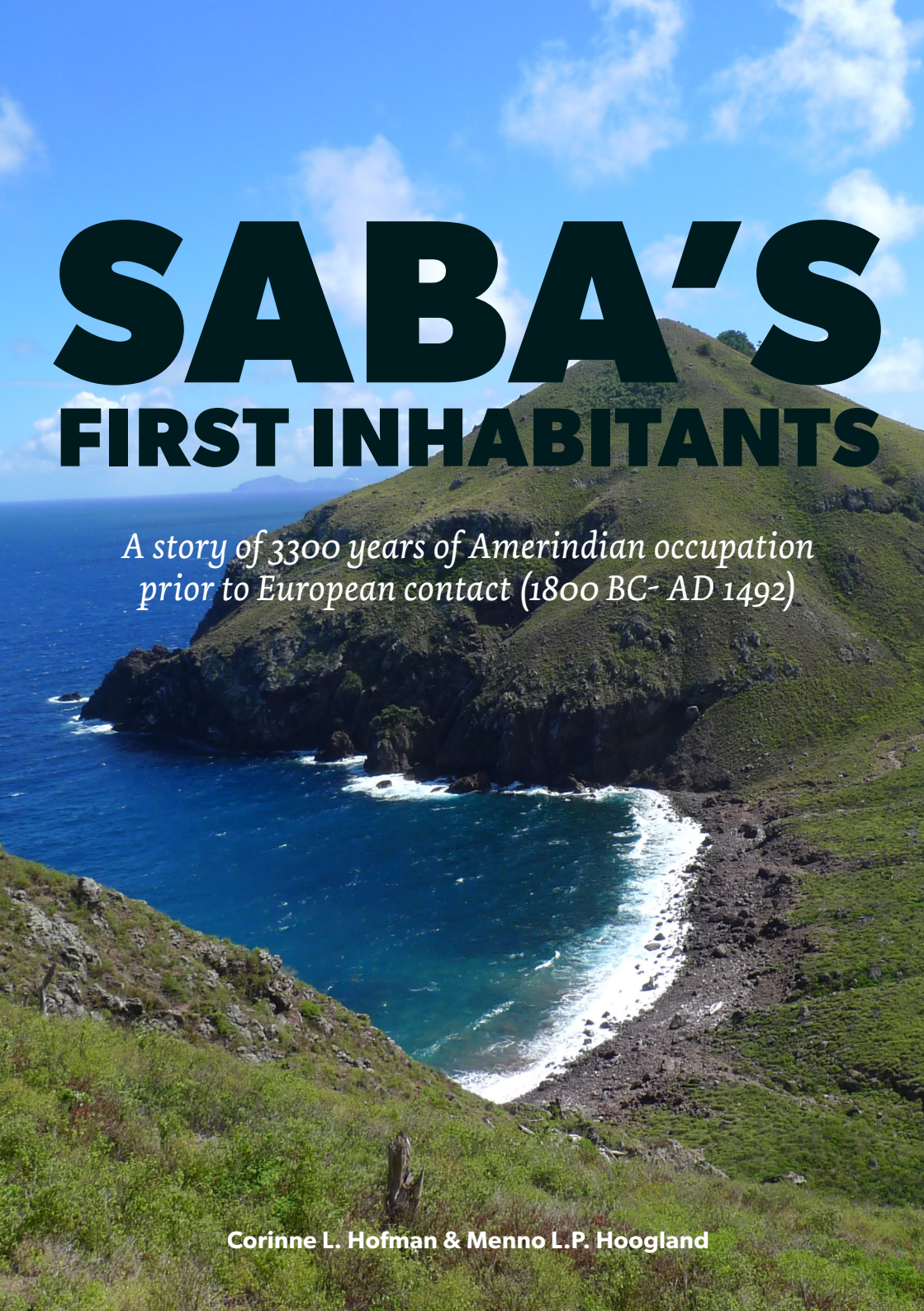
SABA'S
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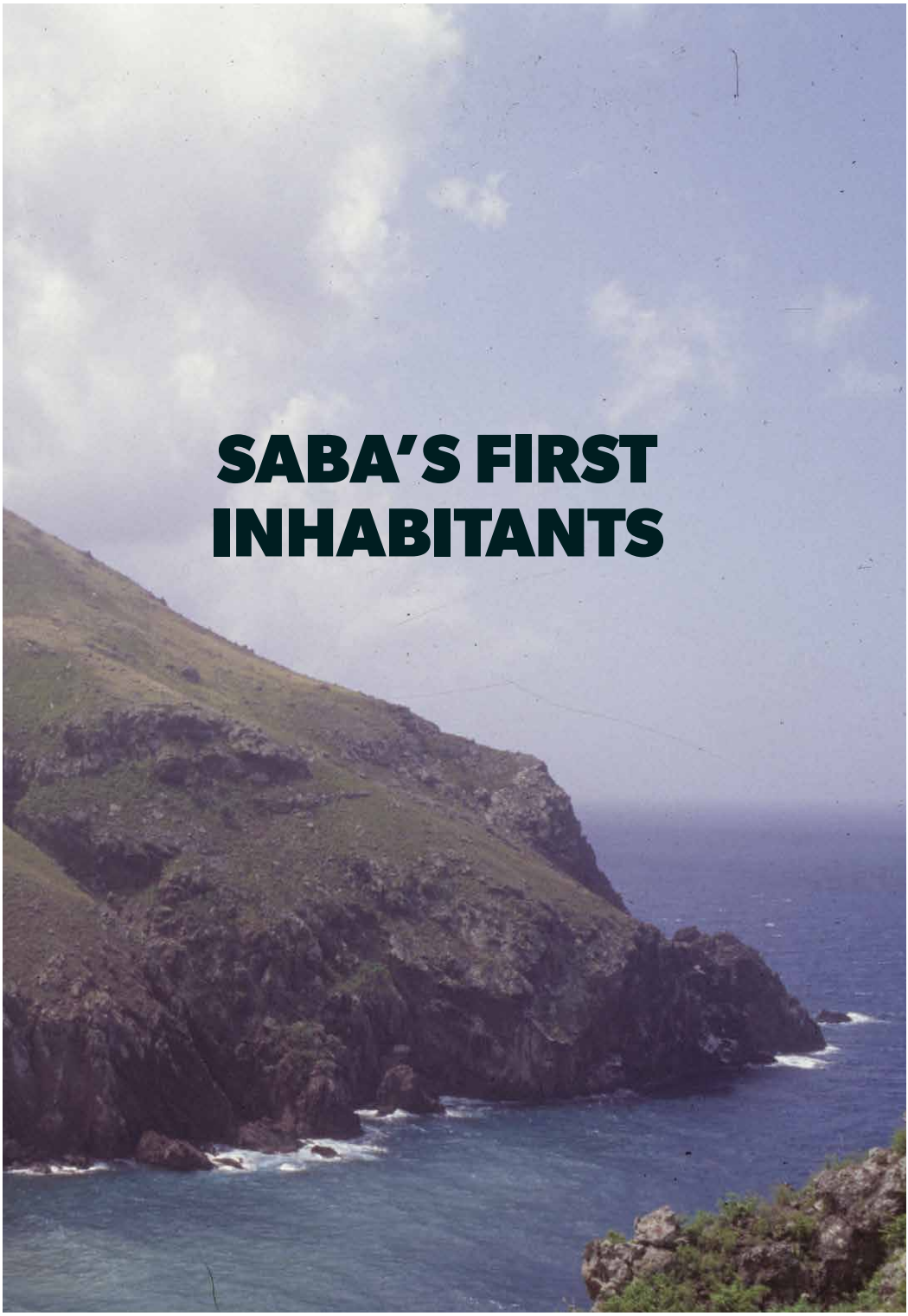

SABA'S FIRST INHABITANTS

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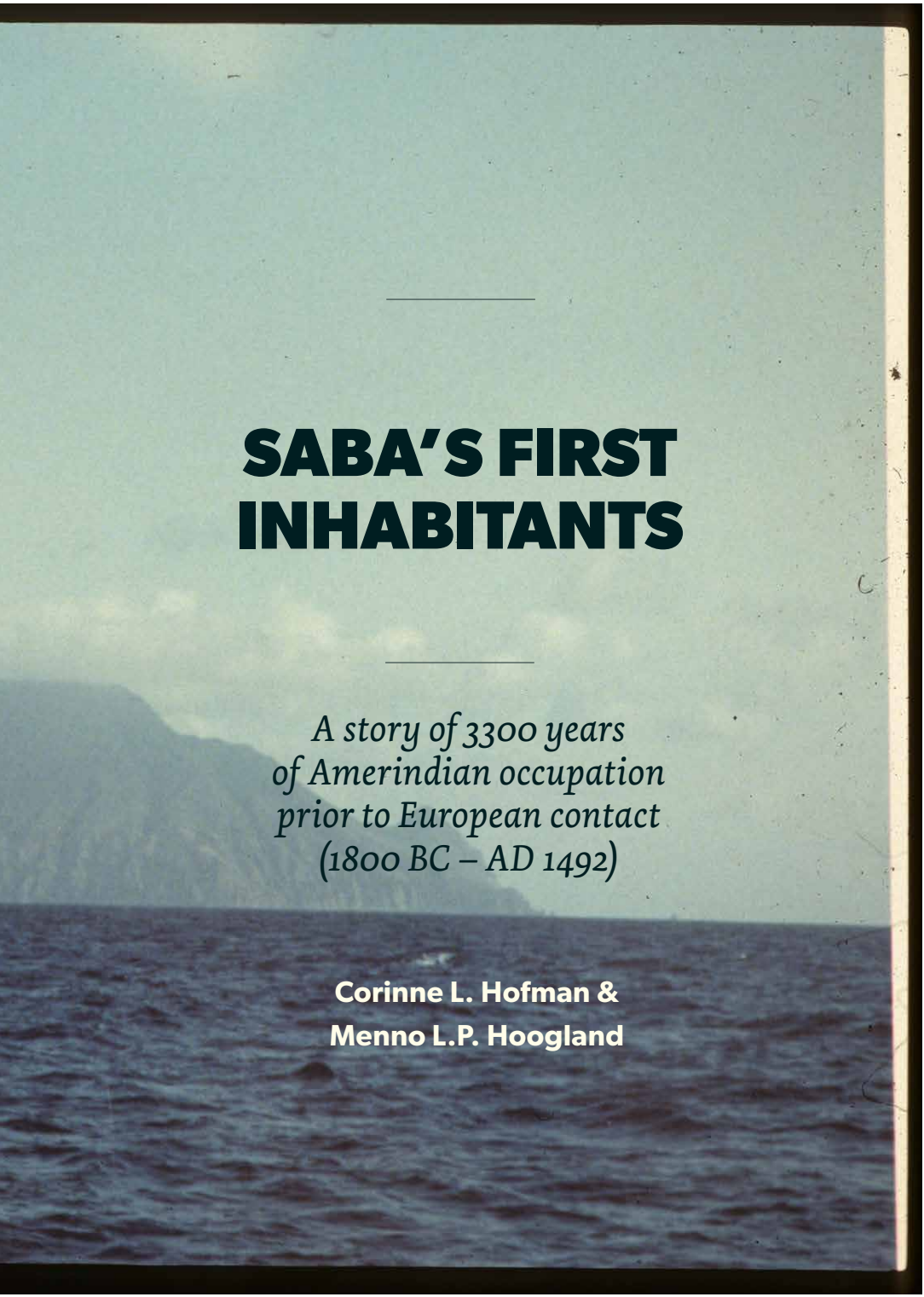

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FOREWORD
Heritage Matters for Saba!

Historical, Anthropological, and Archaeological research have been conducted on Saba, about the island and its' people, for many generations. In 2016, the times have evolved to a point where today the people of Saba themselves are taking a more active role in recording and preserving their own heritage. The SABARC Foundation based on Saba and working directly with the Saba community, has proven that pride in Saba Culture is vital, by assisting to create the Saba Heritage Center, as a broad-based community expression by, for, and about the people of Saba! It is the goal of the Saba Heritage Center and SABARC, working with our partners from the Harry Johnson Museum, Leiden University, Saba Government, local craft persons and local historians, to revive and highlight that sense of pride in Saba heritage and culture, as a cooperative community effort. Following the last three decades of pre-Columbian Leiden University investigations on Saba, as noted in this volume with many exciting new discoveries for the island, the Saba Heritage Center also takes us through the Colonial era, and right up until today's living history 'lace-making ladies', by providing artifacts, exhibitions, and insights into the full range of Saba's past. We hope that all Sabans will regularly visit the Saba Heritage Center with their families and friends, and bring visiting guests here to share with confidence the dynamic history of Saba.

Dr. Jay B. Haviser
President, SABARC Foundation

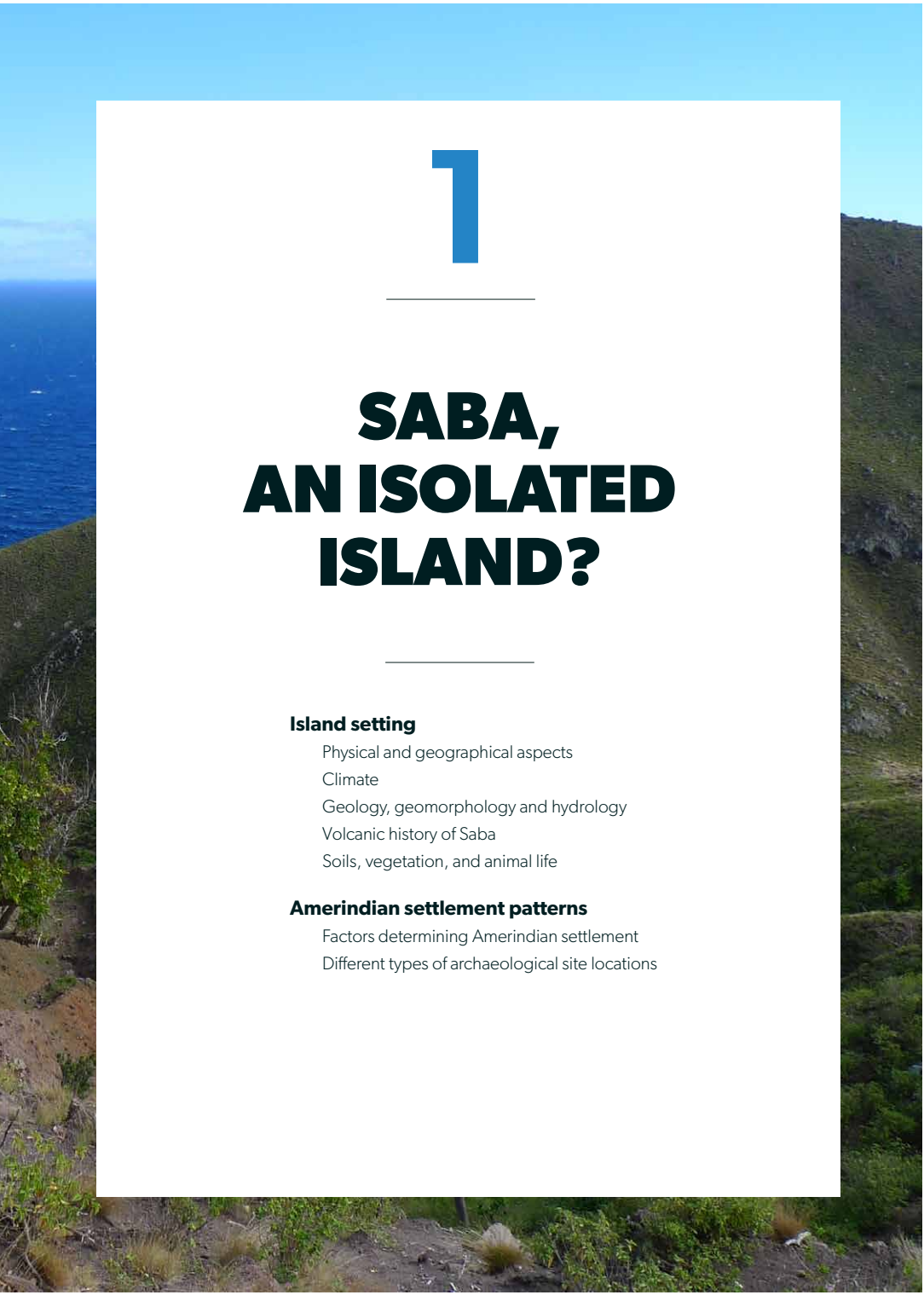
PREFACE

The story of the first inhabitants of Saba is based on archaeological investigations which were carried out on the island by Leiden University during the past three decades. 3300 years of Amerindian occupation, hidden under the soils and tropical forests of this tiny island of the Lesser Antilles, have been brought to life through excavations and multi-disciplinary laboratory analyses. The story of the ways of life and death of Saba's first inhabitants is a unique one. How did people survive on the island and what was its agricultural potential, how were their settlements organized, what did their handicrafts look like and which raw materials were used to produce them, what kinds of food did they consume and which were their collecting, fishing and hunting techniques, how was their belief system organized and how did they bury their deceased, where did they collect the clays to produce their pots, and how did they maintain social relationships with the kin communities on neighboring islands? Those are the questions that we have been tackling since our first field campaign on Saba in 1987. It was in the beginning of January of that year that we started our archaeological prospections in the Spring Bay area thanks to the permission granted by the Saba Givernment through the intermediary of Mr. Will Johnson. On our first night on Saba, in the Chinese restaurant, then located on the corner opposite the graveyard in Windwardside, we met Vivian Hassell who was so kind as to take us on our first trip to Spring Bay the following day. It was from there, that we started our many years of fieldwork on the island, with students from Leiden and the help of many Sabans. We would like to extend our special thanks to the Saba Government (Lt.- Gov. W.S. Smith, S.A.E. Sorton, A.J.M. Solagnier, and J.G.A. Johnson), and the people of

Saba for their hospitality and for making Saba our home in the Caribbean. We would like to mention Velma and Henk Bontenbal, Els and Gied Mommers, Will Johnson, Chris Johnson, Peter Johnson, Carl Zagers, Golda Sorton, David Johnson, Samantha Linzey, Lisa Hassell, Cindy Hassell, Glenn Holm, Tom and Heleen van 't Hof, and many others with whom we shared great moments on the island. We would like to acknowledge all of those who contributed to our projects in the field: Richard Hassell, Vivian Hassell, James Johnson, the Saba Conservation Foundation, the different landowners, the Saba Public Works Department and Leiden University students. Our projects have been funded by the Faculty of Archaeology of Leiden University, The Netherlands, the Stichting Nederlands Museum voor Anthropologie en Praehistorie, STICUSA, OKSNA, the Netherlands Organisation for Scientific Research (NWO), NWO-Science for Global Development (WOTRO), and the European Research Council (NEXUS1492 project grant. nr. 319209). Arie Boomert and Liliane de Veth are thanked for helping finalizing this book. Photographs and drawings are made by Menno L.P. Hoogland, Eric van Driel, Jan Pauptit and Jimmy Mans. Finally, we would like to acknowledge Jay Haviser and Ryan Espersen for having founded the Saba Archaeological Center (SABARC) in order to continue promoting the importance of archaeological research on the island and safeguarding its pre-colonial and colonial heritage for future generations.

