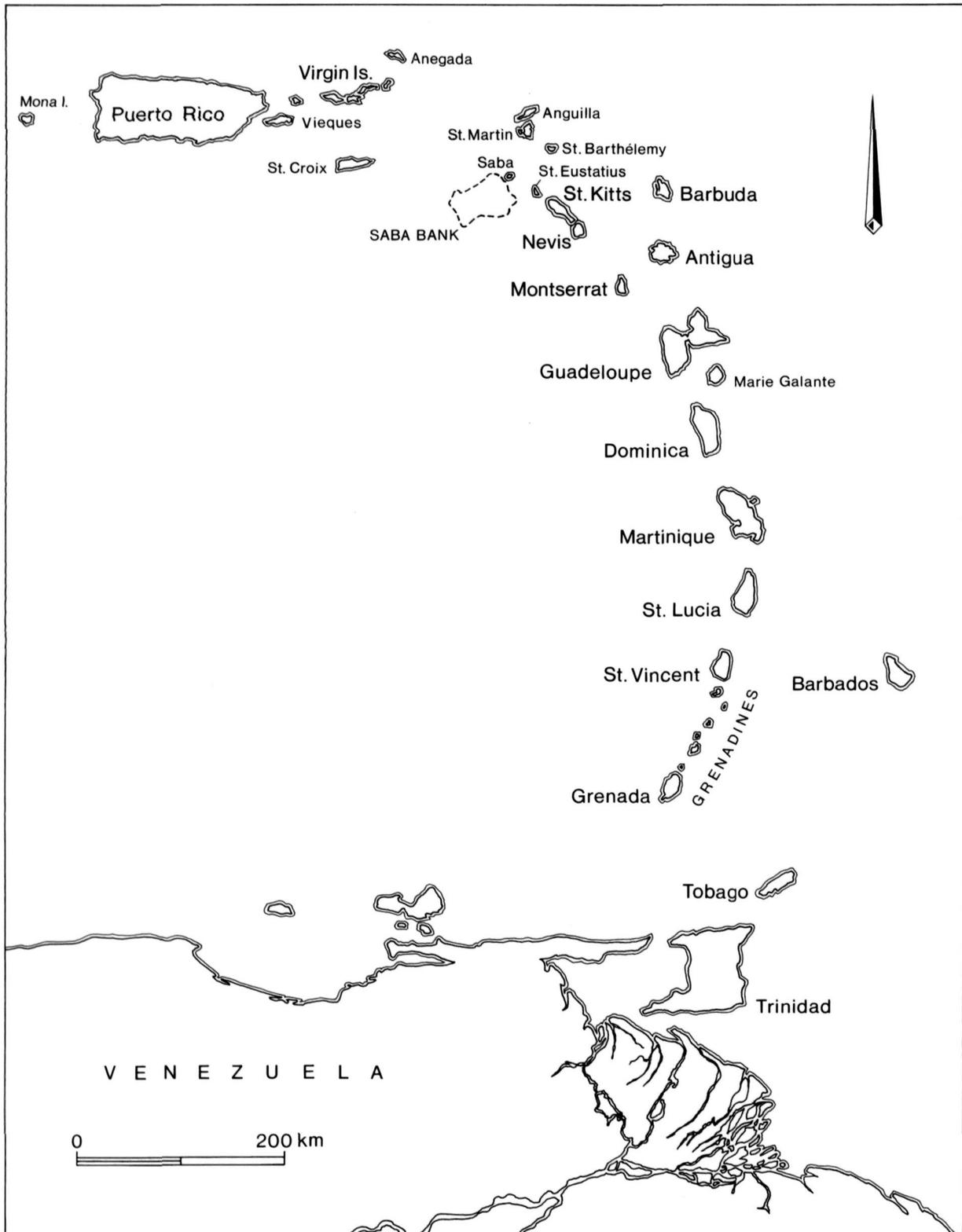


Figure 2. Map of the Lesser Antilles and Puerto Rico.

