Chapter 6

Remotely Local: Ego-networks of Late Pre-colonial (AD 1000-1450) Saba

Saba, Oh Jewel most precious,
In the Caribbean sea.
Mem'ries will stay of thy beauty,
Though we may roam far from thee.

Excerpt of Saba's anthem *Saba you rise from the ocean*

In this chapter the multi-levelled networks attested in the archaeological record of the 14th century Saban site of Kelbey's Ridge 2 will be traced from an ego-network perspective (Freeman 1982; see Chapter 3). This is done in order to explore through its ego-network how one can best characterize what type of site Kelbey's Ridge 2 was. This is interesting because it provides a window on the socio-cultural dynamics of a community in what some have considered a fringe area (Rouse 1992). What is more in order to show how these networks developed I will also contrast the ego-network of Kelbey's Ridge 2 to that of the earlier Spring Bay 1 site (cal. AD 1000-1200). This follows up on the regional networks discussed in the previous chapter and provides a view of how these regional networks developed in the late pre-colonial period.

Saba, the island on which these sites are located, is one of the smallest, inhabited Lesser Antillean islands. It has an area of only 13 km^2, and, since it is a mountainous, volcanic place, has many steep slopes and very few level surfaces. Therefore at present it does not boast large settlements or extensive agricultural fields, a feature which also characterizes its pre-colonial habitation. However, aside from its stunning natural beauty and the friendly local population, Saba has another great treasure: the Saba Bank. This bank is the largest submarine atoll of the Atlantic Ocean, located *c.*4 km southwest of the island and provides a very rich fishing ground. As a result the sea is one the mainstays of the modern local economy, as is still the case in the present.

Saba is also one of the best archaeologically understood islands of the Caribbean. During the 1920s archaeological research here was initiated by the Leiden University-based cultural anthropologist J.P.B. de Josselin de Jong (1947). The island did not see any further research until the early 1980s, when Jay Haviser (1985) carried out a 10-day survey. During the late 1980s, Corinne L. Hofman

and Menno L.P. Hoogland, also researchers from Leiden University, started a fieldwork programme that continues until today. In the course hereof several pre-colonial sites have been excavated including the earliest sites with evidence for human habitation (Plum Piece: Hofman, Bright *et al.* 2006) up to the late pre-colonial period (Kelbey's Ridge 2 and Spring Bay 1c: Hofman 1993; Hoogland 1996; Hoogland and Hofman 1999, 2013) and the majority of the cultural phases in between. One of the, due to the small size of Saba perhaps counterintuitive, results of this ongoing research project is that the island has played a central role in the interaction networks of the Northeastern Caribbean. This is attested by a variety of multi-disciplinary lines of evidence, including household archaeology, ceramic decorative and technical stylistic analysis, petrographic and geochemical ceramic analysis, lithic provenance studies, zoo-archaeology, osteo-archaeology, thanatology, isotope and dental anthropological studies (e.g. Hofman 1993; Hofman, Isendoorn, *et al.* 2008; Hoogland 1996; Hoogland and Hofman 2013; Laffoon 2012; Mickleburgh and Pagán-Jiménez 2012).[1]

The site assemblage showcases that even a small community in a relatively marginal local environment was impacted by and exercised at least some influence on networks stretching across the Northeastern Caribbean. Another benefit for a network study of the site is that the settlement was probably discontinuous with previous habitation phases of the island and relatively short-lived with a period of occupation of only 50 years (Hofman 1993; Hoogland 1996; Hoogland and Hofman 1999). This leaves a relatively small window of time spanning a few generations in which the site was occupied. As we shall see, this relatively small window of occupation did not prevent the inhabitants of Kelbey's Ridge 2 to have been a well-integrated part of regional and interregional networks.

Thus far only a single other site, Spring Bay 1c, has been found on Saba that may have been contemporaneous with Kelbey's Ridge 2. Spring Bay 1 is a multi-component Ceramic Age habitation site, which was abandoned and reoccupied a number of times after its initial settlement in *c.*AD 350. Spring Bay 1c is located close to the site of Kelbey's Ridge 2, and consists of an extensive midden area, comprised predominantly of faunal food refuse, particularly crab. A single burial was recovered from the upper levels of one of the trenches. Radiocarbon dating of the infant interred here indicated a date of 535 ±85 B.P., (Cal. AD 1450), making one component of the site, Spring Bay 1C, roughly contemporaneous with the occupation of Kelbey's Ridge 2. This assumption is also supported by close similarities between the ceramic assemblages of Kelbey's Ridge 2 and Spring Bay 1c (Hofman 1993; Hofman and Hoogland 1991; Hoogland and Hofman 1991, 1993, 1999).

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1 This chapter is based on close cooperation with various members of the Caribbean Research Group at Leiden University, most notably Corinne Hofman and Menno Hoogland. Aside from the fact that the network discussed here is based on their previous studies, they commented extensively on drafts of the text, invited me to their January 2013 field trip to Saba, and provided additional information. With Corinne Hofman and Menno Hoogland as co-authors, a more theoretical and methodological discussion of this ego-network case-study will be featured as a paper that is currently under review for publication in a special issue on archaeological network analysis for the Journal of Archaeological Method and Theory (to be published in 2014).