Corinne L. Hofman and Menno L.P. Hoogland
Leiden, January 2016

View on Spring Bay, Booby Hill to the right and Flat Point with Saba's International Airport.



1

SABA, AN ISOLATED ISLAND?

Island setting

- Physical and geographical aspects
- Climate
- Geology, geomorphology and hydrology
- Volcanic history of Saba
- Soils, vegetation, and animal life

Amerindian settlement patterns

- Factors determining Amerindian settlement
- Different types of archaeological site locations

ISLAND SETTING

PHYSICAL AND GEOGRAPHICAL ASPECTS

Located in the northernmost section of the Antillean island arc, at 17°38' N Lat and 63°14' W Long, Saba is one of the Leeward Islands of the Lesser Antillean archipelago. Saba, with a surface area of only 13 km², is one of the smaller islands of the Lesser Antilles. Its outline can be described as a distorted rectangle with rounded corners. The longest diameter at sea level is approximately 5 km (SW-NE), the shortest one about 4 km (NW-SE). The highest point of Saba, the summit of Mount Scenery, is roughly situated in the center and stands 870.4 m above mean sea level. Surrounding this central mountain are numerous smaller peaks which give the island its typical silhouette. The mountain slopes are generally steep, exceeding 60° in some places, and are marked by erosion. The coast of Saba has abraded and formed steep cliffs; this is a direct result of sea wave action. There is almost no flat surface on the island, which makes it difficult for cultivation and house construction. The possibilities for beaching boats are also limited. Landing canoes is only possible at a few locations on the island, notably at Spring Bay, Giles Quarter, Fort Bay, which are unsuitable during poor weather conditions. Aside from deterring explorers, this must have been a problem for fishermen and traders as well. Indeed, the small surface area, its pronounced relief and difficult access from the sea give Saba its exceptional and unique character.

CLIMATE

Saba's climate can, in general, be compared to that of the other Leeward Islands, but because of its considerable relief there is a higher level of precipitation. At present, Saba's climate is very similar to that of the mainland of South America as Mount Scenery acts as a barrier to rain clouds, making the island wetter than the surrounding islands. The upper part of

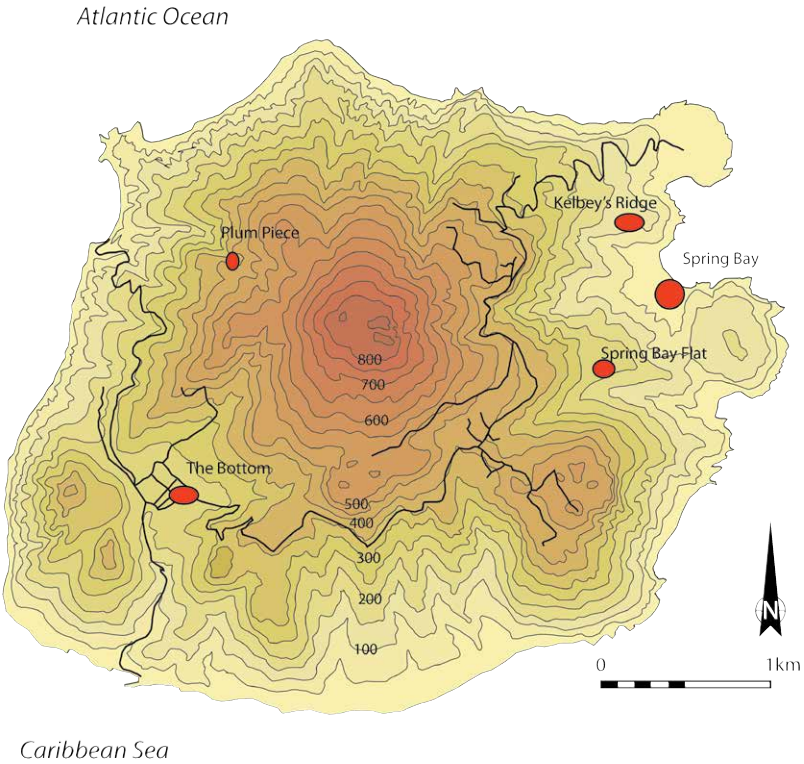
⇢ Map of the Lesser Antilles with the location of Saba.

Saba, above 450 m, is covered with tropical rainforest with at least 60 mm of rainfall every month. The summit of the island is often cloaked in fog because of the gradual increase of precipitation. The lower part of Saba, below 450 m, has a savannah/monsoon forest climate with a precipitation of 1200 to 1400 mm annually. The yearly climate of Saba can roughly be divided into three intervals: the dry, intermediate, and wet periods. The dry season extends from January to May with a monthly rainfall of approximately 50 to 100 mm. The intermediate period lasts from May to September, when rainfall is moderate. The last months of the year are the wet season when

precipitation is high. The temperature at sea is approximately 25°C, with very little fluctuation throughout the year. There is a north- eastern trade wind during the main part of the year. Saba is situated in the Atlantic Hurricane zone and once a year, on average, a hurricane passes the island within a distance of 200 km. Every 100 years or so, there is a higher frequency of hurricanes hitting the Leeward Islands.

Some notable climatic changes occurred in the region during the Holocene, when periods with excessively wet and dry climatic regimes alternated with each other. General insights into the climatic conditions during the pre-colonial period are given through paleo-environmental data from several sites in the Caribbean. A period of droughts and high hurricane frequency

Topographic map of Saba with the mayor pre-colonial sites.



characterized the entire Archaic Age (from 4300 BC onwards), followed by a more humid period and a diminution of hurricanes during the Ceramic Age. A major stage of droughts was again recorded for the period between AD 700 and 900, and a shift with respect to the preceding centuries can be observed in terms of Amerindian settlement locations and density as well as strategies of environmental exploitation. Climatic conditions were extremely variable during the Ceramic Age, with wet periods around AD 100, 400 to 600, and 1000 to 1400, and dry periods between AD 200 and 400, AD 700 and 900, and again around AD 1600.

GEOLOGY, GEOMORPHOLOGY AND HYDROLOGY

Saba can be characterized as a single composite volcano with a complex structure. Saba consists of two volcanic centers of different age; the oldest center has been largely obscured by deposits originating from the younger one. There is no well-formed volcano crater, such as, for instance, The Quill on St. Eustatius. Therefore, the exact location of the main volcanic vent is unknown and the volcano may thus be classified as a craterless stratovolcano. In general, two main geological units can be distinguished on Saba: the 'basal unit' and the 'higher unit'. The 'basal unit' is comprised predominantly of agglomerates and tuffs. This unit roughly corresponds to the older volcano complex. It consists mainly of coarse pyroclastic rocks as well as residue deposits, with intercalated tuffaceous strata. Occasional andesite beds (former lava flows) are present, but the pyroclastics prevail. The 'higher unit' consists predominantly of andesite. This unit comprises the higher parts of Mount Scenery. The border with the basal unit is not very well defined due to poor exposure; over large areas the solid andesite rocks are densely overgrown and covered by hillside debris. Associated with the latter unit are a number of deposits which were formed as separate bodies, namely lava flows and lava domes, as well as younger pyroclastics.

⇢ Heavy erosion by deep V-shaped guts in the Spring Bay area.

Most of Saba's geomorphological features are closely related to its volcanic history. However, non-volcanic processes have shaped the present landforms as well. Not surprisingly given its steep slopes, erosional processes have played and still play an important role on Saba. The level of alteration of the landscape, caused by these erosional processes, differs greatly between the lower and higher parts of the island. The lower parts, consisting mostly of permeable agglomerates and tuffs with a thin soil cover, show strong gully erosion. The larger gullies take the form of fairly straight, steep-sided valleys or ravines, which are locally called *guts**. On Saba two main types of guts can be distinguished. The first one is the U-shaped gut, which is generally a deep, steep-walled ravine (up to several tens of meters deep). The U-shaped guts are characteristic of the northern and western slopes of Mount Scenery (between Deep Gut/Island Gut in the north and Ladder Gut in the west). These guts have been incised mainly into the agglomerate-tuff series. The other type is the V-shaped gut, which has a more shallow profile and is separated by sharp, symmetrical divides fanning out near the coast. These guts are characteristic of the (lower) southern slopes of the volcano. The most typical examples are located between the lava domes of St. John's Flat and Booby Hill. Other V-shaped guts adopt their shape in section largely from being hemmed in between volcanic domes. Some typical examples are Fort Gut in the southeast, running between Bunker Hill, Thais Hill and Fort Hill, and Curve Gut (or Core Gut) winding around the dome of The Level. The upper slopes of the volcano are far less dissected than the lower slopes. Gullies/guts, when present, are less deeply incised and generally lack the U-shaped profile. These differences reflect the combined influences of climate, parent material, soil, and vegetation. The andesitic lavas, characteristic of the 'young' volcanic cone, have undergone severe tropical weathering resulting in deep, fertile soils with good water-holding capacities.

⇢ Rugged terrain of Saba island.

View of the boulder beach at Spring Bay.

Outside the coastal areas, gravity-induced mass wasting on slopes is also believed to have been important in modifying Saba's present landforms. Along the entire coast of Saba limited marine erosion has resulted in the formation of steep cliffs. Undercutting by waves still plays an active role in promoting mass wasting in the form of rock fall and debris slides. The high, perpendicular cliffs of the west coast, between Ladder Point and Well's Bay, seem particularly vulnerable. Most bays have rocky shores with boulder beaches. Obviously, the coastal morphology has implications for the accessibility of the island.

VOLCANIC HISTORY OF SABA

The nature of Lesser Antillean volcanism is a violent one. This is caused to a large extent by the viscosity of the erupted magma, which is of andesitic composition. As has been previously mentioned, the long volcanic history of Saba is closely related

Saba's steep and heavy eroded north coast.

to the formation processes of the island's shape and structure. There are two stages in the structural evolution of Saba Island: pre-70,000 BP (Middle to Upper Pleistocene), and post-70,000 BP. The first stage is the period in time when the first submarine eruptions initiated the formation and building up of Saba. The lower part of Saba's superstructure (the basal unit) is essentially a normal stratovolcano, with pyroclastic material predominating over andesitic lava flows. The pyroclastics form slightly seaward dripping strata of mainly coarse agglomerates, which are clearly exposed in the steep coastal cliffs of western and northern Saba. During the formation of this unit several lava outflows took place. These lava outflows are now exposed as lava beds near sea level, forming promontories and capes which are resistant to erosion. In eastern and southern Saba the basal agglomerate series is less well exposed and, moreover, disturbed as a result of volcanic and erosional processes. One of the few clear sections is disclosed in the upper course of Well's Gut, west of Old Booby Hill. It shows an alternation of multi-colored volcanic breccias and agglomerates with some partly weathered andesite beds. Higher up the slopes of Mount Scenery the agglomerate-tuff series gives way to mostly massive andesite or volcanic rocks (the higher unit), suggesting a shift in the type of volcanism, notably from pyroclastic activity to lava effusion.

Associated with the andesite unit are two conspicuous lava flows in northeastern Saba, named the Flat Point flow and the older Behind the Ridge flow. Their lower portions overly the agglomerate-tuff series, outcropping at Cove Bay. The second stage is characterized by the formation of volcanic domes and associated pyroclastic activity, built on top of the earlier dome complex. The summit of Mount Scenery is to be considered as a volcanic dome which filled in the former crater of the stratovolcano. This summit dome was formed as a result of highly viscous magma being pushed upwards in the central crater

View on Diamond Rock.

View on Spring Bay with the volcanic dome The Level in the back.

pipe and solidifying when reaching the surface, thereby effectively closing the volcano's vent and ending its eruptive activity. The formation of the summit dome was accompanied by periodic explosive eruptions, caused by the building up of gas pressure underneath the dome. This resulted in the deposition of pyroclastics along the slopes of the volcano. Fairly simultaneous with the formation of the summit dome, a number of peripheral domes developed as lateral cones on the flanks of the main volcano. Unlike the summit dome, these domes did not form inside existing craters, but forced their way through the rocks of the older formations. The morphology of the domes varies greatly, but in general they may be described as steep-sided hills with a stony cover. The top can be either

cone-shaped (Old Booby Hill), rounded (Parish Hill), or flat to slightly hollow (The Level), or show a combination of forms. These differences may be primary (reflecting their mode of formation) or secondary (caused by later erosion). The different domes show great similarity In petrographic composition: all are of andesitic composition with only minor differences between them.

Where dome formation marked the end of volcanic activity on Saba, there has been post- volcanic activity on the island. These activities include the formation of sulphur and gypsum deposits, which developed in the agglomerates of the northern slope of Behind the Ridge, and hot springs. Originally there were three hot springs on Saba, of which two still exist. One is situated on the southwest coast, 900 m south of the Ladder. The second one is on the northern shore below the Sulphur mine and opposite Green Island. The third spring was located at Well's Bay and disappeared prior to 1939.

SOILS, VEGETATION, AND ANIMAL LIFE

Saba is a volcanic island and, consequently, its soils are very fertile. However, since the land is steep, it is rather difficult to cultivate and the land is liable to erosion if the original vegetation has been cleared. The summit of Mount Scenery is covered with palm brake and elfin woodland. Due to cloud formation around the summit, humidity is 90-100%. Between 420 and 650 m above sea level the island is covered with secondary rainforest and patches of tree fern brake. Between 200 and 350/420 m it has a dry evergreen vegetation, classified as dry evergreen woodland. In the remaining part, below 200 m, the vegetation consists of croton thickets. The present-day community of terrestrial animals of Saba comprises several endogenous species of birds, reptiles, and crustaceans, as well as invasive mammals such as the brown rat and goat.

AMERINDIAN SETTLEMENT PATTERNS

FACTORS DETERMINING AMERINDIAN SETTLEMENT

The island of Saba had to meet certain basic requirements in order to be inhabited by pre-Columbian Amerindian communities. Most of these basic requirements will have dealt with the availability of fresh water and the subsistence economy, such as the presence of suitable agricultural soils and the availability of sources of proteins such as fish, shellfish, birds, and small mammals. Due to the sharp relief of Saba, the surface area of land suitable for horticulture makes up a rather small portion of the total territory of the island. The soils are medium to fairly high in nutrients, moderately to well drained and suitable for the cultivation of subsistence crops such as

View of Flat Point, Kelbey's Ridge, Spring Bay and Old Booby Hill seen from Mount Scenery.

manioc, potatoes, sweet potatoes, and yams. The total surface area of the plots suitable for horticulture with some limitations amounts to about 170 ha. Around 13% of the total surface area can be cultivated with minor or major limitations and an additional 3.5% is classified as land for limited cultivation. Despite the restricted area of suitable land for horticulture and habitation as well as the difficult shoreline access, Saba was one of the earliest occupied islands in the Lesser Antilles, around 3800 years ago.