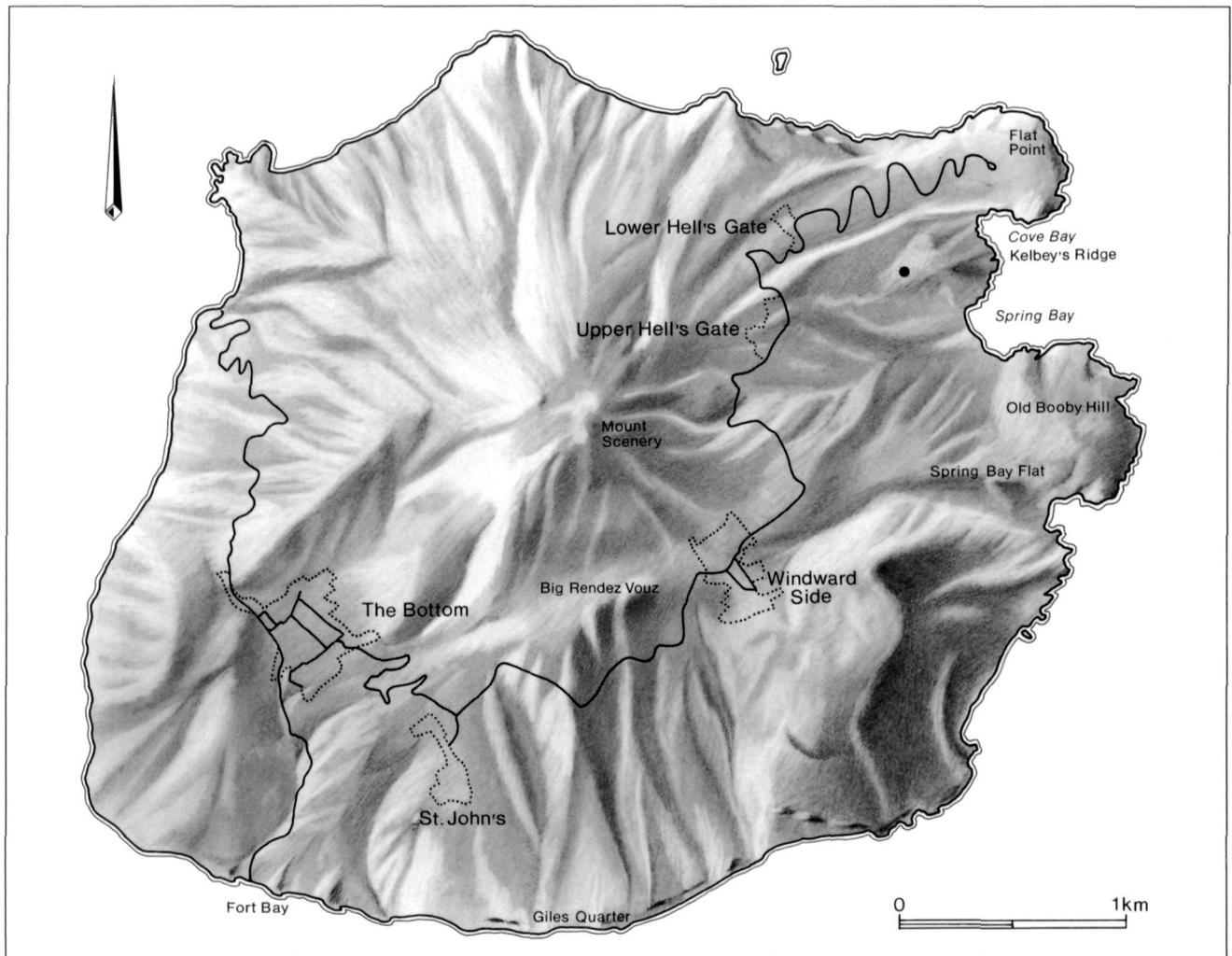


Figure 3. Map of Saba showing the location of the prehistoric site of Kelbey's Ridge.

radiocarbon dates. The results, however, lack the consistency of the conventional dates. The interpretation of the AMS dates is complicated because the determination has to be corrected for isotope fractionation ( $\delta^{13}\text{C}$ ) and the population reservoir effect. The latter stems from the marine food component of the diet, especially reef fishes (Van Klinken 1991, 100-102). The problem is even more complex because of the possibility that the diet also consisted of C-4 plants as maize, which results in an isotope signature which is similar to reef food. The contribution of C-4 plants to the isotope fractionation, however, does not require a correction for the marine reservoir effect. As long as the ratio reef food and C-4 plants in the diet and the variety within the population are unknown, the dates of the collagen samples are difficult to interpret.

## 5. The features

Some 562 features were documented of which 230 appeared to be natural features such as shallow humic depressions, animal burrows and tree roots. The remainder are cultural features consisting of postholes (180), shallow pits (114), burials (7), hearths (4) and various (27).

### 5.1 POSTHOLES

The postholes can be grouped to depth, shape, etc. in several classes. When these are plotted several configurations can be discerned. These can be interpreted as the traces of five more or less circular hut structures (see Hoogland in prep.). These structures are not contemporaneous because the floor plans overlap. At this stage it can only be stated that the structures are constructed with posts that were shallowly sunk into the ground. In this sense the

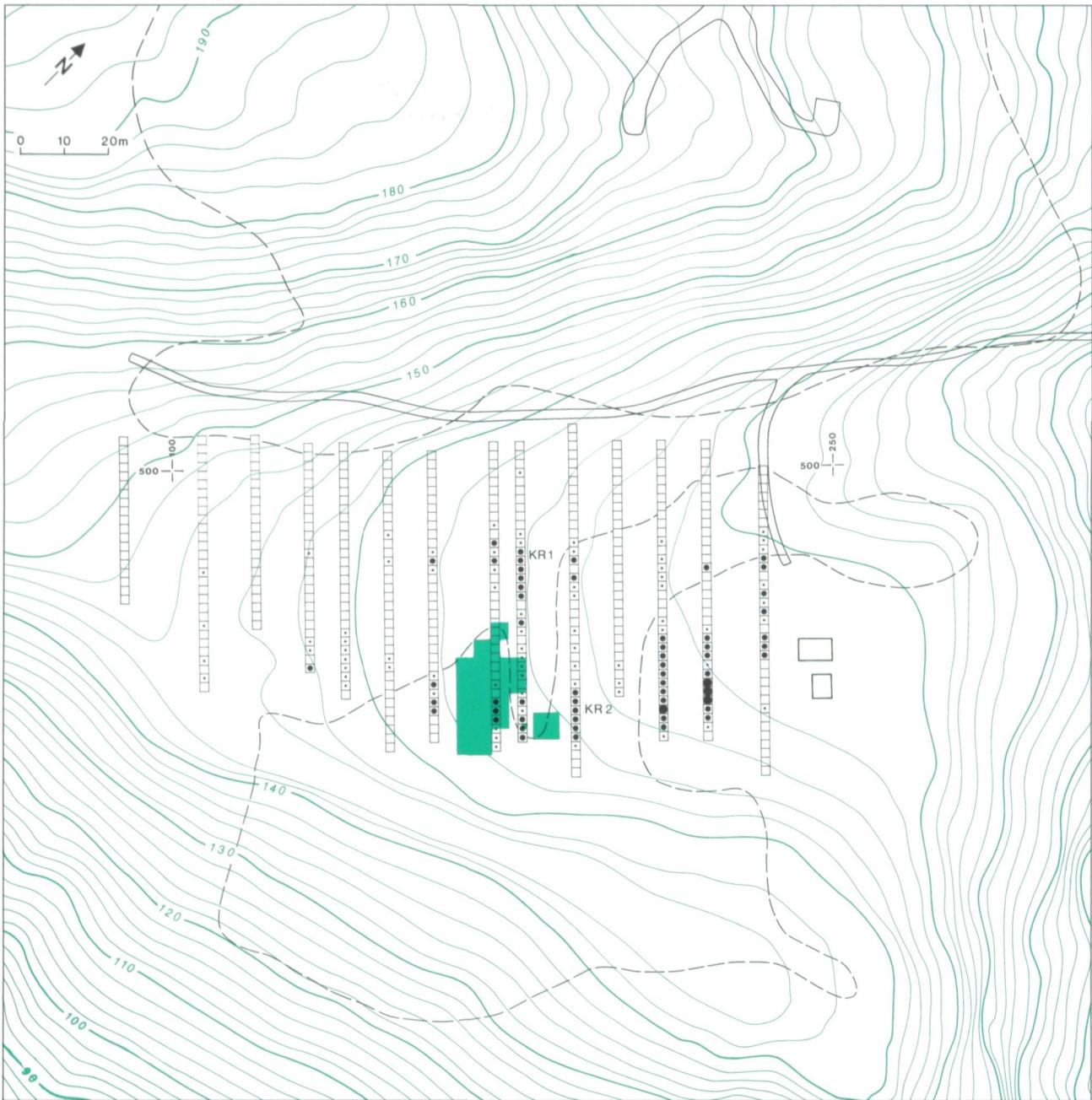


Figure 4. Kelbey's Ridge site plan showing the surface distributions of pottery sherds in the sites Kelbey's Ridge 1 and 2.

structures have in no way the solidity as was documented for the Golden Rock houses on the island of St. Eustatius (Schinkel 1992). In the literature there are only a few reconstructed houses known from the Taino period (Curet 1992a) and none of the floor plans is unequivocal. For example, at the late prehistoric site of Playa Blanca 5, Puerto Rico, excavations have revealed a configuration of

postmoulds and burials arranged around a hearth pit. The configuration is interpreted as a 16 m diameter habitation unit with three concentric activity spaces. It was not the definite layout of the posts, but the distribution of the related structural features that have led to this interpretation. Rodríguez and Rivera (1991, 545) assume that the layout of a structure could be obscured by repair or enlargement.

Table 1. Radiocarbon and AMS dates for Kelbey's Ridge 2 (GrN=Groningen, OxA=Oxford). The dates are calibrated by means of the Groningen Radiocarbon Calibration Program Cal15, version april 1993, Center for Isotopes Research, Groningen University (Van der Plicht 1993). The charcoal dates are calibrated using the calibration dataset by Stuiver and Pearson 1993 and for the shell date the calibration dataset of Stuiver and Braziunas 1993 is used.

The samples KR2 38-A-3, 38-A-4-a and 38-A-4-b were collected from F504.

Sample KR2 44-D-4 was collected from F516.

Lab. number	Sample name	Material	<sup>14</sup> C determination	Calibrated age (1σ)	Calibrated age (2σ)
GrN-16032	KR2 22-A-5	charcoal	595 ± 30 BP	cal AD 1312-1350, 1390-1402	cal AD 1302-1366, 1376-1412
GrN-16775	KR2 38-A-3	charcoal	610 ± 30 BP	cal AD 1308-1354, 1386-1398,	cal AD 1302-1370, 1372-1404
GrN-16776	KR2 38-A-4-a	shell	1084 ± 35 BP	cal AD 1286-1334	cal AD 1268-1384
GrN-16777	KR2 38-A-4-b	charcoal	630 ± 30 BP	cal AD 1302-1318, 1340-1368, 1374-1394	cal AD 1298-1398
GrN-18736	KR2 44-D-4	charcoal	172 ± 17 BP		
GrN-18737	KR2 50-F008	charcoal	597 ± 18 BP	cal AD 1316-1343, 1393-1399,	cal AD 1309-1352, 1387-1404
GrN-18738	KR2 52-F017	charcoal	625 ± 25 BP	cal AD 1304-1322, 1336-1362, 1378-1394	cal AD 1302-1398
GrN-18739	KR2 56-F059	charcoal	646 ± 13 BP	cal AD 1302-1307, 1356-1371, 1373-1385	cal AD 1299-1312, 1349-1390
OxA- 2951	KR2 57-F068	dentine	500 ± 65 BP		
OxA- 3617	KR2 56-F148	dentine	900 ± 60 BP		
OxA- 3618	KR2 60-F166	dentine	modern		
OxA- 3619	KR2 65-F313	dentine	690 ± 65 BP		
OxA- 3843	KR2 61-F132	dentine	795 ± 60 BP		
OxA- 3844	KR2 67-F337	dentine	450 ± 60 BP		

The double and triple posts at Kelbey's Ridge 2 attest to probably similar processes.

## 5.2 HEARTHES

Four prehistoric hearths were uncovered in the south-eastern part of the site of which three were completely excavated. The hearths consist of a 5-20 cm thick ash layer with an average size of 2 × 3 m. The colour ranges from very dark grey near the fringe to light grey in the centre. The ash layer has an extremely fine texture and all except feature 503 have a loose structure. In two of the hearths (F503 and F284) stones were uncovered which might have served as cooking stones as they show fire cracks. As the ash layer and the area around the hearth contained a large number of partly-burnt faunal remains of terrestrial animals, fish and shells, it can safely be assumed that the hearth was used for food preparation.

There are indications that the hearth locations were not used contemporaneously. The ash of one of the hearths (F503) is embedded in a matrix of clay and gave the impression of belonging to an earlier occupation episode than feature 524. The ash layers of features 283 and 284 both had a very loose and untouched appearance and this pair of hearths could belong to the final occupation of the site.

Two hearths (F283 and F284) were situated on a subsoil under a gradient of four to nine degrees. Apparently, a sloping area was not an objective in the choice of the location of these hearths.

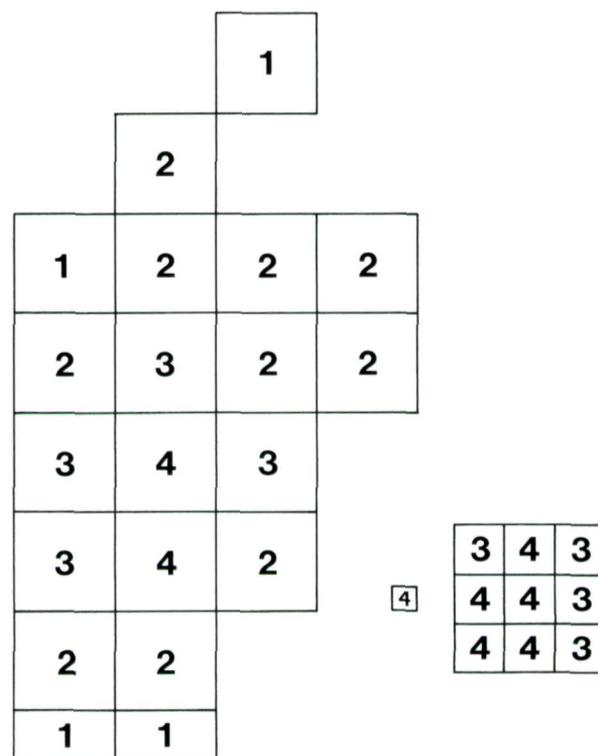
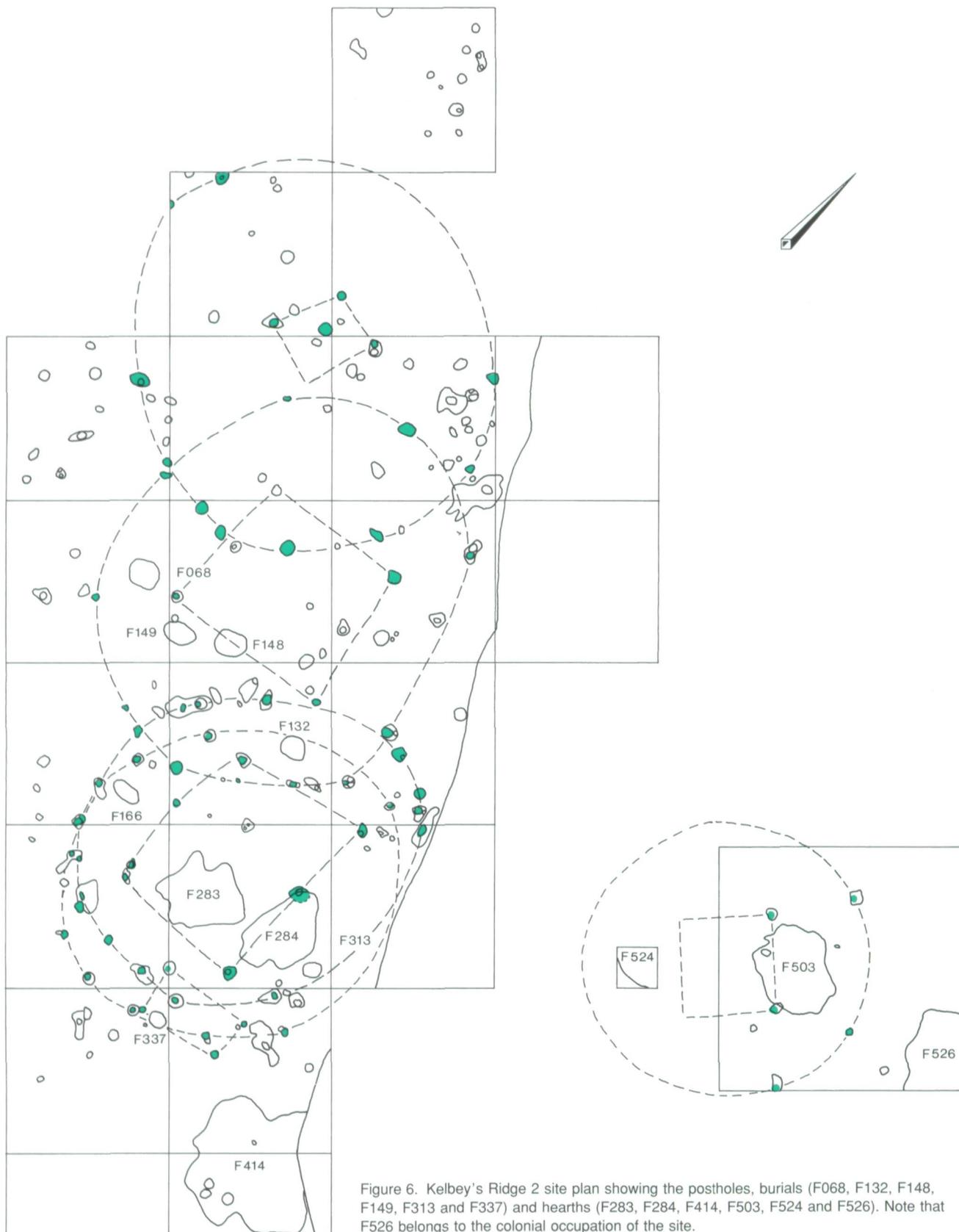