DIFFERENT TYPES OF ARCHAEOLOGICAL SITE LOCATIONS

Roughly, three different pre-colonial settlement locations can be distinguished on Saba. The first is the inland location at an altitude of 140 to 400 m. One of the inland sites is Plum Piece, which is situated in the northwestern part of the island at an elevation of approximately 400 m above sea level. Most of the sites, however, are situated on a saddle between the lower slope

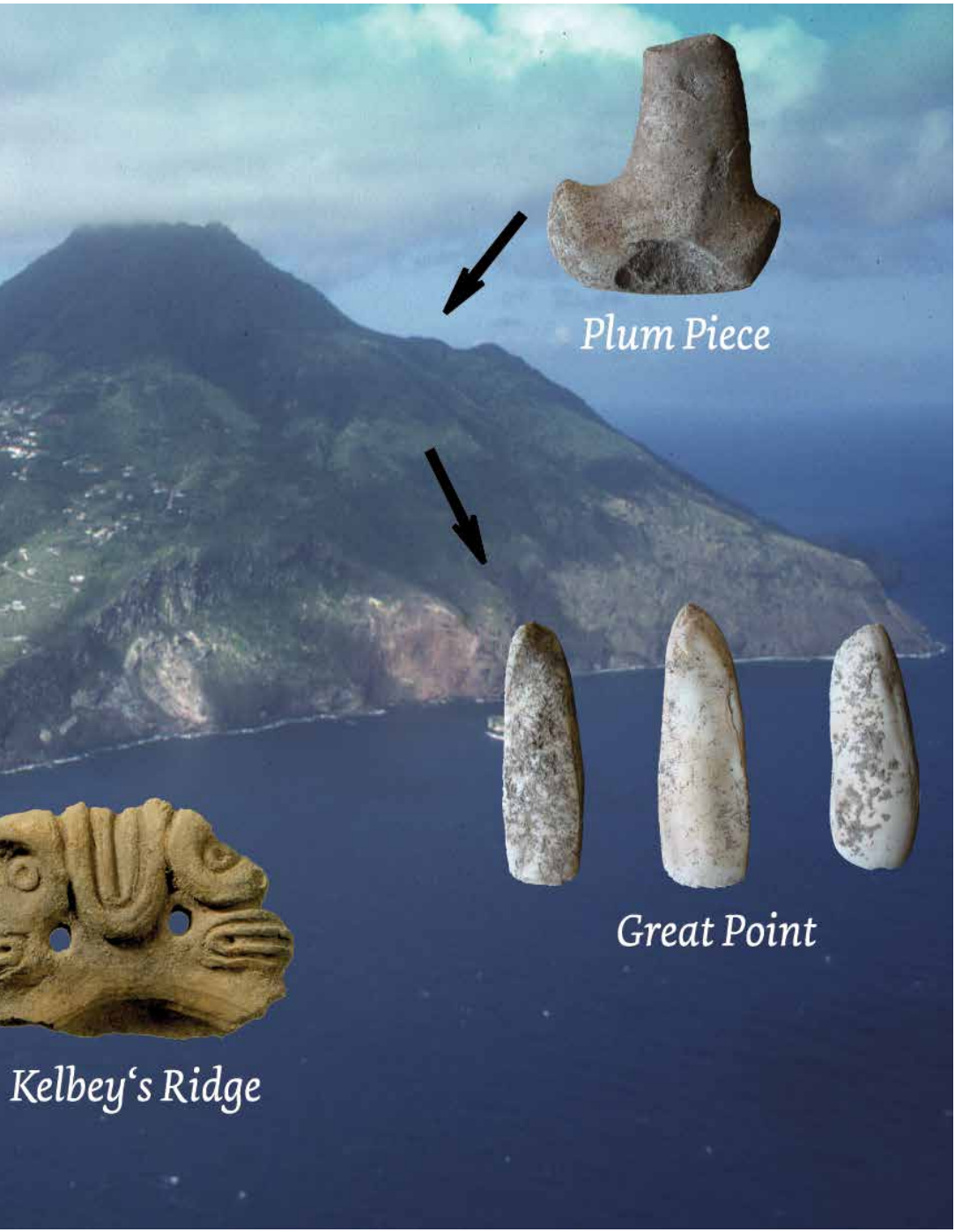
View on Saba's northwest coast. The site of Plum Piece is located at an elevation of 400 m in the tropical forest.

of Mount Scenery and a volcanic dome (the sites of The Bottom, St. John's, Windwardside, The Peak, and Kelbey's Ridge). This kind of site location offers strategic advantages, such as a good view over the sea and protection against possibly passing hostile groups. The second type is the coastal location, either at the lower end of a ravine or in a basin (Spring Bay). The lower part of a ravine offers a very restricted surface area and it is assumed that sites such as, for instance, Compagnie Gut had other functions than being areas of habitation. They may have been landing places for canoes. On Saba only one coastal basin, Spring Bay, is suitable for occupation. The relief of the basins of Cove Bay and Gore Gut Bay is too sharp. The site of Boiling House at the end of the lava flow of Flat Point differs from the other coastal locations. The third type is the mountainous location. Occasional observations demonstrate that there are small sites in the hills, used as shelters. Over the centuries many isolated stone tools have been found at these locations.

Tropical vegetation in Saba's Elfin forest.

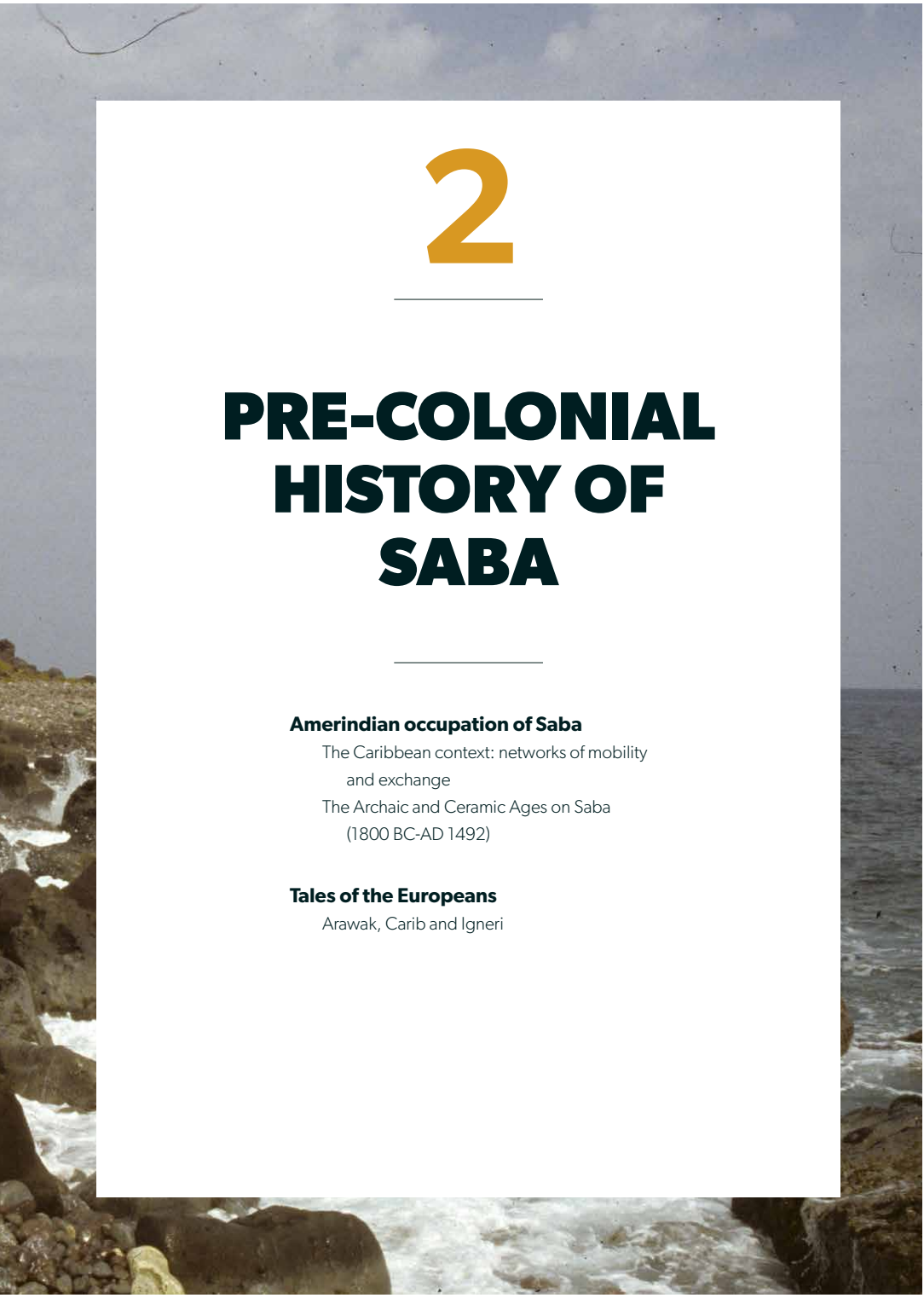
Stone tools found in agricultural plots on Saba. Collection of the Harry Luke Johnson Museum, Saba.

The level, Plum Piece and Great Point are Archaic Age sites.



St. John's, The Bottom, Spring Bay and Kelbey's Ridge are Ceramic Age sites.

Amerindian landing site on Saba's south coast at Giles Quarter.



2

PRE-COLONIAL HISTORY OF SABA

Amerindian occupation of Saba

The Caribbean context: networks of mobility and exchange

The Archaic and Ceramic Ages on Saba (1800 BC-AD 1492)

Tales of the Europeans

Arawak, Carib and Igneri

AMERINDIAN OCCUPATION OF SABA

THE CARIBBEAN CONTEXT: NETWORKS OF MOBILITY AND EXCHANGE

The indigenous, Amerindian, occupants first set foot on Saba around 3800 years ago. Various regions in North, Central and South America may have served as successive donor areas to the initial Archaic Age settling of the Caribbean, in general from 7800 years ago onwards. On the basis of the navigational skills required and risks involved, South America seems to have offered the most favorable conditions for entry into the Lesser Antillean archipelago. The earliest campsites and settlements are known from Trinidad, Curaçao, Cuba, and Hispaniola. After that, little by little the islands of the Lesser and Greater Antilles became populated. As soon as people occupied the islands, they started domesticating the island landscapes and practiced a form of horticulture. Their toolkit consisted of ground stone and shell implements. Ways of subsistence, technological knowledge of seafaring enabling to move directly across the Caribbean Sea and the island passages, knowledge of unknown lands, and transfer of knowledge, expertise and ideas were probably passed on by the initial Archaic Age islanders, ultimately leading to the fully horticultural communities of the Ceramic Age somewhere between 800 and 200 BC. Dynamic networks between the islands and between the islands and the surrounding continental regions were maintained ever since the initial settling of the islands. The insular communities ultimately developed into the complex hierarchical societies encountered by the Spanish in Hispaniola in 1492. Within the archipelagic networks people moved between the islands while simultane-

⇢ Networks of mobility and exchange based on the Archaic Age site of Plum Piece (Saba's first human occupation).

ously goods and ideas were exchanged. Upon first contact with the indigenous inhabitants of the Caribbean in 1492, the Europeans were astonished by their voyaging skills and maintenance of elaborate regional interaction networks. Moreover, the European colonizers were impressed by the high speed at which exchange objects were introduced and moved within these networks. Saba was part of these networks since the very first occupation of the island.

THE ARCHAIC AND CERAMIC AGES ON SABA (1800 BC- AD 1492)

Saba and St. Martin were first occupied by Archaic Age fishers and foragers between around 3800 and 3500 years ago, while for St. Eustatius there is only archaeological evidence from a thousand years later. Small, temporarily occupied campsites were established along the islands' coasts, near mangroves and sometimes more inland. On St. Martin Archaic Age sites are located on the French side at Norman Estate, Étang Rouge and Orient Bay, amongst other locations. The two Archaic Age sites known on St. Eustatius are the Corre Corre Bay site and

Smith Gut, both located on the north-western side of the island, looking towards St. Kitts. The nearby islands of Anguilla, St. Kitts, Nevis, Montserrat, Barbuda, and Antigua were also visited or occupied by fishers and foragers during this time period. Until at present the small Archaic Age campsite at Plum Piece in the northwestern part of Saba, situated along the Sandy Cruz Trail and some 200 m above the ancient village of Mary's Point, is the oldest known prehistoric site on the island. The site is uniquely located at 400 m above mean sea level in Saba's beautiful tropical forest. The site was originally discovered by Mr. Carl Zagers from The Bottom and Mr. Will Johnson. The discovery of an Archaic site at Fort Bay by SABARC in 2014 and the findings of isolated stone and shell tools in areas such The Level, and Great Point suggest that Saba was frequently visited in this period.

Flint flakes from Plum Piece. The flint is brought into Saba from Long Island (Antigua). The flakes are used to cut fibres.

At The Level two flint blades have been discovered by the Johnson brothers during the digging of a cistern in front of their house. The flint of which the tools were made comes from Long Island, offshore Antigua, and is similar to the material of which the flint flakes and tools recovered from Plum Piece are manufactured. Saba's main pre-colonial occupation dates from the Ceramic Age, between AD 400 and 1450. Small permanent villages are known from The Bottom, St. John's, Windwardside, and Spring Bay. People in these villages were full horticulturalists living from the cultivation of root crops and the exploitation of their marine environment. They produced pottery vessels, made tools and sculptured objects from stone, shell, animal bone, and coral. Communities on Saba interacted with those of the neighboring islands as far as Puerto Rico and Hispaniola for the procurement of raw materials and to maintain social relationships. On St. Martin

the site of Hope Estate, located near the stone quarries of Hope Hill, was an important provider of greenstone chert used to make axe and adze heads or celts, which have been found at many of the Saban sites. The Golden Rock site on St. Eustatius is known to have been a major settlement between AD 400 and 900 and probably maintained tight relationships with the Saban communities of The Bottom and Spring Bay. At Golden Rock remains of 14 wooden houses have been found and several burials. Similarities in pottery style also suggest that close relationships existed between The Bottom and the Sandy Hill site on Anguilla around AD 1000-1200. In all Saba counts over 20 prehistoric sites, dating to both the Archaic and Ceramic Ages.

Flint blades found at The Level.

TALES OF THE EUROPEANS

ARAWAK, CARIB AND IGNERI

The early colonial period in the Caribbean started with the first voyage of Christopher Columbus in 1492 and the initial Spanish settling events. This encounter between the Spanish and the indigenous population of the archipelago took place on the various islands at different moments. For the indigenous peoples this meant drastic social, economic and cultural changes. The Lesser Antilles were regarded as *islas inútiles* ('useless islands') by the Spaniards because of the lack of precious goods and their 'pugnacious and cannibalistic' population, the *Caribes*. The Spanish are responsible for spreading the term *Caribe* and other notions such as *Calino*, *Camballi*, *Caniba*, *Canima*, that were changed to *Cannibales* and *Caribales* and later on to *Caribes*, in order to indicate the pugnacious and man-eating 'Indians' of the Lesser Antilles. They were searched for their resistance against other 'Indians' and Spanish colonists. It is from the first colonial reports that later on various scholars imposed the widespread cultural scheme, separating the peaceful *Tainos* of the Greater Antilles from their fierce southern neighbors, the *Caribes*, and suggested that the Caribbean Islands were inhabited by various ethnic groups at the time of the first colonization. The Spanish chroniclers note that all islands southeast of Puerto Rico were inhabited by *Caribes*. These *Caribes* struggled against Spanish rule, which soon made them a persecuted people. Eventually, they were the only 'Indians' who could be captured legally for slavery purposes and the Antilles became the favorite hunting ground for *indieros*, hunters of 'Indians'. Large numbers of the indigenous inhabitants of the Lesser Antilles and other islands were enslaved in order to work in the goldmines on Hispaniola until well into the seventeenth century. Many of the Lesser Antilles were left unoccupied by the Spanish.

"... Il y a la une secte de sauvage, qu'on appelle les Igniris, ils vont le corps tout entierement nud, et portent barbe; ce qui est contraire a tout Indois, se l'arrachant a mesure qu'elle vient; ils sont idolatres, leur retraite est dans les grotesques lieux de cette Isle, vivant comme des bestes bruttes"

[Coppier 1645: 35]

A hundred and fifty years after the beginning of Spanish colonization, French chroniclers, among whom many missionaries, reported extensively on the remaining indigenous population of the Lesser Antilles: the *Caraïbes insulaires* or Island Caribs. It is also in this period that the Frenchman Guillaume Coppier mentions a group of 'savages' or *Igneri*, living on Saba. *Igneri* (also spelled as *I/ygniris*, *eyeri*, *innibis*) are mentioned by French and English chroniclers throughout the seventeenth century. They claim that the term *Igneri* was used by the *Caribs* of St. Kitts, Guadeloupe and Dominica to designate another category of islanders. Coppier, who spent several years on the island of St. Kitts around 1629, described the *Igneri* of Saba as disoriented refugees, being naked with beards, savage, and living in caves. The original name for Saba, *Amónhana*, was recorded by Father Breton, a seventeenth-century French missionary.

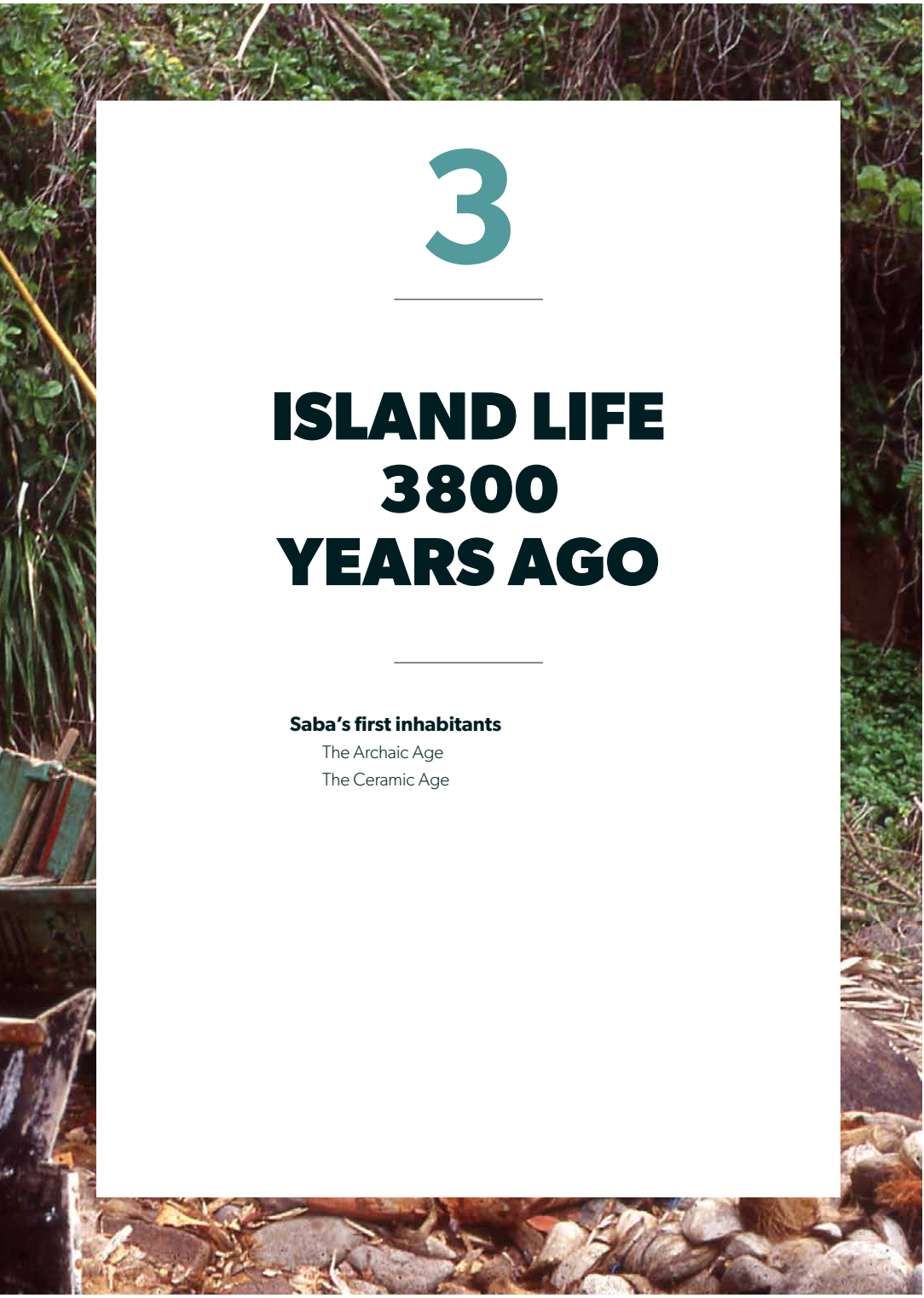
"... there is a sect of savages whom one calls Igniris, they go totally naked, and wear beards; which is the opposite of all [other] Indians, who pull them out when it comes; they are idolatrous, their refuse is in the cavelike places of this Island, living like wild beasts". (Coppier 1645: 35).