Figure 5. Kelbey's Ridge 2 site plan showing the pottery densities in the excavated areas.



Feature 414 consisted of a large accumulation of ash spread over an extent of  $3 \times 3$  m, in which three 1.00 to 1.20 m deep holes were dug. The filling of these features contained a homologous mass of ash and very fine charcoal particles. As such this feature is not interpreted as a hearth and its function is still unclear.

### 5.3 GRAVES

Seven graves were uncovered of which one (F166) revealed a date in the colonial period. The position of the skeleton, however, is in many respects similar to the other graves: flexed position, one arm stretched along the body and the other bend under the legs, and the orientation in the grave. For these reasons grave F166 is regarded belonging to the pre-Columbian period despite the outcome of the radiocarbon dating.

The burials occur in two small clusters; five associated with one or two of the structures and two near the hearth locations.

The deceased were all buried in a strongly flexed seated position, the knees bent towards the chest. The grave pits were adapted to this position; the grave pits of the adults were oval, measuring only 85 by 60 cm (F068), or round with a diameter of 70 cm (F148). The grave pits of one of the children is round with a diameter of 35 cm (F337), and the sizes of features 149 and 313 could not be reconstructed as these graves were disturbed. The orientation of the deceased in the grave was either with the head to the north-east (F132, F313 and F337) or the south-west (F068 and F148). The burials vary in complexity and both inhumation and cremation occur. Three types of burials are distinguished: single, composite and secondary burials.

### 5.4 SINGLE BURIALS

The four single burials concern the interment of one adult female (F148), one child of approximately two years old (F337) and two children of 12 years old (F313 and 166). The three skeletons of the children are incomplete; the skeleton of feature 337 lacked the right humerus. Since the skeleton is well preserved the humerus was certainly removed on purpose. A smooth oval pebble was deposited under the head as a burial gift. The skull of grave feature 166 was missing and it is assumed that it was removed. The skeleton of grave of feature 313 appeared to be dislocated to some extent. It concerns the upper half of the body and moreover, the skull was taken from the grave. A smooth piece of coral was associated with this grave.

### 5.5 COMPOSITE BURIALS

Two composite burials were uncovered. In both cases it concerns an adult with a child. Feature 132 is the grave of a 50-year old female and an infant aged only a couple of

weeks (fig. 7). The female was facing to the south-west and the body was turned on the left side. The disarticulation of the feet can be explained by the disturbance caused by the burial of the infant. At the time the infant was interred the grave of the adult was filled up, partly or entirely. The digging of the grave of the infant halted at the level where the bones of the feet and both knees were encountered. The infant lay on the back with the arms stretched along the body and the legs were bent.

The section over the grave showed that the grave pit had been filled up in several stages. A shallow and faded ash deposit implies that subsequent to the burial of the infant a fire was burnt on or close to the grave. It is hypothesized that the function of the fires burnt at the grave could be to improve the conservation of the corpse. A second ash deposit was uncovered more superficially at the upper level and probably indicates one of the final stages of the burial practice.

The human remains of the second composite burial (F068) belong to a male adult of about 50 years old and a five-year old child (fig. 8). The burial ritual comprised at least two stages. In the first stage the male was interred in a tightly flexed position, slightly turned on his right side with the legs on the chest. After the interment of the deceased a fire was burnt on or in the close vicinity of the grave as evidenced by ash and charcoal spots on the bottom of the grave pit. Afterwards the burial pit was partly filled up, on purpose<sup>2</sup> or by natural processes. The next stage included the removal of the left femur, tibia and fibula and the right hand. It was done without disturbance of the joining bones so the ligaments must have been decayed at that moment. An interval of at least several weeks after the interment seems plausible. Subsequently, in the left half of the chest of the male, space was created by the removal of the third to the seventh rib. The disturbance of the other bones such as the collar bone, upper ribs and left foot was limited, which implies that the position of the skeleton in the grave was still perceivable. In the chest cavity the cremated bones of an approximately five year old child were interred. The cremation was constricted to an oval cluster, which suggests that it was deposited in a piece of cloth. The bones of the right hand were spread over the cremation and three of the removed ribs were put next to the cremated remains. Finally, the bones of the lower leg, tibia, fibula and patella, were arranged more or less in the right position, but the left femur was not replaced. This bone was kept out of the grave and probably served for the relatives as an oracle.<sup>3</sup> As the configuration of the cremation and the skeleton gave no further evidence of displacement or disarticulation, it is believed that the grave pit was filled up at this stage.



Figure 7. Burial F132, composite burial with female adult and young born child.

#### 5.6 SECONDARY BURIAL

The third type or secondary burial consists of the secondary deposition of bones of a child of about five years old. Feature 149 appeared to be a very shallow grave containing disarticulated human remains. The bones are in an excellent state of preservation and physical anthropological traits point to an age of approximately five years. The skeletal remains are very incomplete and comprise a remarkable set of bones as only parts of the axial skeleton (vertebrae, ribs and pelvis), small bones such as phalanges and loose epiphyses are present. Some distinct categories of bones are completely missing; these are the skull, the mandible and all the long bones.

The irregularity of the outlines and the disarticulation of the remains provide evidence that the child had been exhumed. During this process the original outlines of the

burial pit were altered, which were still present at a 10 cm lower level. The position of an articulated sacrum and the right half of the pelvis suggest that the child was originally deposited as a primary burial facing towards the west.

The comparison of the inventory of this burial and the cremation of feature 068 yielded interesting results. The two inventories are complementary so far as the fragments of the cremation could be identified. Most of the fragments belong to the skull and the long bones, which certainly do not occur in feature 149. As the results of the determination of the age of the cremated remains and human remains of feature 149 are the same, the conclusion that the remains from both burials belong to one individual, a five-year old child, seems to be well-founded. Another detail of the cremation supports this conclusion; namely the absence of

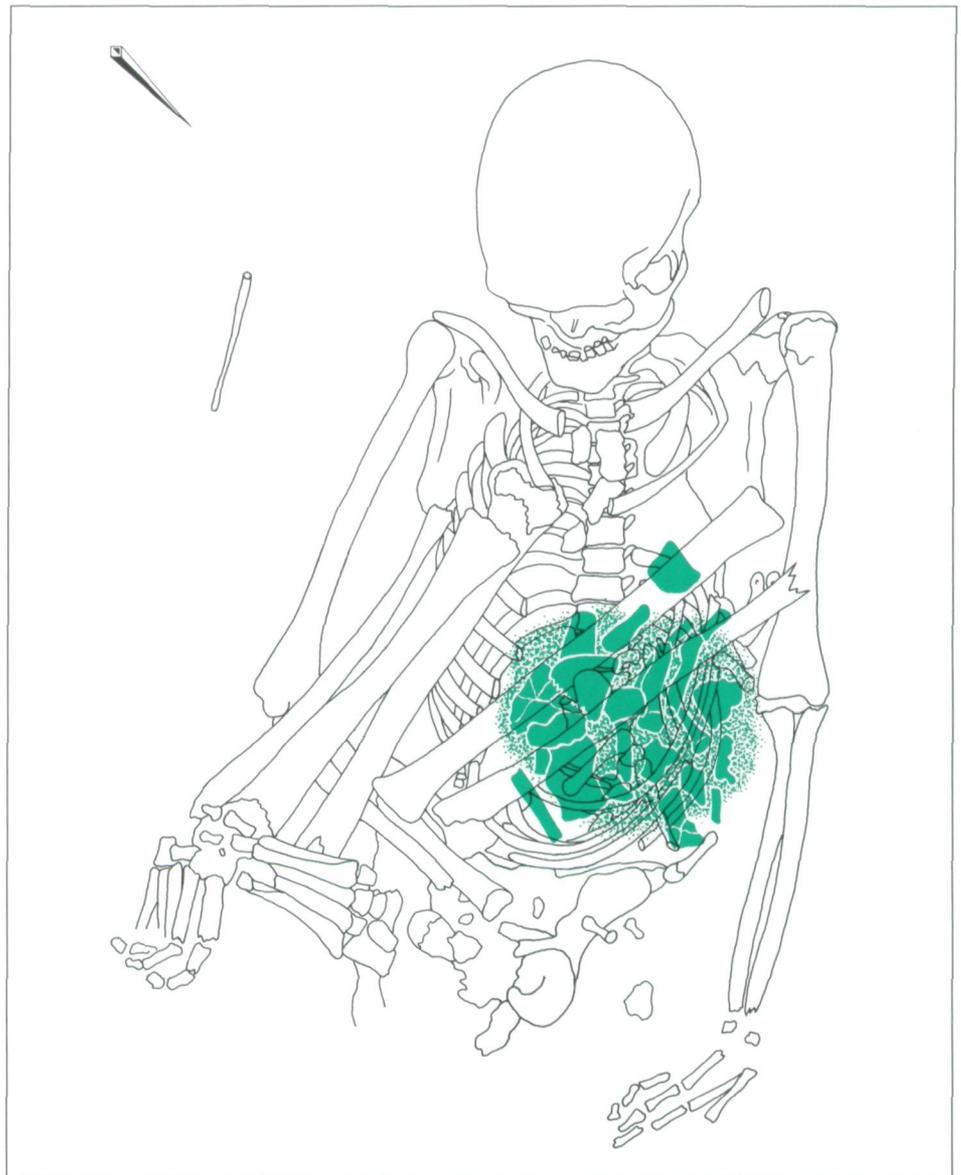


Figure 8. Burial F068, composite burial with a male adult and the secondary deposition of the cremated bones of a five year old child.

transverse fracture lines on the long bones, which are characteristic for the cremation of bones covered with flesh. The absence means that the bones were already in a dry state before cremation.

All these data point to the fact that the child was at first inhumed in grave feature 149 and after some time exhumed. The skull, the complete set of long bones and only a part of the axial skeleton and smaller bones were collected and cremated. As a secondary burial the cremated bones were interred in the grave of the 50-year old male (F068) and during this process the right femur of the male had been removed. The precise sequence of the stages of this ritual

are difficult to reconstruct, but these practices are evidence of a complex, multi-stage burial ritual.

## 6. Subsistence

The faunal samples recovered from the hearths consist of the remains of vertebrate species and marine shells. The terrestrial animals include lizards, birds and a relatively high percentage (24%) of rice rats (*Oryzomyine*). The exploitation of marine resources includes the inshore waters (sea turtles), reefs and probably offshore banks. The most common fish of the reefs are surgeonfish (Acanthuridae), triggerfish (Balistidae) and groupers (Serranidae), the latter two may have been caught on the Saba Bank though they

also occur in shallower waters close to shore (Wing n.d.). Shells are represented by rather small shells like chitons, *Fissurella* and *Nerita* which occur in large numbers as well as by the more substantial species like *Citarium pica* and *Purpura patula*. The smaller species could easily be collected on the rocky shores, but contributed to the daily food ration to a minor extent.

The values of the stable isotopes point to the fact that the broad spectrum exploitation of terrestrial and marine resources provided sufficient quantities of proteins. It is generally accepted that the diet of the Tainos was supplemented with manioc and to a lesser extent with maize. The griddles in the archaeological deposits confirm the dependency on manioc for a sufficient intake of carbohydrates.