The pre-colonial period 'ends' at different times on the various islands, as the indigenous populations were variously incorporated into the colonial system. On the Greater Antilles the indigenous peoples were conquered within a few decades. The Leeward Islands were only permanently settled by Europeans around 1620-30. On the Windward Islands the *Carib* population resisted to the Europeans until 1795. The written (historical) sources about the indigenous inhabitants of the Caribbean and their customs and beliefs date from the first phase of colonization. The most important ones are the Spanish documents from the early sixteenth century about the Greater Antilles and the seventeenth-century French, English and Dutch written sources about several of the southern Lesser Antillean islands. These sources provide important information on indigenous religion, cultural traditions, socio- political organization, settlement patterns, and subsistence practices. By 1800, the *Carib* presence in the Lesser Antilles was dramatically reduced, but the encounter had resulted in new and unique social formations influenced by Amerindian, European, and African

Leeward islands and their indigenous names according to Breton's dictionary from the 17th century.

cultural elements. *Carib* or *Kalinago* communities absorbed large numbers of escaped African slaves, leading to the formation of a Black Carib ethnic identity, alongside traditional *Kalinago* communities. After several wars with the British, the majority of the Black Carib people were deported to Central America in 1797, where they are now known as the *Garifuna*. Today, descendants of the *Kalinago* and *Garifuna* live in Dominica, St. Vincent and Trinidad, where they reclaim their Amerindian roots as an integral part of their Caribbean identity.

Dugout canoe,
Kalinago territory, Dominica.



3

ISLAND LIFE 3800 YEARS AGO

Saba's first inhabitants

The Archaic Age

The Ceramic Age

SABA'S FIRST INHABITANTS

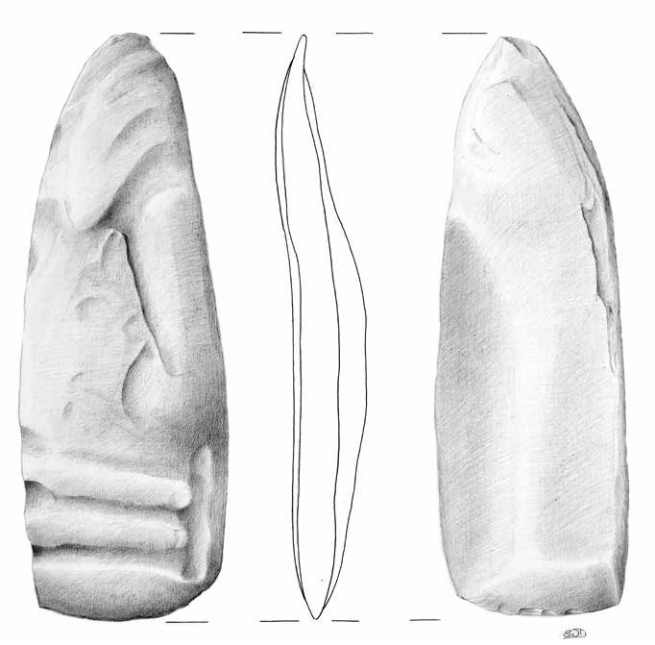
THE ARCHAIC AGE

The earliest radiocarbon dates obtained for settlement on Saba are those from Plum Piece and Fort Bay, dated to 3,300 and 3,155 ± 65 years BP (Before Present). Other Archaic sites on Saba are The Level and Great Point; here only a few artifacts were discovered without any clear signs of a site context.

The location of Plum Piece is favorable because it overlooks the cliffs at Mary's Point and provides a good view of Well's Bay and the ocean. Well's Bay was one of the few suitable landing places available to the Plum Piece occupants. Its distance from Plum Piece is only about 0.5 km, but the steep hillside would

Shell adzes, Plum Piece. Used for woodworking probably in the making of canoes. These adzes are made from the lip of the conch shell.

have made the trek in climb quite challenging. Food remains recovered from garbage deposits at Plum Piece include mainly crab and bird bones, pointing to a temporal and seasonal occupation. It was possibly oriented towards a set of special activities such as woodworking for the building of canoes and the gathering of plants for food and medicinal purposes. Plum Piece functioned alternately and complementarily with similar campsites on other islands. This emphasizes the diversified and opportunistic procurement strategies and regional resource mobility of the Archaic Age peoples who were well adjusted to the (micro-)environment and its seasonal variations. The presence of large quantities of bones of Audubon's shearwater, which breeds on Saba only between February and July, suggests that this was the season that Plum Piece was occupied. The diet of the inhabitants of Plum Piece was supplemented by root crops, fruits and grass seeds. Grasses and



Large grinding boulder at Plum Piece used to sharpen shell adzes.

other plants providing edible seeds and fruits of all kinds are present in the campsite's environment. The slopes situated below Plum Piece are a suitable habitat for grasses and fruit trees such as papaya, soursop and sweetsop, arrowroot, and tuna cactus.

The volcanic and tropical soils in the area of Plum Piece also provide extremely suitable conditions for the growing of root and seed crop cultigens. One might think of, among others, bitter and sweet manioc, sweet potato, yam, and maize. Apart from representing an excellent environment for providing different kinds of food, fibers for the manufacture of baskets, mats and fish pots could be obtained from the surroundings of the campsite. Grinding stones and mortars for plant processing as well as ground stone tools for other activities such as hammering and pecking were made from volcanic rocks which had been carried up the mountain from the seashore where they are found in large quantities on the boulder beaches. Well's Bay is located below Plum Piece and is characterized by such a boulder beach. Besides the fact that this might have been the landing place for the Plum Piece occupants, trips to the bay were probably made in order to procure rocks for the manufacture of stone tools, but also to fish and collect conch shells for consumption. Conch shells can still be found on the

Cache deposit of shell adzes (made from the lip of the conch shell, Lobatus gigas at the Plum Piece site. The shell adzes were left in a bundle when the site was abandoned temporarily to be re-used upon return.

Multi-purpose stone tools, Plum Piece.

sea grass beds situated to the north of Well's Bay. The absence of whole conch shells at Plum Piece and the presence of unfinished lips and waste-products from the manufacturing process suggest that the meat was extracted and the shells were pre-worked on the shore. Subsequently, the lips were taken to the site for further manufacturing into tools. Woodworking for the construction of dugout canoes might be one of the activities for which people would have chosen to temporarily settle in this mountainous tropical environment.

THE CERAMIC AGE

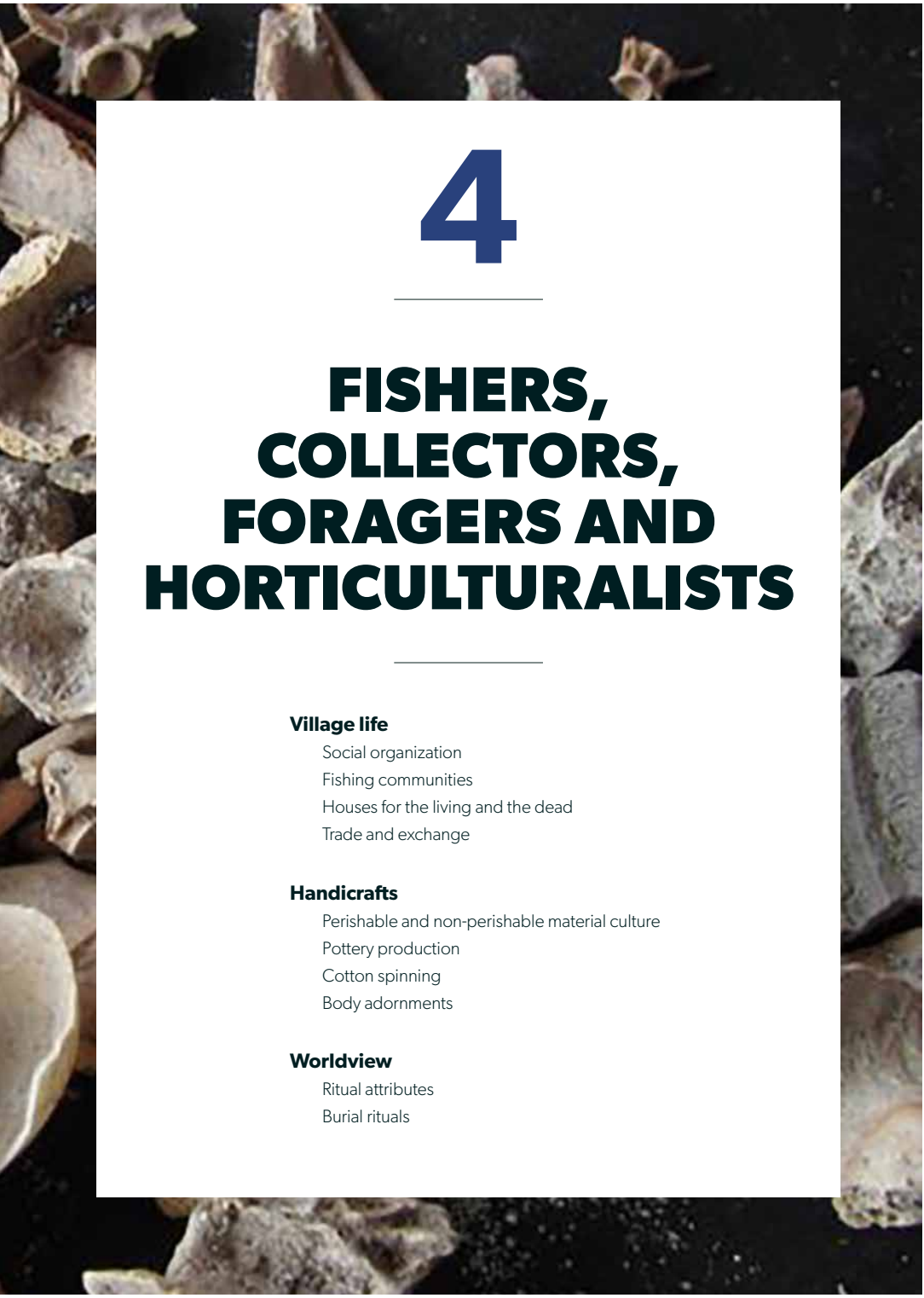
Today there are around 15 known Ceramic Age sites on Saba, dating between AD 400 and 1450. They are all located in the southwestern part of the island. Most of these sites are situated along the coast. Considering their small size, the Saban settlements probably maintained tight relationships with communities on the neighboring islands. In this sense they were part of an inter-island settlement system and regional social network. Thus far only three sites can be attributed to the period between AD 450 and 800 (Kelbey's Ridge 1, Spring Bay 1 and Windwardside). From AD 800 onwards the number of sites increased. Apart from habitation sites, there are a number of smaller sites which probably represent special activity locations, utilized as landing places, water collecting sources, agricultural plots, and collecting or procurement sites. After AD 1200 only the Kelbey's Ridge 2 site was inhabited and there is a small component of the same date at Spring Bay 1. Kelbey's Ridge 2 was occupied by a community of four to five households between AD 1300 and 1350. It is estimated that the larger settlements like The Bottom and Spring Bay had a maximal population of about 50 to 100 individuals and that the smaller settlements probably comprised only one household each. In the most populated period, between AD 800 and 1200, the total number of inhabitants on the island is estimated at around 200 persons.

Potsherd with white on red painted motif from The Bottom, AD 1000-1200 (collection de Josselin de Jong, Museum of Ethnology, Leiden).

Red slipped pottery sherd with sigmoid design, Spring Bay 3, AD 1000-1200.

Bat head adorno, Kelbey's Ridge 2, AD 1300-1350.

Fish bones from pre-colonial sites on Saba used for the reconstruction of the Amerindian diet.



4

FISHERS, COLLECTORS, FORAGERS AND HORTICULTURALISTS

Village life

- Social organization
- Fishing communities
- Houses for the living and the dead
- Trade and exchange

Handicrafts

- Perishable and non-perishable material culture
- Pottery production
- Cotton spinning
- Body adornments

Worldview

- Ritual attributes
- Burial rituals

VILLAGE LIFE

SOCIAL ORGANIZATION

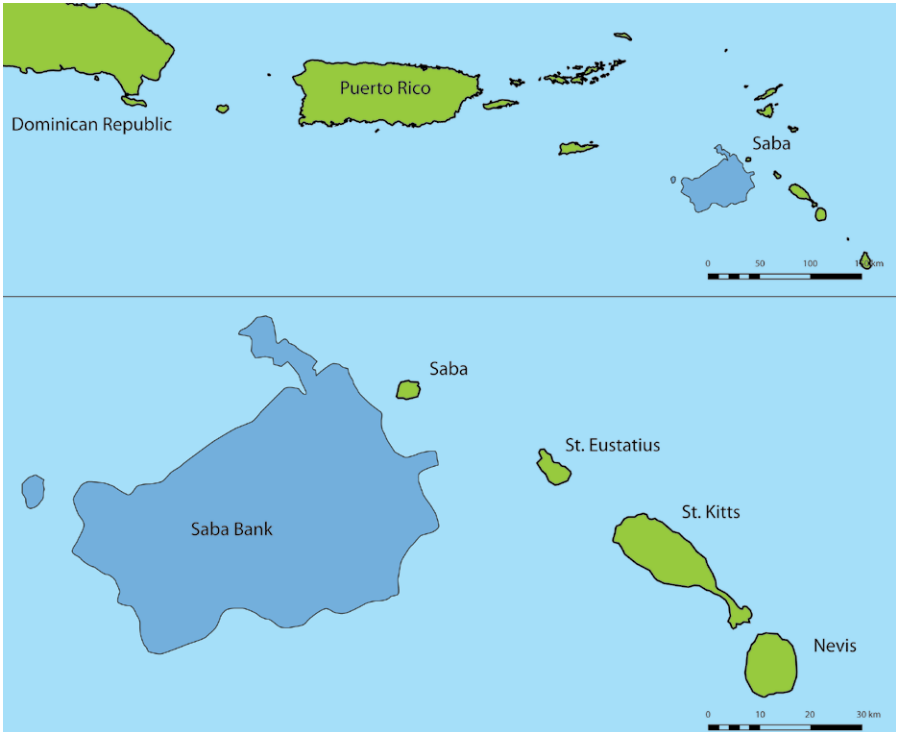
The first Archaic fishers and foragers (1800-400 BC) were organized in small communities. They settled semi-permanently or seasonally on the island and travelled to the neighboring islands between Antigua and Puerto Rico parts of the year. Here they occupied sites along the coastline and relied heavily on fishing and shellfish exploitation while simultaneously procuring raw materials which they brought back to Saba. Plum Piece, like other Archaic Age sites in the Lesser Antilles, yields evidence of multiple stages of occupation, abandonment and reoccupation over long periods of time. The toolkit of these Archaic Age sites is very diverse and special activity campsites seem to have alternated with each other, producing a very dynamic social landscape in which various resources were targeted and different activities alternated in a yearly mobility cycle. It is feasible to hypothesize a form of mobility strategy of archipelagic resources, in which communities would have taken advantage of the seasonality of the biotic resources across the islands, but mixed with other predictable subsistence strategies such as food plant production.

The fishing grounds of the Saba Bank were already heavily exploited by the Amerindian inhabitants from 3800 years ago on.

The early Ceramic Age communities were composed of about 20 to 100 persons, headed by a chief the position of whom was achieved on the basis of his social and political capabilities. Communities maintained a whole range of relationships throughout the region. Their socio-political dependency on the communities of other islands for marriage partners and exchange and warfare parties was a prerequisite for their success. Saba's latest pre-colonial community, located on Kelbey's Ridge, was part of a regional network extending all the way to Hispaniola. The attractiveness of the Saba Bank for the exploitation of fish was probably the reason for important chiefs on the islands of the Greater Antilles to incorporate Saba in

their social networks. Similarities in material culture (pottery and bodily adornments) evidence these strong relationships. Another important aspect of these relationships is the strategic position of Saba on the route from the Greater Antilles towards the mainland of South America.

The island of Saba had to meet certain basic requirements to be inhabited by Amerindian communities. Most of these basic requirements will have dealt with the availability of fresh water, good fishing grounds, certain goods (like suitable wood for building) and plots for cultivation. The subsistence economy of the Ceramic Age occupants heavily relied on horticulture, notably the cultivation of root crops. The Amerindians



practiced slash-and-burn horticulture and cultivated manioc, sweet potatoes and yam as staple crops. It is not clear for how long the plots were under cultivation. Soil conditions are favorable for horticulture on the volcanic islands of the Lesser Antilles, and probably there was no necessity to shift the horticultural plots and habitations due to soil depletion. It is indeed remarkable that Saba was occupied for so many centuries. The preparation of bitter manioc (*Manihot esculenta*) is a long and complicated process. From historical and ethnographic information it is known that the slashing and burning

Experiment with a manioc grater board. Flint flakes have been glued into the wooden board for subsequent use wear analysis.

of the plots was the task of the men, while the processing of the manioc roots in order to obtain cassava cakes was that of the women. The manioc roots were dug up with a digging stick and brought to the village in carrying baskets. Here the roots were cleaned with a shell scraper and then grated, pressed (to extract the poisonous juice) and sieved before baking. Especially the cutting tools (stone and shell axes and celts) could have been used for a wide range of activities such as cutting trees for the preparation of the slash-and-burn plots, house construction, canoe making, and soil tillage. Special tools were used for food preparation. Graters served to process wild indigenous roots and grasses, flint chips as inserts of manioc graters. In addition, grinding stones, varying in size from 20 to 45 cm, were used to grind panicoid grass seeds, while clay griddles served for baking cassava bread and the preparation of other food crops.

FISHING COMMUNITIES

Saba is a tiny island with a sharp relief and as such had a limited capacity to support indigenous populations. As on other islands, the Amerindian communities depended mainly on marine resources. Evidence from the garbage deposits of Ceramic Age settlements on Saba indicates that the majority of the vertebrate remains represented are from aquatic species. Especially the rocky intertidal zone was exploited intensively throughout Saba's pre-colonial occupation period. Species such as small snails (*nerites*) and long backs (*chitons*), living in the rocky intertidal zone, were abundantly collected. Fishes and sea turtles were also important components of the Amerindian diet. The habitats exploited and the fishing technology used to catch the key species, groupers, triggerfishes and surgeon fishes, have implications for the procurement strategies that were probably used. Groupers and triggerfishes are often found in clear outer reefs or rocky zones and in deeper water, 50 feet deep or more. They were probably caught with hook and line. Surgeon fishes swim in schools in the shallow

reefs and are typically caught with traps in the form of fish baskets. Large sea mammals like the manatee and sea turtle were harpooned from the canoe, while lobsters were caught by hand. Fishhooks were made of conch and whelk shells (*Lobatus gigas* and *Cittarium pica*). The terrestrial resources were less intensively exploited. Endemic rice rats (*Oryzomus* sp.) contributed importantly to the terrestrial component and they increased in relative importance throughout the Ceramic Age occupation. The agouti is not well represented. This animal was introduced from northern South America during the Ceramic Age. Wherever humans and agouti occur together, agoutis are kept or hunted. Rice rats are attracted to forest edges and agricultural plots and may have been hunted to protect the agricultural enterprise. Birds and iguanas were caught in lower quantities.

HOUSES FOR THE LIVING AND THE DEAD

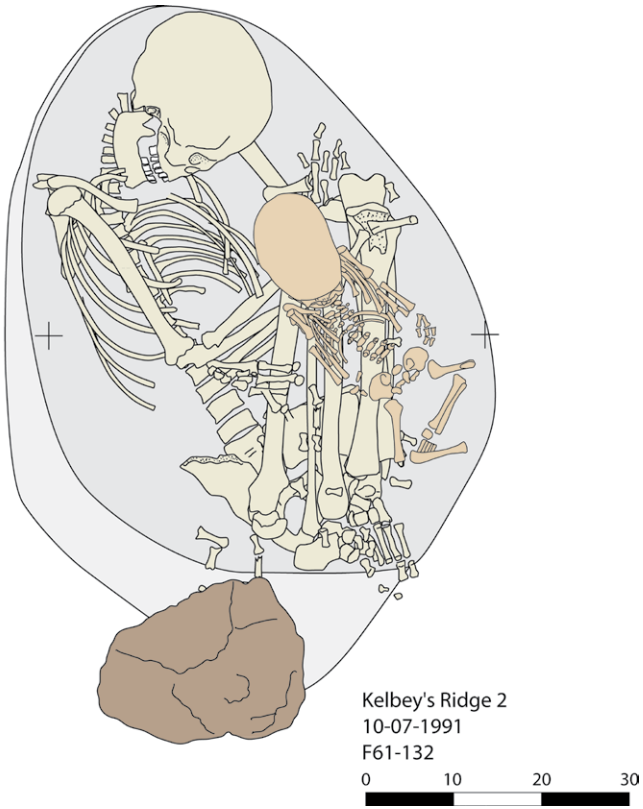
The site of Kelbey's Ridge 2 has provided the best information on how an Amerindian village on Saba would have looked like. The settlement stretched along a ridge over a distance of 70 m. Four to five households, each occupying one house compound, were linearly arranged along the ridge. Each compound consisted of one or more dwellings and a domestic area with fireplaces, possibly a cooking hut, and drying and smoking racks. Such a rack (*barbakot* or *boucan*) consisted of four forked sticks fixed in the ground with a grill of fine, straight branches on top. The front of the compound bordered an open area or *plaza*. These open areas were used as public spaces for conducting rituals and communal gatherings. Houses were made of wood; they were round or oval with diameters of approximately 5 to 8 m. They were covered with reed or palm leafs. The sides were left open, but the thatched roofs came down till the ground. The fire places were inside the house; near the house were constructions for the kitchen and stocking. The dead at Kelbey's Ridge were buried inside the houses, under the floor. They were buried in a flexed, nearly seated, position. The burial pits

were confined in size and in case of adults restricted to a mere 75-85 cm in diameter. Most of the grave pits seem to have been left open for a certain period of time, probably until decomposition of the soft tissue had taken place. The burials show traces of fire around and on top of the deceased. Long bones or the skull were sometimes taken from the burial. Historic sources suggest that this was done to honor the ancestors. At Kelbey's Ridge 2 children were buried with adults in the same grave pit.

TRADE AND EXCHANGE

The presence of exotic artifacts and raw materials evidences relationships with neighboring islands and the integration of Saba in a regional network of human mobility and the exchange of goods and ideas. Besides, it gives insight in the regional sources of raw materials and procurement strategies. The various Saban sites yield evidence for the exploitation of lithic sources from outside Saba. Five main rock types were utilized for the manufacture of tools: local quartz, pebbles and cobbles of volcanic rock, flint from Long Island (Antigua), St. Kitts or Puerto Rico, green chert from St. Martin, and 'greenstone'. Greenstone amulets, beads and celts were traded from locations as far as the Guianas or the Dominican Republic. Diorite beads encountered at the Spring Bay and Kelbey's Ridge sites may represent exchange items used. Such beads are often mentioned as trade items by the Spanish chroniclers upon their arrival in the Caribbean. The strings made from these beads were used as bride prices. Clays for the manufacture of pots were acquired locally at Rendez-Vous, but were also collected on the neighboring island of St. Eustatius. Occasionally pottery vessels were exchanged during ceremonial meetings and obtained during sea travel voyages to as far as Puerto Rico or the Dominican Republic. Travel across the sea was done with dugout canoes. The Amerindians were excellent seafarers. They crossed the sea with their boats towards the Greater Antilles in the west and the South American mainland in the south. Apart

from small boats (not exceeding 25 feet) for the purpose of fishing, large canoes were built for the transport of materials, war expeditions and for trading. The construction of both types of boats was the same: the trunk of the white gum tree (*Dacryodes lexandra gr.*) was often used. The tree trunk was burned and cut, in order to make a so-called dugout canoe. A shell adze made from the lip of the conch shell was used to chop the wood. This type of boat measured upto 40 feet in length and was approximately 6 feet wide. To make the canoe suitable for seafaring, the sides were heightened with two or three planks of white *acajou*. At present this type of dugout canoes is still made in the *Kalinago* Territory of Dominica.



Burial 132 includes an adult female individual and one infant aged 1 to 3 months.

HANDICRAFTS

PERISHABLE AND NON-PERISHABLE MATERIAL CULTURE

The material culture of the Amerindian inhabitants of Saba was very diverse, consisting of objects made of shell, stone, bone, wood, clay, calabashes, fibers, reed, feathers, and cotton. Calabashes, fibers, reed, feathers, and cotton are not preserved in the archaeological record, but parallels from contemporary indigenous groups in South America suggest that these were certainly part of the materials that the Amerindians on Saba used to make their toolkit and gear. Calabashes were used as containers for food and drinks and probably for various other purposes. Halved calabashes were used as bowls, plates and beakers. Large ones with small openings served as bottles. There was a large variation in size. Two halved calabashes tied with lianas or cotton thread were used as locked stocking vessels. The calabash containers were occasionally painted. Basketry was very popular for the manufacturing of carrying baskets, cassava presses and sieves. Wood was used for the construction of dugout canoes, bows and arrows, and benches. Wooden arrows were provided with poisoned tips in times of war. Clubs made of wood were used during warfare.

The Kelbey's Ridge 2 community were involved in a network of trade and exchange with the Greater Antilles. Flint was brought in from Long Island (Antigua), greenstone from St. Martin, some of the pottery and jadeite axes from the Dominican Republic.

POTTERY PRODUCTION

Clay vessels belong to the best preserved items in archaeological assemblages. Both local and imported clays were used to manufacture pottery and earthenware vessels were exchanged with communities on neighboring and distant islands. Local clay sources on Saba are located at Rendez-Vous on the higher slopes of Mount Scenery. Many generations of potters must have known of these sources as most of the clay pots from the different sites on Saba are made of the Rendez-Vous clays. Within the clay sources at Rendez-Vous there is a clear variety

in clay quality. The Amerindian potters must have been aware of these variations, which had implications for the properties of the clays and their suitability for specific vessel functions. The ceramics include dishes, bowls, jars, and griddles for the baking of cassava bread and other root crops. Clay pots were made by flattening the clay, either between the hands or on a flat surface, and by coiling, pinching or molding. Often a combination of these techniques was used. To give the pots a shiny appearance, a small pebble was used to polish the surface. The vessels were smoothed, burnished or polished in order to make their surface smooth and easy to clean. Moreover, by treating the vessel surface in this way the pots got a better appearance, their structure was strengthened while their crack resistance was increased.

Most of the pottery was used for utilitarian purposes such as cooking, storage and serving. Some of it was used in rituals and ceremonies. In these cases the pottery was decorated with particular designs applied by modelling, incising, impressing, and painting. Shell, bone, calabash, clay, and stone tools

1. Large cooking pot, Spring Bay 2 site, diameter 42 cm, AD 1000-1200.

2. Cooking pot from Kelbey's Ridge 2, 37.5cm in diameter,t AD 1300-1350.

3. Oliva shell tincklers probably used in arm and/ or legbands.

were used for modelling, incising and impressing. Painting was done with liquid clay slips on the leather-hard vessel surface, prior to firing. The color combinations were limited to red, buff (high iron-oxide content), white (kaolinite), and black (carbon or fine ground manganese). The carbon black was obtained by sooting. This was done by coating the vessel surface with a resin oil or plant wax, and then smothering the pot in a fire. Soot was applied to the surface and in some cases a red clay slip was applied as a kind of coating. This slip layer was applied before drying or firing. Coral (*Acropora palmata*) and stone grinders were used to crush the red coloring pigment. This was done before firing. After drying, the pottery was piled up in an open fire. Such a pile was constructed by dispersing old potsherds on the ground, covered with a layer of dried bark. The pottery was then placed on top. The bark was put to fire and pieces of wood were disposed around

1.

2.

3.

and on top of the pottery. Undecorated pottery was probably placed in the lower part of the pile with fuel surrounding it, while the decorated pottery was placed on top. Clay pots were fired at relatively low temperatures (600-800°C).

Spindle whorl (used for cotton spinning) from The Bottom, AD 1000-1200 (collection de Josselin de Jong, Museum of Ethnology, Leiden).

COTTON SPINNING

Cotton was used to make hammocks and arm and leg bands. Cotton bands were worn around the arms and legs of the women. Hammocks were woven in a frame that was attached to the beams of the house. Sometimes the women needed more than a year to make a large hammock of 3 m long and 1.80 m wide. The cotton was spun around a stick of about 60 cm in length, provided with a spindle whorl made of turtle shell or fired clay. The spindle was rolled with the flat hand on the upper leg in order to spin the cotton. Cotton is a perishable material and, consequently, is not preserved archaeologically, but clay spindle whorls have been found in all the excavations made on Saba. The whorls have an average diameter of approximately 5 cm and an average height of 4 mm. However,

Beads made of shell (Lobatus gigas), bone and stone (diorite, quartz and greenstone). These beads were found in all Ceramic Age sites on Saba, AD 400-1450.

there are a few larger and thicker examples, with diameters between 10 and 12 cm and 8 to 11 mm in height. For the manufacture of the spindle whorls broken and discarded potsherds were selected, rounded-off and re-used. The various stages of manufacture of discarded examples found at the Saban sites suggest that the making of these spindle whorls took place in the settlement.

BODY ADORNMENTS

Cotton loincloths, ornamented with beads, pendants and tinklers, were worn during feasts. Beads, pendants and tinklers were worn around the neck, wrists and arms. They were made of conch shell (*Lobatus*), diorite, animal bone, turtle shell, teeth of predators, seeds, and fish-bone. Bird feathers were used as ornaments by sticking them through the lips, ears and nose.

Shell ornament, Spring Bay 1b, AD 600-900.

Tools made of fish bone. These tools were used as needles maybe in basketry making.

WORLDVIEW

It is known from the early written accounts that the indigenous peoples of the Caribbean worshipped deities known as *zemis*, which were manipulated through the interference of the priest or shaman*. This belief system is called zemiism. The shaman was called upon about the turnout of war and trade expeditions, about fertility and illness. The ritual to cure a sick person was performed at night. Through the smoking of tobacco and the taking of hallucinogenic snuffs, the shaman reached his personal god by singing. An offer in the form of tabacoo, food or drinks was made to the deity. Then the deity answered the questions which were asked. Through particular actions the shaman tried to cure sick persons. Sucking the illness out of the body, subsequently he showed a small stone or the thorn of a ray as piece of evidence. *Zemis* are frequently mentioned in the historic sources from the colonial period as the mediators between the natural and supernatural worlds. Particular three-pointed objects (*zemis*) are mentioned to have been buried in the ground in order to promote the fertility of root crops.

Ceremonial ceramic vessel in the shape of a turtle, diameter 10.5cm, Spring Bay 3, AD 1000-1200.

RITUAL ATTRIBUTES

During a ritual performance many different artifacts, or paraphernalia, were used in order to have a successful ritual. Three-pointed objects (associated with *zemiism*) occur at all the Ceramic Age sites on Saba. They are manufac-

tured of shell, coral or stone. An inhaler tube found on Saba is made of manatee bone in the shape of a fish. The eyes contain the remains of a resin, probably meant to affix small inlays. The mouth opening is connected with two openings behind the gills by an Y-shaped perforation. The object is an inhaler destined for taking hallucinogenic snuff. It is assumed that the Y-shaped perforation was extended by two hollow bird bones put into the apertures of the gills. The hallucinogenic snuff is known as *cohoba* in the historic sources. It was prepared from the seeds of the *Anadenanthera peregrina* tree. The chroniclers mention that in order to strengthen their hallucinogenic effect, it was necessary to mix the crushed seeds with powdered shell. Anthropomorphic (human-like) and zoomorphic (animal-like) sculptures or figurines made of stone, wood or bone, showing inlays in the eyes, nose and mouths, are a very common cultural manifestation of the indigenous peoples of the Greater Antilles. The materials used for the inlays are diverse and include shell, mother-of-pearl, gold, colored stone, and turtle bone. These materials were attached with some kind of resin (like gum from the *cupey* tree). The anthropomorphically and zoomorphically modeled figures on the pottery from Saba can be understood only in terms of the Amerindian belief system or worldview. The anthropomorphic head lugs probably represent deities and the zoomorphic lugs may stand for typi-

Coral artifact Fort Bay, 800-400 BC representing a face of a bat or feline (SABARC excavation 2014).

cal creatures such as iguanas, pelicans, frogs, bats and turtles, which are common in the indigenous stories and narratives recorded by European missionaries during early colonial times. The bat, for example, was thought to represent the spirit of the dead.

BURIAL RITUALS

When an Amerindian died, according to the French early colonial sources, his/her direct relatives cut their hair as a sign of mourning. They washed the deceased, painted the body with annatto (*Bixa orellana*) and put the body into a new hammock. Then the deceased was placed upon a plank in a seated, flexed posture (recalling the fetal position) and buried in his own house. Common people were buried in a corner of the house, but a headman got a grave in the center of the house. The burial pit was covered with a plank and further filled up. On top of the

Three-pointed object (zemi) made of coral, Spring Bay 1a site, AD 400-600.

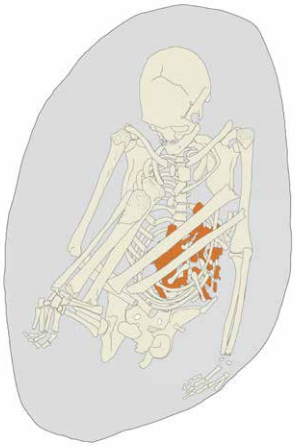
Three-pointed object made of calcirudite Spring Bay 3 site, AD 1000-1200. Calcirudite can be found in the Pointe Blanche formation on St. Martin. Three-pointed stones from this material were produced in great numbers on the island of Anguilla and then traded with the surrounding islands.