The outcome of the isotopic analysis of the Kelbey's Ridge 2 population suggests that there is an increased reliance on marine resources compared with the Saladoid population of the island of St. Eustatius and the post-Saladoid population of Saba (Van Klinken 1991, 99). If it is assumed that maize made no contribution to the diet the average percentage of marine reef food items is 41%. However, it is more probable that the  $\delta C^{13}$  value is increased by a contribution of C-4 plants such as maize.

## 7. Pottery

The pottery assemblage of Kelbey's Ridge 2 belongs to the Chican Ostionoid subseries (Hofman 1993). Although Saba seems to have followed the local developments of the other northern Lesser Antilles known as Mamoran Troumasoid in the preceding centuries, the island seems to be culturally incorporated in the Greater Antillean influence sphere during the 14th century. Although no other pottery complexes have been dated after 1200 AD. Chican decorated pottery is occasionally reported from other Leeward islands (Hamburg 1992; Petersen pers. comm.) where they appear in Mamoran Troumassoid assemblages. These may probably be interpreted as intrusive elements as a result of exchange (Hofman 1993, 156). In a similar way Chican pottery also spread towards the west as far as eastern Cuba and to the north-east into the Bahamas where it is also considered to be exchange items among the Meillacan and Palmetto ceramic styles (Alegría 1976; Veloz Maggiolo 1972).

Characteristic decoration on the pottery shows strong affiliation with the Taino culture, and more specifically with the Esperanza, Capá and Boca Chica styles from Puerto Rico and Hispaniola.

Only 0.7% of the pottery is decorated and decoration consists predominantly of incision and modelled appliqué and to a lesser extent of punctuation. Painted decoration is lacking, which is in contrast to the earlier Cedrosan Saladoid pottery on which white-on-red and polychrome painting are

the dominant decoration modes and to the subsequent Mamoran Troumassoid pottery on which painting is still present although in low quantities (Hofman 1993).

Incision consists of deep narrow lines often ending in punctuation or arches similar to those on Esperanza and Capá pottery. The incisions were applied with a sharp-pointed tool when the clay was still very soft which resulted in deep and sharp lines with a serrated edge (fig. 9d). Incised motifs are linear lines, V-shaped motifs or scrolls and are only very rarely applied on a red slipped surface. Pairs of parallel lines either semi-circular or straight are diagnostic and a fine horizontal line is found above these motifs, bordering the rim. The incised decoration is most often applied on the upper part of the body directly under the rim (figs 9a, c).

Modelled appliqué with geometric, anthropomorphic and zoomorphic designs are characteristic for this assemblage. Geometric appliqué consist of notched fillets, applied to the vessel as vertical or horizontal strips with incisions (fig. 9b). Anthropomorphic head lugs representing Taino deities and zoomorphic head lugs with the representation of iguanas, frogs, bat and monkey heads belong to decorated ceremonial vessels and are typical elements in the Taino mythology (figs 10a-c). The bat, for example, was thought to represent the spirit of the dead (García Arévalo 1988). However, many of the designs appear to have been revived from the earlier Cedrosan Saladoid pottery (Rouse 1986).

Punctated lips are common and the punctuation is applied on bevelled or double thickened lips. These vessels are often covered with a red slip.

A few fragments with a white-polished clay slip seem to be of non-local manufacture. Resemblances with Boca Chica pottery suggest that these were probably imported from the Greater Antilles.

Vessels tend to be more irregularly shaped than in earlier periods. Most common are bowls with inward-curving or simple straight walls with rounded, flattened or bevelled lips and flat or concave bases. Carinated vessels known from earlier periods are uncommon and necked globular vessels occur in small quantities. Boat-shaped vessels occur occasionally with appliqued head lugs. Cooking-pots seem to have fairly broad bases and low bodies (fig. 11a).

In general, vessels walls tend to be rather thin, between 5 and 8 mm and vessel diameters range from 25 to 35 cm. Not many vessels exceed 40 cm in diameter. The surface of these vessels is finished by simple smoothing or burnishing, with the exception of a few which are polished or covered with an orange-red clay slip.



Figure 9. Decorated pottery of Kelbey's Ridge 2.

a. Potsherd with incision ending in punctations

b. Potsherd with decoration of notched fillets.

c. Potsherd with incision ending in arches.

d. Potsherd with deep narrow lined incisions. The serrated edges, which indicate that the clay was still very soft while the incision was executed, are clearly visible.

Griddles which are associated with the baking of flat bitter manioc cakes, known as cassava are usually flat shaped without an outstanding rim (fig. 11b). These belong to the so-called 'pancake type' (Hofman 1993, 71, fig. 16e). The griddles have an average diameter of 45 cm and are approximately 8 mm thick. The baking surfaces are smoothed and the bottoms are crudely finished.

A total of 27 seven perforated discs were recovered. It is generally accepted that these clay discs were used as spindle whorls. Noteworthy are the various stages of fabrication in which they were discarded. These clay discs were often made secondarily from discarded potsherds and have an average diameter of approximately 5 cm and an average thickness of 4 mm. There are a few larger and thicker examples, however, with diameters between 10 and 20 cm and between 8 and 11 cm thick.

The ceramic assemblage on the whole shows characteristics that are the result of firing under rather low temperatures, like the soft fabric and the carbonaceous material in a lot of the sherds. The firing temperatures did not exceed 800°C.

Textural and mineralogical analysis revealed that local volcanic clays were used for the manufacture of most of the pottery. Shell and grog temper are lacking. However, a few specimens have likely been imported from other islands, supposedly the Greater Antilles, as they are made from exotic clays (Hofman 1993, 192). Other studies have also assumed inter-island interaction in this context (Donahue *et al.* 1990, 251; Petersen/Watters 1991, 333, 355).

#### 8. Ceremonial paraphernalia

Ceremonial paraphernalia found around the graves include a snuff-inhaler and three-pointers also known as zemis.



Figure 10. Decorated pottery of Kelbey's Ridge 2.  
 a. Anthropomorphic head lug representing a Taino deity.  
 b-c. Zoomorphic head lugs representing bat heads.

The snuff-inhaler is made of manatee bone, it is shaped like a fish with an open mouth (fig. 12a). The eyes contain rests of resin probably used to affix small inlays. The opening in the mouth is connected with two perforations in the gills. This Y-shaped perforation suggests that the object was meant as a inhaler for hallucinogenic snuff.<sup>4</sup> It is most probable that the snuff was inhaled through two hollow bird bones put into holes of the gills. A similar specimen is known from Anguilla, also with the representation of a fish, probably a shark or an other large fish. The gills and mouth of the fish are deeply engraved. Traces of resin remain in the eye and nostril. There is a "Y" shaped perforation leading to two nostril pads on the upper body of the fish. The object has been found at the Sandy Hill site and can probably be dated between 900 and 1400 AD (Douglas 1991, 579).