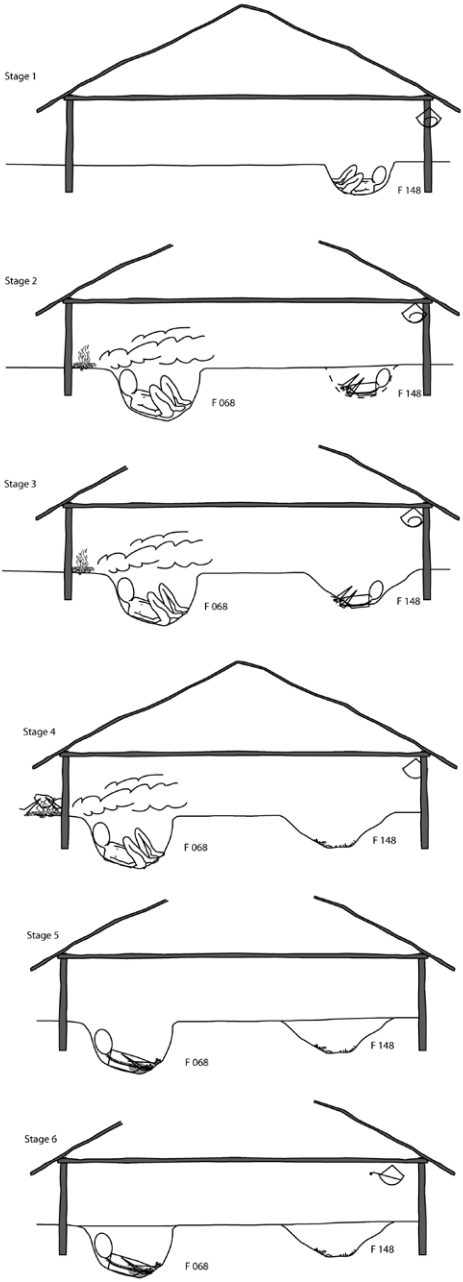
Three-pointed object made of coral, Kelbey's Ridge 2, AD 1300-1350.

Three-pointed object depicting a deity made of coral, Kelbey's Ridge 2, AD 1300-1350.

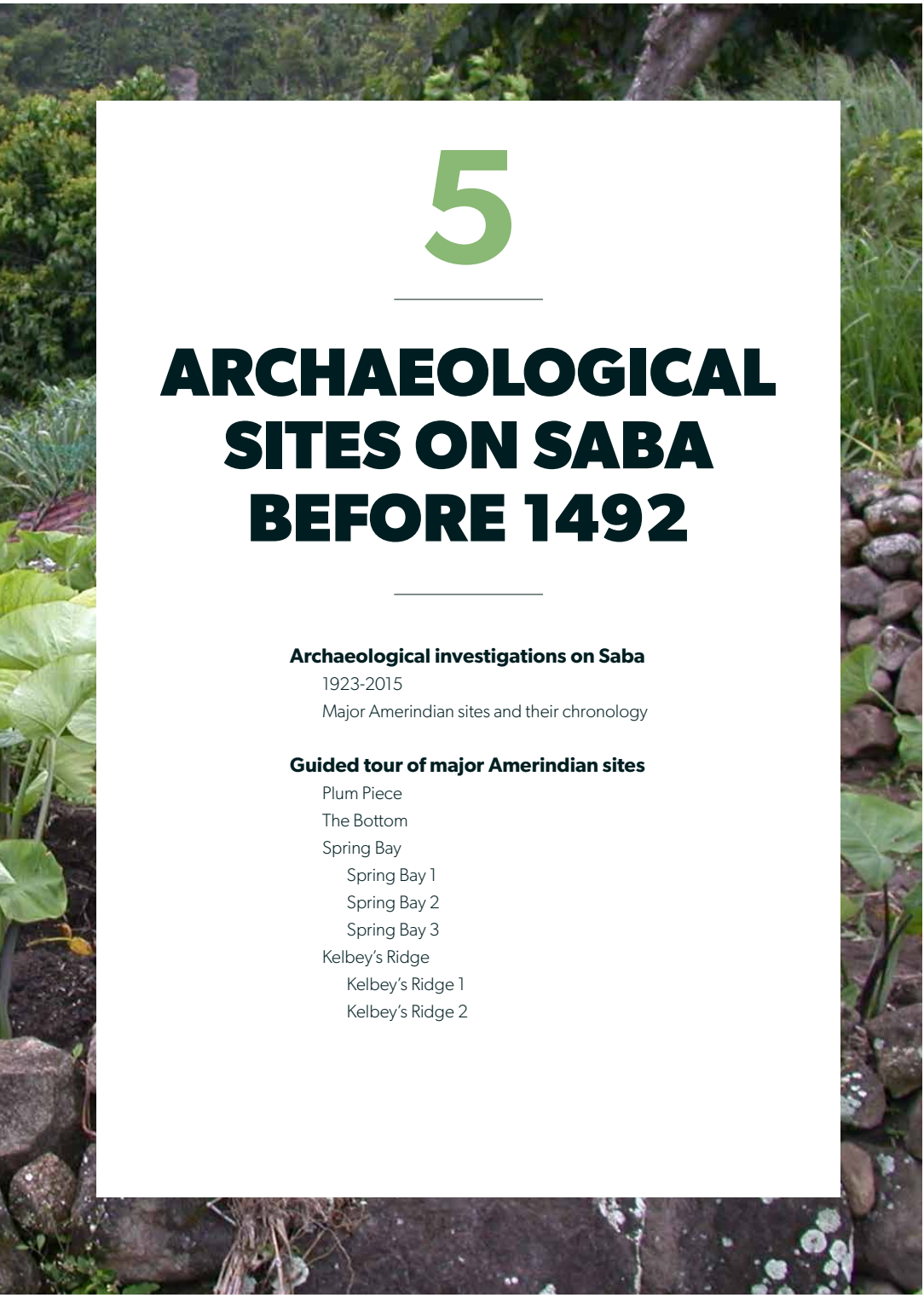
grave a fire was made and the personal belongings of the deceased were burned. After one or two years the grave was opened again in order to cover the body with layers of sand. If the deceased was a headman, his house was abandoned. Sometimes a long bone was taken from the grave and used in rituals of ancestor veneration. Worship of the ancestors was very important. The burials found in the excavations at Kelbey's Ridge 2 vary in complexity and both inhumations and a cremation occur. There are single and composite burials. In the latter case several individuals were interred in one grave pit. There are primary and secondary burials. In the case of a secondary burial the deceased was buried first, then the bones were exhumed and buried a second time.

Snuff inhaler made of manatee bone, in the shape of a fish, Kelbey's Ridge 2, AD 1300-1350. The inhaler was found with one of the burials (F068). It was painted on some parts and the eyes were inlaid with another material (maybe shell, stone or gold). Two hollow bird bones were used as snuff tubes in the gills of the fish.





Burial F 068 at Kelbey's Ridge including an adult male and the cremated remains of two children. The cremated remains have been deposited in the ribcage of the adult individual. The schema to the right shows the 6 steps in the burial ritual: 1) A child of 5 years old is buried inside the house, the cranium of a deceased 3 year-old child is kept in the house, 2) the adult male is interred in the house and desiccates near a fire, 3) the grave of the child is opened and the skeletal remains are collected, 4) the remains of the two children are being cremated, 5) the cremated remains are deposited in the ribcage of the adult, 6) the grave of the adult is filled and one of his long bones is kept in the house.



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ARCHAEOLOGICAL SITES ON SABA BEFORE 1492

Archaeological investigations on Saba

1923-2015

Major Amerindian sites and their chronology

Guided tour of major Amerindian sites

Plum Piece

The Bottom

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- Spring Bay 1
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- Spring Bay 3

Kelbey's Ridge

- Kelbey's Ridge 1
- Kelbey's Ridge 2

ARCHAEOLOGICAL INVESTIGATIONS ON SABA

1923-2015

J.P.B. de Josselin de Jong was the first to carry out archaeological investigations on Saba (1923). At the time he functioned as a curator at the National Museum of Ethnology, Leiden. De Josselin de Jong organized an archaeological expedition to the Netherlands Antilles and conducted research on all six islands. His publications of the 1940s belong to the earliest archaeological fieldwork reports on the archaeology of the Caribbean. On Saba he conducted excavations in The Bottom opposite the Anglican Church, taking the materials back to Leiden where they are still curated at the Museum of Ethnology.

It was not until the 1980s that archaeologists visited Saba again, at first Jay Haviser during the mid-eighties and subsequently Corinne Hofman and Menno Hoogland from 1987 onwards. Jay Haviser, then attached to the Anthropological and Archaeological Institute of the Netherlands Antilles (AAINA), made an archaeological inventory of the pre-colonial and colonial sites on the island in 1985. Hofman and Hoogland's research on Saba concentrated on Saba's first inhabitants and was initially funded by the Netherlands Foundation for Tropical Research (WOTRO) and was realized through cooperation between Leiden University and AAINA, with further aid from cultural organizations such as the Consultation Organ for Cultural Cooperation in the Netherlands Antilles (OKSNA) and the Stichting Nederlands Museum voor Anthropologie en Praehistorie, Amsterdam. The research resulted in two PhD theses, defended at Leiden University in 1993 and 1996 respectively, and numerous articles and books. Research by Hofman and Hoogland comprised many months of fieldwork on Saba between 1987 and 2006, then again in

Excavations by J.P.B. de Josselin de Jong in The Bottom in 1923. (after De Josselin de Jong 1947).

2012 and 2015, while the remaining time was spent in the laboratories at Leiden University. Their archaeological data have been complemented with information from historic and ethnographic sources from the circum-Caribbean area in order to get a better understanding of the social and cultural context of their findings. The pre-colonial era has always formed the focus of most research at Leiden University, concentrating on topics such as settlement patterns, burial practices, material culture repertoires, human mobility, and the exchange of goods and ideas. Currently, emphasis is laid also on the first encounters between Amerindians, Europeans and Africans in the Caribbean from 1492 onwards and the inter-cultural dynamics at play during the colonization of the islands. This approach emphasizes insights from different disciplines, including archaeology, archaeometry, bioarchaeology, geochemistry, network science, history, and ethnography. In the scope of this research trend there has always been strong reflection upon the archaeology and heritage preservation in the Dutch Antilles within a larger Caribbean frame

of reference. In 2012 the Saba Archaeological Center (SABARC) was founded which continues the investigation of the island's pre-colonial, but foremost colonial and recent archaeology.

MAJOR AMERINDIAN SITES AND THEIR CHRONOLOGY

Explaining the findings at Plum Piece to visitors of the site in 2006.

The find of four shell tools by geologists Roobol and Smith in the 1980s and the recent excavations of the Plum Piece and Fort Bay sites, in 2001-2006 and 2014-2015, confirm that Saba was first inhabited by Amerindians during the Archaic Age 3800 years ago. Where these people came from, is still an open question. While it has always been suggested that the Amerindian peoples moved from the South American continent into the islands in a stepping-stone manner, recent research suggests that they may have travelled from the west, thus coming from Puerto Rico or the other Greater Antilles. Very few sites from this period have been found south of Guadeloupe and the toolkit as well as the plant remains found at Plum Piece rather point to a connection with islands to the north. While the surrounding islands such as St. Martin have evidence of early Ceramic Age occupations with large permanent villages and full blown horticulture around ca. 200 BC, Saba was inhabited for the first time by Ceramic Age peoples around AD 400. This is evidenced by findings at the sites of Spring Bay 1a, Windwardside and Kelbey's Ridge 1. The style of pottery from this period is characterized by traits of the Cedrosan Saladoid subseries. The major period of Saba's Amerindian occupation, however, is situated between AD 800 and AD 1200. Archaeological sites dating to this period are The Bottom, St. John's and Spring Bay 1b, 2 and 3. The pottery from these sites belongs to the Mamoran Troumassoid subseries. The latest pre-colonial occupation of Saba is characterized by the sites of Spring Bay 1c and Kelbey's Ridge 2. Both of these sites provided evidence for occupation between AD 1200 and 1450, thus shortly before the European colonization of the Caribbean islands. Pottery from these sites shows affiliations to the Chican Ostionoid subseries of the Greater Antilles, but also to the Cayo complex of the Windward Islands.

Excavations at Plum Piece, 2006.

Excavation at Kelbey's Ridge 2, 2002.

GUIDED TOUR OF MAJOR AMERINDIAN SITES

PLUM PIECE

Faunal remains are sorted for identification in the laboratory. Plum Piece excavations 2001-2002.

The dirt is sieved through 1, 2 and 4 mm meshes to collect pottery, shell, coral, stone and faunal remains.

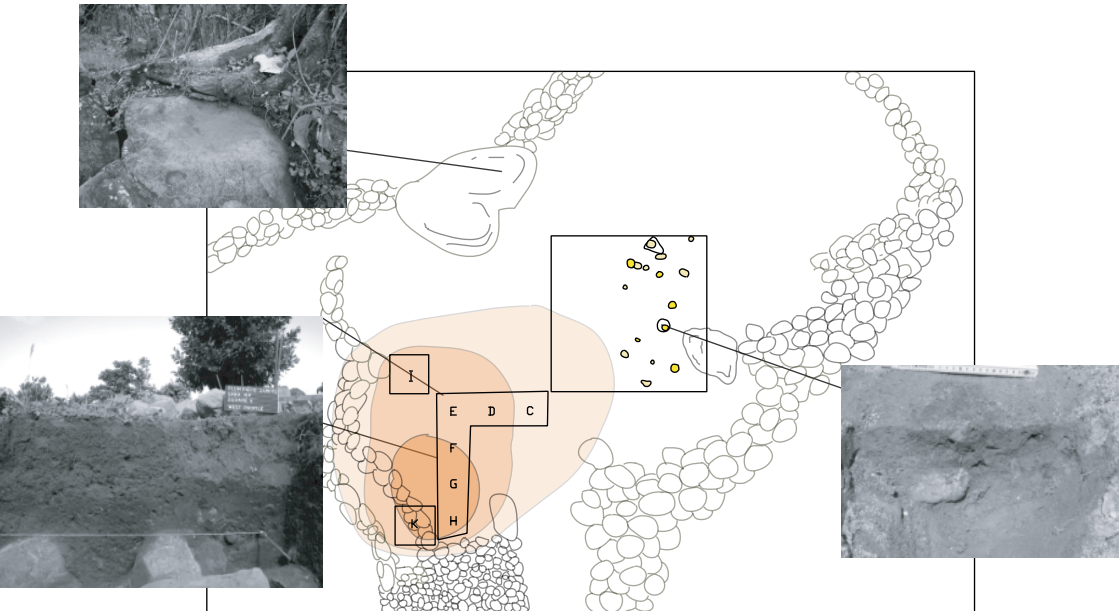
The site of Plum Piece was discovered by Mr. Carl Zagers and Mr. Will Johnson from Saba who found shell and stone tools whilst cultivating root crops. To date Plum Piece is the oldest known prehistoric site of the island. The site is situated in the northwestern part of Saba, at an elevation of approximately 400 m above mean sea level. This is a unique location as most archaeological sites in the Lesser Antilles are to be found near the coast, on beaches or near mangrove areas. The location of Plum Piece is favorable because it overlooks the cliffs at Mary's Point and provides a good view of Well's Bay and the ocean. A survey during the summer of 2001 confirmed the presence of an Archaic Age occupation at Plum Piece through the recovery of numerous pieces of flint and ground stone and shell tools from the site's surface. The area of the site is around 200 m^2; it has

Mr. Carl Zagers guiding the team along the Sandy Cruz trail to the Plum Piece site.

been preserved, in part, due to slope wash covering the archaeological deposit(s). A dense midden and a number of shallow postholes suggest intensive use of the area as a campsite at least about 3800 years ago. Excavations were carried out to obtain a better insight into the stratigraphy of the archaeological deposits as well as to collect a sample of cultural materials and faunal remains. This allowed getting a better understanding of the function of the site, its spatial organization and the practices of the people who occupied the site and exploited its environment. The faunal remains were collected to get insight into the dietary practices of Saba's Archaic Age dwellers and to gather information on their collecting and hunting techniques. The remains indicate a heavy reliance on terrestrial resources, notably the black crab (*Gecarcinus ruricola*) and Audubon's shearwater [*Puffinus lherminieri lherminieri*]). The marine resources targeted include pelagic and reef fish (mainly groupers,

surgeon fish, snappers, parrot fish, and grunts). Mollusks are virtually absent. However, conchs, from which tools like adzes, known from the site, were fashioned, may have had their meat extracted down at the beach of Well's Bay in order to supplement the diet. There is also evidence that cultivated root crops, fruits and grass seeds were part of the dietary intake.