On Puerto Rico, in the Efrain Irizarry de Lajas collection, a recipient-inhaler made out of manatee bone with the representation of a fish has eyes inlaid with two small green stone beads (Alegria 1981, 38). Anthropomorphic and zoomorphic sculptures made of manatee bone or wood with inlays are a very common cultural manifestation of the Tainos of the Greater Antilles (Hispaniola and Puerto Rico) and also occur on the Virgin Islands (Alegria 1981, 16). The representation of a fish in connection with the inhalation of hallucinogenic snuffs, is uncommon. More frequent are the representations of reptiles and toads.

The small three-pointed objects or *zemis* which are believed to serve as mediators between the people and 'Yocahu', the spirit of the manioc, are common items in the artefactual inventories of many archaeological sites in the

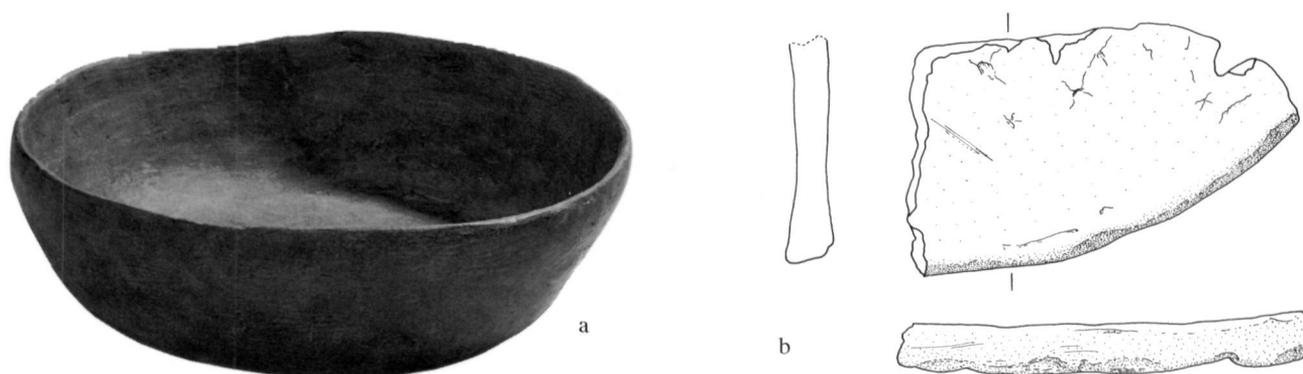


Figure 11. Pottery of Kelbey's Ridge 2.

a. Cooking-pot with broad flat base (restored by Jan Sloos, RMO Leiden). b. Flat or 'pancake-type' griddle.

Caribbean. Particularly, the Taino culture has many large three-pointed objects and sculptures of stone, wood or cotton which they believed would give them water, wind and sun, and also children and other necessities they needed (Bartelomé de Las Casas 1927, Part I, 416). The zemis of Kelbey's Ridge 2 are made from coral, one bearing a weathered decoration of probably a zoomorph representation on one of the ends and the other object is a carved piece of coral representing the head of a deity (figs 12b, c).

## 9. Synthesis

### 9.1 SITE LEVEL

Based on the analysis of the material and the features the following picture emerges as to the structure of the Kelbey's Ridge 2 site and its cultural identification.

The spatial patterning of pottery shows that the high density areas coincide with the locations of the hearths. The occurrence of subsistence debris and the high density of pottery suggest that these locations can be interpreted as special activity areas, *i.e.* as food preparation and cooking areas. Although the observations are limited there also seems to be a zone with a lower pottery density in between the hearths of features 383 and 284 on the one hand, and the hearths of features 503 and 524 on the other. These clusters could represent the domestic areas of the discrete household units.

Based on these observations though restricted to a part of the site, one could imply that the settlement consists of a number of repetitive household units. A unit could have consisted of one or more living quarters, probably a roofed cooking area and an area designated for burials. It seems plausible that the deceased were buried within the huts. Estimates of the life span of the structures can be derived from ethnographic sources of the mainland of South-America, especially the Guyanas, which in some way

resembles the climatic conditions on Saba. A life span of about 15 years for a simple hut structure is tentatively assumed (Hugh-Jones 1985).

Based on survey and excavation data the number of household units that could have been situated within the site limits might have been four or five. The radiocarbon dates point to an occupation of the site of 100 years at the most. It is, however, probable that the occupation lasted a much shorter time taking into consideration the number of structures, their life span and the number of burials.

The burial practices encompass more stages and attest to a complex funeral ritual. The differences in treatment of the deceased suggest that the children especially were given preferential attention. It is the graves of the children that contain grave goods, although simple objects, and the composite child-adult burials attest to a special relationship between the first and the third generation. It can be assumed that this relation reflect some kind of kinship relationship and maybe some kind of hereditary principle.

The burial practices documented for the Tainos by archaeological investigations are very similar to the descriptions in the written sources from the early colonial period. Archaeological excavations yield a large number of burials mostly in middens. Direct burial in an excavated grave, with the body in a contracted sitting or lying position is most common, but secondary burials are also recorded. A composite burial occurs in the Playa Blanca 5 site (Rodríguez/Rivera 1991, 555, fig. 7)

The early colonial sources report mostly on the, to European eyes, peculiar burial practices such as the burial of caciques, burials in caves and secondary head burials. Cremations are not mentioned and must not be confused with the desiccation of the body of a cacique over a fire (Löven 1935). It is a common custom of the Tainos to keep the head

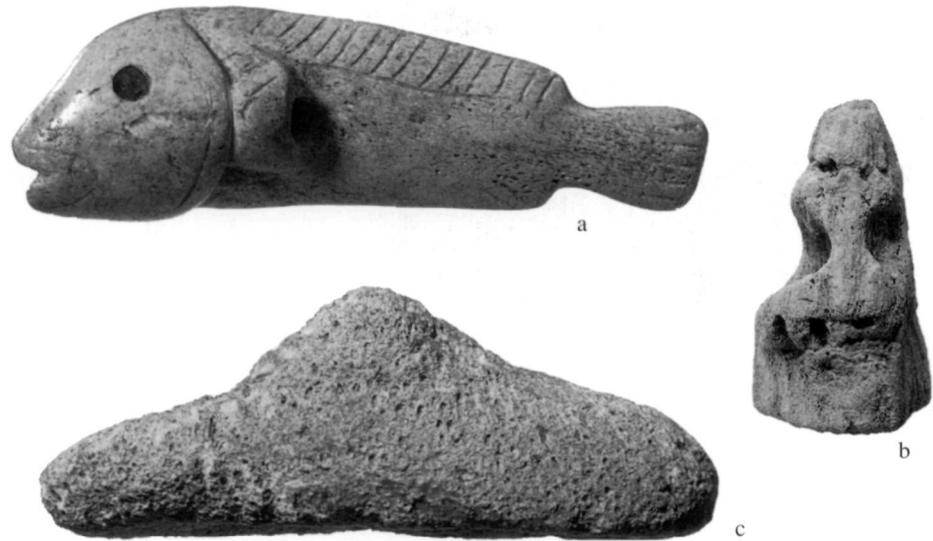


Figure 12. Paraphernalia Kelbey's Ridge 2.  
a. Snuff-inhaler from manatee bone. b-c. Three-pointers or zemis from coral.

or a bone of a deceased relative in a basket in the house (Navarrete 1825-1837. vol 1, 223, 363). The bone was kept as an oracle and served as a medium for the relatives to communicate with the dead. The removal of bones and a skull of the Kelbey's Ridge burial could be related to this practice.