The picture that emerges from the excavations at Plum Piece is that of a campsite occupied for the performance of specific activities, like woodworking for the building of canoes during the spring season (February-July). This period coincides with the nesting season of Audubon's shearwater and that of the spawning of the landcrabs. The toolkit used to process this food comprises grinding stones, pestles, mortars, shell tools, and flaked flint artifacts. The flint tools were used to process fibers. Flint was imported from Long Island (offshore Antigua), which is located 150 km to the southeast of Saba. The almost total lack of cortex on the flint material indicates that cores arrived at the site in a pre-worked condition. However,

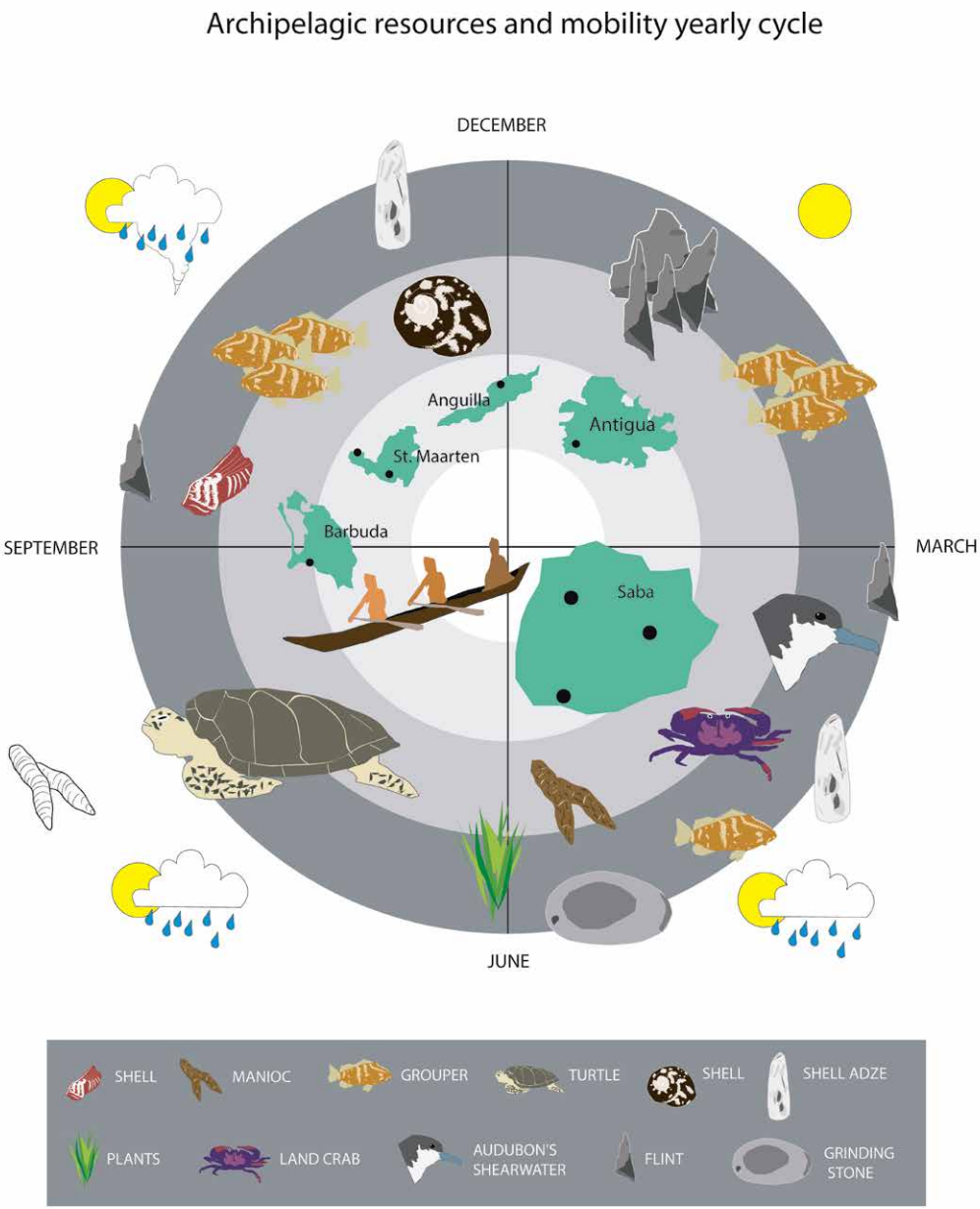


Plan view of the layout of the Plum Piece campsite with a refuse area (in orange) and postholes to the right. These postholes indicate the remains of small structures (probably made of wood and leaves) for residential purposes. In the upper left there is the grinding boulder for sharpening the shell adzes.

Excavating a trench through the refuse deposit at Plum Piece, 2001-2002.

Excavating postholes features at Plum Piece in 2006.

Excavation at Plum Piece, 2001.



Archipelagic resource and yearly mobility cycle hypothesized for the Plum Piece campsite, also involving the surrounding islands.

View of The Bottom.

the scarcity of cores suggests that they were transported further to enable tools to be made at other locations. All other stone tools were made from materials that were available on Saba's shores, but not in the surroundings of the site. The sizeable number of ground stone tools suggests that plants were processed at the site, either for consumption or for the extraction of fibers for the manufacture of baskets, mats or fish weirs. Recent micro-botanical analysis revealed starch grains and phytoliths on the grinding stones and multi-functional pounding and rubbing tools from Plum Piece. They show the processing of domestic plants such as maize, sweet potato and probably annatto (*Bixa orellana*), together with the processing and use of wild ginger (*Zingiberaceae*), arrowroot and calathea (*Marantaceae*), and mountain cabbage (*Prestoea montana*). One of the tools yielded evidence of the use of *marunguey* (*Zamia* sp.). This plant is not known to occur naturally in the Lesser Antilles and may have been imported from the Greater Antilles where it is widely distributed. This would suggest that *marunguey* acquired great economic or symbolic importance since early times, being distributed between the islands and likely circulating through particular interaction networks in which other plants and materials, peoples and ideas were also moving.

Excavations in The Bottom in 1988. The excavations units were set out in close proximity to the location where de Josselin de Jong has been digging in 1923, this is opposite the Anglican church in the garden of Mrs. Golda Sorton.

THE BOTTOM

The Bottom was the first known archaeological site on Saba as it was discovered by J.P.B. de Josselin de Jong in 1923. The site is located in the eastern part of the village of The Bottom, nowadays the capital of the island of Saba. The Bottom is situated in a bowl-shaped area, enclosed by Mount Scenery and a chain of lava domes at an elevation of 240 m above sea level. The Bottom has good access to soils suitable for horticulture as well as to tropical forest resources. Marine resources are less accessible, but available at Fort Bay. In 1923 De Josselin de Jong excavated part of the site. He observed a simple succession of deposits in

the vertical cross section of his first excavation unit. An undisturbed layer of about 30 cm thick, rich in prehistoric remains, was found on top of a sterile subsoil full of boulders. The finds included many pottery fragments and a moderate quantity of shell and bone fragments. The cultural layer was capped by a layer of 40 to 50 cm rich in shell fragments and many small Amerindian and colonial pottery fragments. In 1988 the excavations by Leiden University focused on the section of the site, located opposite the Anglican Church, in the garden of the property of Mrs. Golda Sorton. Two small test pits were dug, yielding mainly pottery, stone and shell tools, and some faunal remains. The pottery is similar to that of some of the Spring Bay sites and belongs to the Mamoran Troumassoid subseries. It is decorated with simple painted (white on red) and broadline incised designs, and often shows a red clay slip covering the surface. Characteristic are the pelican bowls, where the head and wings of the bird are applied by modeling. Very similar bowls are known from Anguilla. Most parts of the site of The Bottom have been discovered during construction works and the archaeological deposits are currently buried under the contemporary village.

SPRING BAY

Between 1987 and 1992 Leiden University conducted surveys and excavations at Spring Bay. Three pre-colonial sites were discovered with a total surface area of 3300 m^2. The sites were labelled Spring Bay 1, 2, and 3. They are all located in the southern part of the bay. Especially the coastal strip and the higher parts of the site area are affected by severe erosion.

SPRING BAY 1

Spring Bay 1 is situated at an elevation of 10 to 26 m above sea level. The site is located on a fan in the middle of the basin. This fan is triangular in shape and bounded by a rocky ridge in the southeast and Spring Bay Gut in the northwest. The area

Decorated pot sherds from The Bottom. The designs represent pelicans (head and wings) AD 1000-1200 (Collection de Josselin de Jong, Museum of Ethnology, Leiden).

⇢ *Excavations at Spring Bay 1, 1990.*

of the site reaches up to the steep escarpment of the seashore. The excavations revealed that the depth of the cultural deposits shows considerable variation, ranging from 20 to 80 cm. The deposits or midden areas consist of discarded artifacts and food remains. The artifacts include pottery and stone, shell, coral, and bone tools and ornaments (such as beads and amulets), and ceremonial paraphernalia (such as three-pointed objects, referred to as *zemis*). Three successive components

Painted pot sherds, Cedrosan Saladoid, Spring Bay 1a site, AD 400-600.

Adze made of St. Maarten greenstone. This raw material is brought in from Hope Hill, St. Maarten. The adzes are made on Saba in all Ceramic Age sites.

Excavations at Spring Bay 2, 1987.

have been distinguished within the Spring Bay 1 site: Spring Bay 1a (AD 400-600), 1b (AD 800-1200), and 1c (AD 1300-1450). The pottery of these distinct components is associated with the Cedrosan Saladoid, Mamoran Troumassoid, and Chican Ostionoid subseries, respectively. One burial has been found in the Spring Bay 1c deposit. It concerns the inhumation of a small child, buried in the midden deposit.

SPRING BAY 2

The Spring Bay 2 site is situated close to the mouth of Well's Gut, an area exposed to severe erosion. The site was discovered on the western bank of a relic gully during the survey. The site is in close proximity of the freshwater spring, which until ca. 1950 flowed in the lower course of Well's Gut, some 10 to 15 m from the sea. The geological survey revealed a relic gully, demonstrating the dynamics of the gully system. This relic gully is situated to the west of the current channel, evidencing either the horizontal instability of the lower course of Well's Gut or the course of the preceding gully noticed in one of the sections. Three units were excavated to the northwest of the gully. Two units were located on a slight rise in the terrain and most likely at the northern edge of the site. The other one was located partly in the relic gully and partly on its bank. The excavated surface totals 47 m².

Excavations at Spring Bay 3, 1989.

The distribution of the artifact categories reveals a spatial patterning in two clusters. There are minor differences in the composition of the clusters, but the two clusters differ significantly in composition from the assemblages of Spring Bay 1. The site is dated to AD 800-1200 and the pottery can be attributed to the Mamoran Troumassoid subseries. A number of spindle whorls, shell and stone tools, a stone bead, and flint and flake artifacts were recovered from the site. The assemblage of Spring Bay 2 differs greatly from those of Spring Bay 1 and 3, as pottery is overrepresented and shell and faunal remains occur

Excavations at Spring Bay 2, 1988.

only in low amounts. Although there is no hard evidence that the spring was functioning in prehistoric times, it seems to be plausible that at that time the seepage zone was a visible feature in the terrain. The location of the site close to the spring suggests that the site was associated with special activities: collecting freshwater and cleaning of cooking utensils. It has been noticed that the artifact scatter of Spring Bay 2 is connected to the site of Spring Bay 1 by a scatter of pottery along the coast, and to Spring Bay 3 by a scatter on the west bank of Well's Gut. On the other hand, the subsistence debris of Spring Bay 2 points to a regular discard behavior by the inhabitants of a shortly occupied, small settlement or a temporary camp. It might even be that the terrain near the spring was used as a campsite by passing expeditions.

Decorated red slipped pot sherd with modeled design, Spring Bay 2 site, AD 1000-1200.

Excavations trench at Spring Bay 3.

SPRING BAY 3

Spring Bay 3 was discovered during the survey of 1987. The site is to be found ca. 75 m from the mouth of Well's Gut at an elevation of 15-22 m above sea level. The site is located on the fan of a slope running down from Spring Bay Flat. The latter is located about 400 m southwest of Spring Bay at an elevation of 230 m above sea level. The slope is about 10° at the site area, but it increases at a distance of 60 m from the site. The mean gradient of the slope below Spring Bay Flat is 29°. The site is situated on an alluvial sediment, which is characteristic of the lower reaches of a gully. Towards the foot slope of Spring Bay Flat clayey colluvial deposits cover the southwestern part of the site. The site is composed of a scatter of surface materials with an area of 1000 m² and was initially interpreted as sheet trash in a habitation area. Its artifact density is low to moderate and there is a scarcity of shells in the surface collection. The outcropping cultural deposits were the reason for further excavation at the site in 1989. The first excavation unit was situated some 5 m from the outcropping deposits and measured 8x2 m. The major purpose was to check the nature of the archaeological deposits. As soon as it became clear that the site formed a small-scale refuse disposal area, it was decided to excavate this part of the site fully. In Spring Bay 3 a total area of 55 m² was excavated, of which in all 40 m² was located in a refuse dis-

1. *Wite on red painted pottery from Spring Bay 3, AD 1000-1200.*

1.

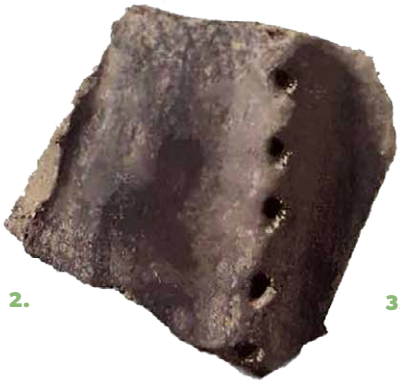
card area. Its contents are similar to those of the assemblage of Spring Bay 1, only with a somewhat higher percentage of pottery. The site dates between AD 800 and 1200 and the collected pottery can be attributed to the Mamoran Troumassoid subseries. Noteworthy finds are spindle whorls, a body stamp, stone tools, flint and flake artifacts, coral artifacts, beads, and two three-pointers (*zemis*), one made of coral and the other one of calcirudite. The combined data from the survey and the excavations provide a clear picture of the Spring Bay 3 site. The occupation area consists of a triangular terrain encompassing some 2500 m². The habitation area was most probably situated in the southern part of the area, indicated by the low density scatter. The deposition of artifacts in the channel seems more likely to be the result of erosion. Just as the refuse discard area of Spring Bay 1, the refuse layer is made up of several individual refuse dumps. The location of settlements in the basin of Spring Bay is quite unique for the Lesser Antilles. This is caused by the distinctive characteristics of the island of Saba: its small scale, sharp relief and relative inaccessibility.

KELBEY'S RIDGE

The area of the Kelbey's Ridge sites consists of level terrain of triangular form, measuring 0.9 ha. In the west it is bounded by a volcanic dome, which extends towards the south as a ridge.

2. Appliqué notched fillet decoration on pot sherd from Spring Bay 3, AD 1000-1200.

3. Horned appliqué on pot sherd from Spring Bay 3, AD 1000-1200.



2.

3.

The lava flow of Flat Point forms the northwest boundary. The top of the ridge has been eroded to bedrock while coarse-grained materials have been accumulated as a lag deposit on the upper slope. There is an accumulation of finer materials downslope. A substantial part of the site area is covered by this fine-grained material. According to local information, the area has been under cultivation until recently and is suitable for the cultivation of sweet potatoes and other root crops. The terrain is divided into a number of small properties, formerly utilized for small-scale subsistence cropping. Soil tilling was practiced by hoeing. The area was used as pasture land for goats and currently is partly a housing area. The Kelbey's Ridge site was discovered by Mr. Walter Gehrtz in 1986. He kept a small collection of Amerindian pottery sherds that he collected from the surface of the site.

Adorno with turle face, Kelbey's Ridge 1, AD 400-600.

KELBEY'S RIDGE 1

The 1988 survey by Leiden University revealed a distribution of prehistoric artifacts in two scatters. A series of 34 test units with a total surface area of 42 m² were excavated in 1988, subsequent to the survey. They confirmed that these scatters represented two different sites: Kelbey's Ridge 1 and 2. Kelbey's Ridge 1 is formed by an artifact scatter of some 350 m² in the center of the site area. The site is situated at an elevation of 140 m above sea level. A surface area of totally 25 m² was excavated, including a trench of 12 m². A patterned distribution of artifacts and subsistence remains could be discerned within the artifact scatter. While potsherds occurred in moderate quantities all over the site, there appeared to be a concentration of subsistence remains, primarily consisting of the exoskeletons of land crabs and shells, in the northeastern part of the site. This patch has a surface area of only 27 m². Beyond this patch the deposit consisted of a thick cultural layer showing a low artifact density. It comprised subsistence remains, primarily larger shell species such as *Cittarium pica* and potsherds.

View of the area at Kelbey's Ridge where the 1988-1992 excavations took place.

View of Flat Point and Kelbey's Ridge.

The ceramic assemblage can be attributed to the Cedrosan Saladoid subseries. Other finds recovered from the site include stone tools, flint and flaked artifacts, faunal remains, and one three-pointed stone (*zemi*) made of coral. The present data on this site point to a very small-scale occupation of the central part of Kelbey's Ridge during the Early Ceramic Age, between AD 400 and AD 600.

Excavations of features at the Kelbey's Ridge 2 site, 2002.

KELBEY'S RIDGE 2

Kelbey's Ridge 2 consists of an elongated, curved artifact scatter stretching along the ridge, showing a surface area of 2000 m². In 1988 15 test units were excavated within this artifact scatter. The test units revealed that from the middle of the flat the accumulation of colluvium gradually increases towards the east and the foothills of the ridge. As a result, the Amerindian occupation layer has largely survived here. On the other hand, along the ridge the impact of colonial and recent construction is severe. The ploughzone contains many colonial artifacts because in the eighteenth century a cistern and a house were built near the ridge. At the construction site of the present day house nine 2x2-m units (in all 36 m²) were excavated, revealing ten post-

Remains of an Amerindian cooking area containing lots of animal bones, Kelbey's Ridge 2.

holes, two fireplaces, of which one belongs to the colonial period, the foundation of a colonial house, and, finally, a refuse pit. The Amerindian occupation layer was found to be partly disturbed by the colonial features. In the field seasons of 1990 and 1991 the excavations were continued to the east of the construction site. In these years 22 units were excavated. One of these units was located in the northwestern section of the site. A total surface area of 382 m² was excavated between 1988 and 1991. This is about 19% of the estimated surface area of the site. The artifact composition is clearly different from that of Kelbey's Ridge 1. The size of the artifacts is small, suggesting high fragmentation due to trampling and colonial activities in the area. The artifacts collected from the occupation layer and the plough zone are unevenly distributed over the excavated area.

In all 562 features were documented of which 230 appeared to be natural. The remainder are considered to be of cultural nature, consisting of colonial and recent features (22), rectangu-

Modeled (notched fillet) and incised designs on pot sherds from Kelbey's Ridge 2, AD 1300-1350.

lar, round of oval-shaped pits (114), postholes (180), burials (7), hearths (4), and other features (5). Seven hut plans have been reconstructed. Hut plans 1, 3 and 4 are round or slightly oval structures with diameters varying from 8.5 to 9.5 m and average surface areas of about 63 m². Hut plan 5 is a somewhat larger structure with a surface area of 80 m². Inside the hut plans several patches of consolidated gravel were found, evidencing ramped hut floors. Two of the hut plans are associated with hearths. Hut plans 2 and 6 are rebuild phases, functioning as a cooking hut. Hut plan 7 is a shed or storage rack. Four pre-Columbian hearths were uncovered in the southeastern part of the site. Three of these features were completely excavated. They consist of a 5-20 cm thick ash layer and had an average size of 2x3 m. The four hearths are all located in the southeastern part of the excavated area. They are clearly aligned along the ridge and seem to occur in pairs. The texture of the filling of these hearths is very fine and the ash was very loose which suggests that it was spread out from the centers of the hearths by trampling. Seven burials including ten individuals were encountered in the central part of the site's excavated area. They are all located inside the hut plans. The burials vary in complexity and both inhumations and a cremation occur. All burials are characterized by the

1. Double head lug with bat motif, Kelbeys'Ridge 2, AD 1300-1350.

2.Red slipped bat head adorno, Kelbey's Ridge 2, AD 1300-1350.

1.

2.

interment of the deceased in a flexed, nearly seated position. Consequently, the size of the burial pits is confined and in case of adults restricted to a mere 75-85 cm in diameter. Most of the burials show evidence of being left open for a certain period of time. Burial gifts are not common, but there are traces of fire in and on the grave pits. The five single primary burials comprise one adult female (F148), one ca. 3-year old child (F337), two 12-year old children (F166 and F313), and one 5-year old child and of a cranium of a 3-year old child (F149). All of these child burials are incomplete; two of them have grave gifts (F337 and F313). The secondary burial comprises the interment of the cremated skeleton of a 5-year old child in the burial of a 50-year old male adult (F068). Most of the fragments belong to the skull and long bones of a child which are missing from another burial (F149). Both composite burials (F068 and F132) comprise an adult with a child. F132 yielded the skeleton of a 55-60-year old female and a primary burial of an infant aged 1-6 months, both in one and

Modeled head lug, Kelbey's Ridge 2, AD 1300-1350.

the same grave. The two individuals were not simultaneously interred, as the adult's skeleton is slightly disturbed. The second composite burial (F068) comprises two stages of interment. First the adult male was buried in a tightly flexed position, while subsequently the cremated remains of the bones of two children were interred in the chest cavity of the male.

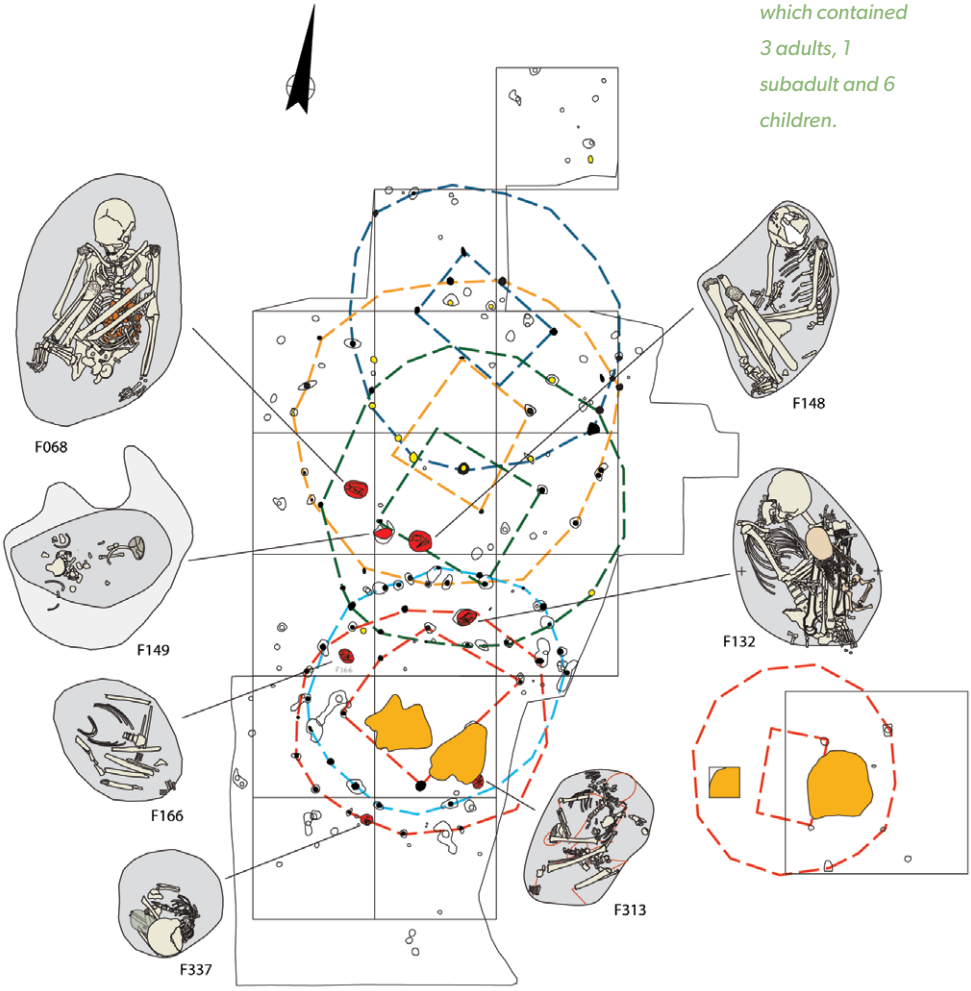
The pottery belongs to the Chican Ostionoid subseries. Other artifacts include spindle whorls (27), stone implements, flint and flake tools, shell and coral artifacts, beads and pendants, three-pointed objects (*zemis*) made of coral, and a snuff-inhaler made of manatee bone. The artifact distribution at Kelbey's Ridge 2 suggests that the refuse formed sheet trash scattered in the occupation area of the site, showing higher density locations in and near the hearths. The settlement area stretched along the ridge over a distance of 70 m. Apparently, the site area was divided between a

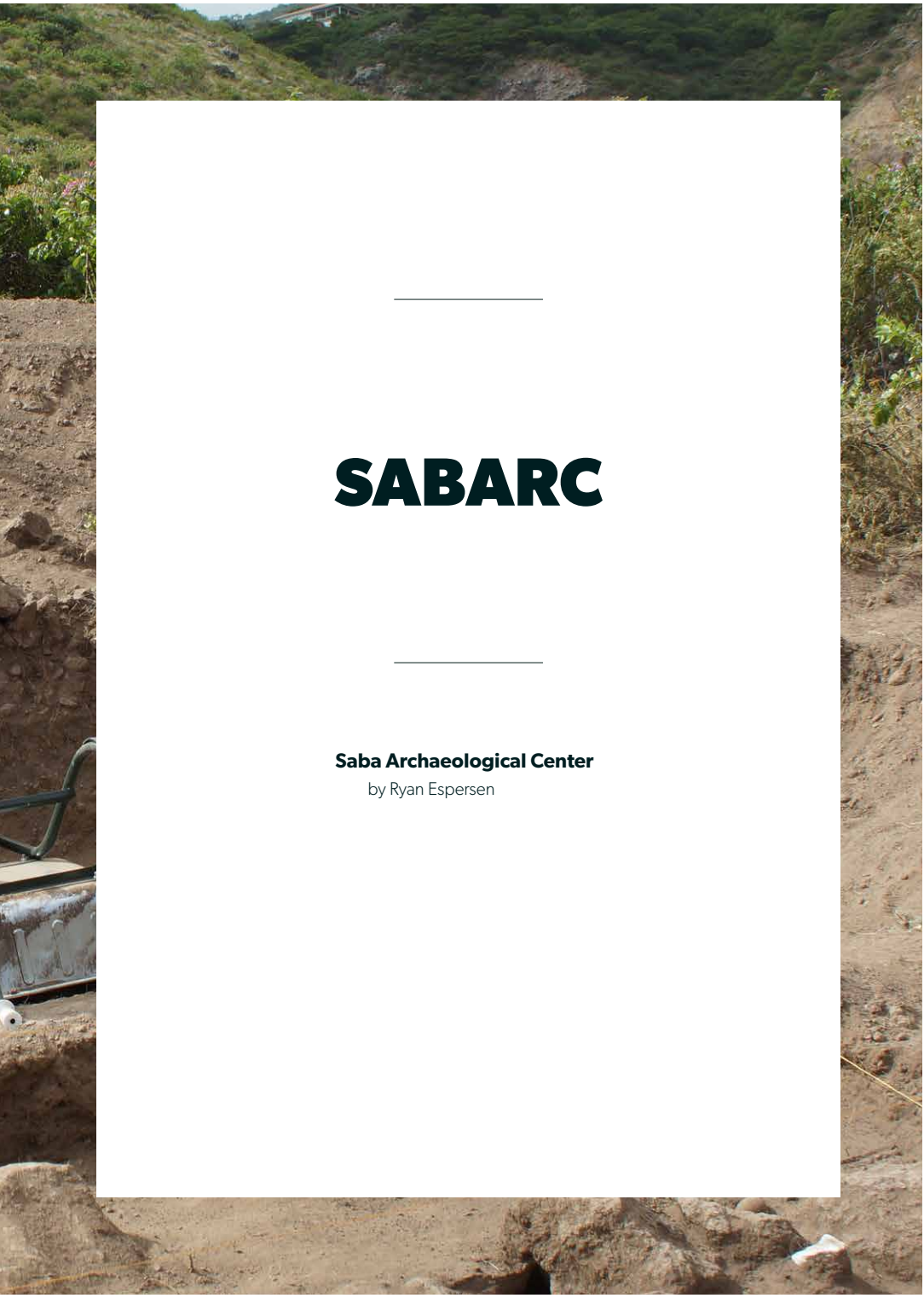
1. Modeled head lugs, Kelbey's Ridge 2, AD 1300-1350.
2.White slipped pottery with incised and punctated designs. Kelbey's Ridge 2, AD 1300-1350. This pottery is not made of local clays, these are probably imported pieces from the Greater Antilles (Dominican Republic).

number of households, each occupying one house compound linearly arranged along the ridge. A household compound consisted of one or more dwellings and a domestic area with fireplaces and a cooking hut. The front of the compound bordered a *plaza*. Although the uninterruptedly excavated area is restricted to a portion of the site, in all 19% of its estimated total, the archaeological interpretation of this part can be extrapolated to the site as a whole. The spatial arrangement of the household compounds is determined by the topography of the site. The number of household compounds that fit the site boundaries is four or five. The occupation of the site lasted at most about 50 years (AD 1300-1350). During this period the site was occupied by four or five household units simultaneously.

Decorated pot sherds with notched fillets, Spring Bay 1c site, AD 1300-1450. The small Spring Bay 1c component is contemporaneous to Kelbey's Ridge 2.

Seven house burials have been found at Kelbey's Ridge 2 which contained 3 adults, 1 subadult and 6 children.





SABARC

Saba Archaeological Center

by Ryan Espersen

⇢ *Dr. Jay Haviser, president of SABARC during excavations at Fort Bay, 2014.*

The Saba Archaeological Center (SABARC) is a non-profit organization on the island of Saba, Dutch Caribbean, dedicated to preserving and promoting Saba's cultural heritage through archaeology, history, and outreach activities, with an emphasis on involving island youth. This provides hands-on exposure and experience in the sciences, social sciences, and humanities, and allows them to participate in the discovery of their own history. SABARC staff also conduct small-scale archaeological excavation projects when necessary.

In 2012 SABARC was registered as a foundation in the Dutch Caribbean by Jay B. Haviser and Ryan Espersen. The current board consists of Jay Haviser as President, Vito Charles as Secretary, and Ryan Espersen as Director. SABARC has taken a wide range of heritage awareness and promotion initiatives. In 2013 SABARC established the 'Saba Heritage Trail' which is a hiking path that links two small sugar plantations excavated by Leiden University. The Saba Heritage Trail received recognition from the Dutch Royal Family and was opened in person by King Willem-Alexander and Queen Máxima of The Netherlands. SABARC has also participated in youth exchanges with neighboring St. Maarten (2012), did archaeological excavations ahead of the construction of a new electricity plant (2014), had SABARC youth present SABARC activities at a professional archaeological conference (2015), and mapped the shallows of the seabed around Saba with a side-scan sonar (2015). SABARC serves as a host for visiting research institutions, in particular Leiden University, through the Saba Heritage Center (SHC). This multi-functional locus serves as SABARC's base of operations. The SHC was funded in part by Leiden University and the ERC-NEXUS 1492 project, and includes artifact displays, a media room exhibiting documentaries of SABARC activities and historic videos of Saba, a room for recording oral history and digitizing old films, historic document storage, artifact storage, and an archaeological laboratory.

⇢ *Excavations of the Archaic Age occupation layer at Fort Bay in 2014.*

GLOSSARY

By Arie Boomert and Corinne L. Hofman

Arawak: (1) Amerindian ethnic group, also known as Lokóno, in the coastal zone of the Guianas, which formerly extended onto the Orinoco Valley and Trinidad; (2) Amerindian language family distributed from Amazonia to the Guianas, the Orinoco Valley, and the Antilles as far north as Cuba and the Bahamas.

Archaic Age: Stage in the development of Amerindian culture and society, characterized by a subsistence economy based on hunting, fishing, collecting, and incipient horticulture or plant management, and a technology typified by stone, bone and shell artifacts, often lacking pottery. Although several sites, mostly in the Greater Antilles have provided evidence of pottery manufacture.

Black Carib: Offspring of the Island Carib and enslaved Africans, escaped especially from Barbados, who organized themselves as an Amerindian people on St. Vincent, adopting language, culture and society from the Island Carib. Most of them were relocated to Central America by the British in 1797.

Carib: (1) Carib and Arawak-speaking people, Amerindian ethnic group in the Guianas, the Orinoco Valley, Trinidad, Tobago, and the Lesser Antilles; (2) Amerindian language family distributed from Amazonia to the Guianas, the Orinoco Valley, and the Lesser Antilles.

Cayo: Late-precolonial to colonial Amerindian pottery complex in the Windward Islands and the southern Leewards, most likely representing the Island Carib earthenware. There are about 20 Cayo sites identified in the Lesser Antilles to date, one of the best known is the Argyle site on St. Vincent.

Cedrosan Saladoid: Amerindian cultural subtradition of the Saladoid series, distributed in the Guianas, the Venezuelan coastal zone and the West Indies as far north as eastern Hispaniola, marking the early and middle parts of the Ceramic Age.

Ceramic Age: Stage in the development of Amerindian culture and society, characterized by a subsistence economy based on hunting, fishing, collecting, and fully developed horticulture, and a technology typified by pottery, and stone, bone and shell artifacts.

Chican Ostionoid: Late-precolonial Amerindian subtradition of the Ostionoid series, distributed in Hispaniola, Cuba, Puerto Rico, and the Virgin Islands, with outposts in the western Leeward Islands, including Saba.

Cohoba: Hallucinogenic snuff taken by the Taino when worshipping zemis. The hallucinogenic has been identified as Anadenanthera peregrina. In the snuff inhaler from Kelbey's Ridge 2 remains of this substance have been identified.

Griddle: A thick, ceramic plate-like disc on which cassava bread or cakes of root or seed crops were cooked.

Igneri (Ieri/Eyeri): Non-ethnic name (meaning 'people'), given to the Amerindians of which the Island Carib believed that they had to defeat prior to their mythical conquest of the Windward Islands. Guillaume Coppier mentions Igneri living on Saba in the early 17th century.

Island Carib: Part of the Carib that inhabited the Windward Islands and southern Leewards, of whom the females spoke Arawak, while the males used Arawak with an extensive Carib vocabulary.

Kalinago: Name the Island Carib men gave to their people.

Mamoran Troumassoid: Amerindian cultural subtradition of the Troumassoid series, distributed in the Leeward Islands during middle and late-precolonial times.

Midden: Deposit of food remains, discarded artifacts, and other garbage.

Ostionoid: Amerindian pottery tradition ('series'), distributed in the Greater Antilles and Virgin Islands during middle and late-precolonial times.

Saladoid: Amerindian pottery tradition, marking the start of the Ceramic Age in the Orinoco Valley during the third and second millennia BC, and distributed throughout the Orinoco Valley, Trinidad, the western part of the Guianas, and the Antilles as far north as east Hispaniola. The Saladoid series is named after the Saladero site in Venezuela where this pottery has been first identified.

Taíno: Term applied by 19th-century anthropologists collectively to most of the pre-colonial, Arawak-speaking, Amerindian peoples of the Greater Antilles and Virgin Islands.

Zemiism: Animistic religion of the Taíno in the West Indies, involving the invocation of zemis, spirits or supernatural beings, often residing in objects.

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SABA'S FIRST INHABITANTS

A story of 3300 years of Amerindian occupation prior to European contact (1800 BC- AD 1492)

This book tells the story of the indigenous inhabitants of Saba prior to European colonization, based on 30 years of archaeological research conducted by Leiden University in collaboration with the government and people of Saba.

The pre-colonial history of Saba begins around 3800 years ago with the first fishers-foragers and plant managers occupying the interior of the island at Plum Piece, Fort Bay, The Level and Great Point. The exceptional character of Saba with its volcano, diverse vegetation, and fauna, attracted Amerindian communities from the prime episode of human occupation of the insular Caribbean, first on a temporary basis and later, from AD 400 on, permanently. They then settled in Spring Bay, Kelbey's Ridge, Windwardside, St. Johns, and The Bottom just like today. Their villages consisted of a series of dwellings of wood, fibres and leafs, surrounded by hearths and garbage dumps. The deceased were buried in the village, often under the floor of the houses.

The Amerindians on Saba maintained extensive relationships with communities and kin on neighbouring islands. The artefacts which have been found on Saba show these connections.

Sidestone Press

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