Regarding the burial practices there is clearly a connection with the Taino culture of the Greater Antilles. This conclusion is affirmed by the material culture, *i.e.* pottery and ceremonial paraphernalia.

Chican pottery seems to be mostly locally made, although there is evidence of exchange reflected in the presence of exotic clays. The rather poor quality of the pottery and the low percentage of decorated pottery may point to the production of the pottery at household level. The potter's personal qualifications and preferences in combination with specific functional requirements (*i.e.* the use for specific household activities) probably determined the choice of the fabrics, the range of the vessels and the stylistic quality.

The low percentage of decorated pottery can also be regarded as the reflection of a low symbolic value of the pottery within the community itself. It is conceivable that pottery in these households did not draw much attention as medium for decorative displays. The ritual activities could for example have been restricted to ceremonies involving the household level.

The lack of evidence of a ceremonial plaza/ballcourt at Kelbey's Ridge 2 and its associated stone belts, as well as elaborate ritual objects diagnostic for the Taino culture, confirm the peripheral character of the settlement and its probable ceremonial dependency on one of the Greater Antillean chiefdoms for rituals at the community level.

## 9.2 REGIONAL LEVEL

The occurrence of Taino pottery on Saba could imply that for one reason or another a local group had been copying Chican pottery from the Greater Antillean Taino chiefdoms. However, in that case one would expect an imitation rather than one to one copying. In addition, distinctive features of the receiving culture would persist beyond this imitation. Allaire has illustrated that in such a case of unbalanced interaction, it is most likely that ceremonial artefacts associated with the elite are to be assimilated into a local culture (Allaire 1990). The presence of an almost complete set of Tainan elements suggests an extension of the Taino occupation towards the south-east. This expansion could have involved the migration of a small group of Taino colonists to Saba. On a regional level several possible explanations can be attested for this fact:

1. One possibility, which was proposed earlier and which should be regarded as a probable hypothesis, is that of a refugee group, originating from the Virgin Islands or the Greater Antilles fleeing social and/or political instability

in that area, which settled on Saba (Hofman/Hoogland 1991). Recently, migration of Chican groups to, amongst others, the islands of the Lesser Antilles has been suggested to explain the decrease in population estimates on Puerto Rico for the Chican period (Curet 1992b, 289). Since Curet conclusively excludes population pressure as the mechanism behind the migration, there must have been other incentives.

2. Incorporation into the influence sphere of the Tainos for economic or socio-political purposes offer two other options, which in the authors' opinion seem to be the most plausible:
  - a. an incorporation for economic purposes could evolve from a need for specific resources, one could think of the exploitation of fishing grounds at the Saba Bank. A similar suggestion was recently made by Lundberg *et al.* (1992) for the Taino expansion on the northern Virgin Islands. They suggested that settlements possibly functioned as resource-extraction sites to exploit the resource potential of the small islands and their shallow waters. The presence of the black durgon (*Melichthys niger*) in the faunal remains and its habitat preference may point to fishing on the Saba Bank (Wing n.d.).
  - b. in the case of an incorporation for socio-political reasons Saba could be considered to have had the role of a supportive base to control the route of trade and communication through which exchange of prestige goods took place. This route ran along the Lesser Antillean islands towards the South American mainland.

The production centres of prestige goods for the elite were situated on the South American mainland. Pendants in the shape of a semicircular moon made from a gold, silver and copper alloy, called *guanin*, were made by groups in Columbia and one of the production centres of amulets from green stone was situated on the Lower Amazone. Through exchange with intermediate groups these goods were transported along the rivers to the coast. These exchanges took place through Arawakan and Carib groups. On the coast the prestige goods were probably exchanged with the Tainos through the intermediary of groups living on the southern Lesser Antilles. The exchange of prestige goods was obviously an activity of the political elite of the various groups and was meant to reinforce both the position of the elite within their socio-political unit (chiefdom) and also its prestige within the regional network of peer polities (see Renfrew/Cherry 1986). Interaction was possibly not only expressed by reciprocal relations, but also reflected by the competition between the various groups within the network. Competitive groups could try to strengthen their position through alliances and through executing raids against their rivals.

This point of view emphasises the idea of interaction between groups on the Greater Antilles and the mainland, and is based on the evidence drawn by recent archaeological research and by a critical re-examination of the ethno-historic literature by various authors (Allaire 1990; Boomert 1987; Whitehead 1990).

## 10. Concluding remarks

The occupation of the northern Lesser Antilles in the pre-colonial period was until now only known from St. Croix. From this island a relationship with the Chican-Ostionoid subseries is apparent. Further to the south-east the site of Kelbey's Ridge 2 on Saba is dated in this period and embraces an extensive set of cultural elements which confirms its tie with the Taino culture. As has been suggested in this paper, this expansion served most probably either economic or socio-political objectives.

On other islands of the northern Lesser Antilles the Taino impact has been scarcely documented by some minor Chican influences on the pottery. The absence of archaeological evidence for late-prehistoric occupation can partly be explained by the scarcity of systematic survey projects on these islands. In the Chican period the settlement pattern changes to more inland locations, and here the quite shallow sites are more susceptible to destruction by agricultural practices and modern development.

## notes

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2 From the taphonomy of the skeleton it appears that the burial pit was left open for quite a while. Parts of the skeleton, such as hand- and footbones were found at a deeper level or at the bottom of the pit. This vertical disposition could only have taken place after the ligaments were sufficiently decomposed and the bones could fall apart from their joints.

3 Similar practices are described by 16th century Spanish sources on the Tainos from the Greater Antilles and 17th century French sources on the so-called Island Caribs (Breton 1665, 1666; Navarrete 1825-1837).

4 It is known from the sixteenth century Spanish written sources that the Native Indians used a hallucinogenic snuff known as cohoba, prepared from the seeds of the tree *Anadenanthera peregrina* (Wassen 1979, 242). To strengthen the hallucinogenic effect of the *Anadenanthera* it was necessary to mix it with crushed conch shell. The inhaling of tobacco smoke was a ritual preserved for the cacique and the religious specialist, the *behique*.

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