The potential of a network model centred on one site has not often been explored in archaeology – discounting the socio-spatial networks of space syntax approaches (Hillier and Hanson 1984). However, no network theoretical reason would prevent such a construction (see Mol and Mans 2013). As with inter-site or other regional networks, the limitations for network modelling and analysis within sites are generally speaking practical. They rely upon the depth of understanding of relations within site assemblages. The record of Kelbey's Ridge 2 and its island neighbours provides enough detail to present at least some cautious inferences concerning networks in the Northeastern Caribbean. In contrast to the regional study of the previous chapter, this second network case-study of one site assemblage therefore provides a more localized insight in pre-colonial Caribbean networks.

This insight is of particular interest to evaluate existing hypotheses on what sort of community Kelbey's Ridge 2 was. Based on the identification of a set of "Taíno" elements, Hoogland and Hofman had originally proposed that Kelbey's Ridge 2 was a colony or outpost that had links with a Greater Antillean *cacicazgo* (Hoogland and Hofman 1999). After reviewing the evidence they have recently suggested four reasons why this type of community may have developed on Saba (Hofman and Hoogland 2011: 28-30). Firstly, Kelbey's Ridge 2 could have been a group of "refugees", settling there after fissioning from a Greater Antillean community. Conversely it may have been the case that Saba was settled as an outpost of a *cacicazgo* and served as a gateway to the more southerly located Antilles and the South American mainland. Another incentive to reside in Saba may have been the wish of a politically independent group to control and exploit the rich resources of the Saba Bank. Finally, Hofman and Hoogland consider that a combination of these factors may have been involved "in which the first option represents an incentive for colonization, whereas the second and third options legitimize the existence of this small outpost largely socio-politically and economically dependent on the Taíno heartland" (*ibid.*: 30).

In the latter part of this chapter I will explore these hypotheses and those of other researchers dealing with the position of the site in the region. This will be done by looking at the centralities of nodes in the ego-network and by trying to identify dominant relational models in the archaeological record of Kelbey's Ridge 2. I suggest that in the first hypothesis, the "refugee"-model, one may expect that intra-communal relations are strong and the most central. The dominant model of relation in such a secluded community may be one of Communal Sharing or, if there were strong authority figures present, Authority Ranking. One would expect little or no importance for regional ties and Equality Matching or Market Pricing models. The "outpost model", with its political strategic importance and gateway to trade in the region, would see a dominance of Authority Ranking mixed with Equality Matching or Market Pricing relations and an emphasis on interregional ties. Thirdly, the "entrepreneur model", viewing the community as a group that seeks to control raw material sources and rich fishing grounds, would see Market Pricing as the dominant relation and a central role for nodes and ties in the region and perhaps between regions. Finally, the "mixed model" would have an ego-network that has a mixed set of most important ties and no clearly dominant model of relations.

Northeastern Caribbean geographic networks continued

Kelbey's Ridge 2 lies on a flat terrain located at *c.*140 m. above mean sea level in the Northeastern part of the island. This vantage point commands a clear view of the surrounding bays and coastal valleys, which provide some of the few spots on the island that would have been suitable for canoe landings. The strategic location Kelbey's Ridge 2, a vantage point with access to the sea that was still relatively difficult to access from the coast, clearly suggests that maritime routes and interisland interactions held some larger importance for the people living there. A further characterization of the geographic location of the island of Saba itself should thus be helpful to understand the position of the community in the networks it participated in. Chapter 2 already featured a rough network characterization of the geographic layout of the Northeastern Caribbean islands and island regions by means of Proximal Point Analysis. However, "Maximum Distance Networks" or MDNs (Evans, *et al.* 2012), based on a series of fixed geographic radial distances rather than a fixed number of geographically close communal ties, present another view of the geographic integration of the region.

As with the PPA-model, the distances in this fixed radius model are based on straight travels across open sea, rather than overland distances. Straight lines across open bodies of water were drawn between the headlands of islands, which were once again islands larger than 10 km^2 and island regions of islands that were larger than 1000 km^2. Needless to say, the connectivity in the network is greatly influenced by the distance chosen for the cut-off point of the ties. Based on the data of the *Ioumoúlicou* project (Bérard, *et al.* 2011; Billard, *et al.* 2009), a stretch of 30 km of open sea travel was taken as the base-line for a cut-off point. Rather than with regular fixed radius models this distance was applied in iteration to create multiple spheres of distance: model 1 0-45 km (Figure 6.1.a), model 2 0-105 km (Figure 6.1.b), model 3 0-195 km (Figure 6.1.c), model 4 0-285 km (Figure 6.1.d). These ranges were kept broad in order to take into account variability in sea currents, winds and approximate distances between islands. As such, rather than treating them as absolute distances, another way to consider these ties is in relation to Bérard's statement that an open sea voyage of 30 km is a strenuous day trek for him and his crew. Thus, roughly speaking, model 1 refers to a 1-2 day trip, model 2 to a voyage of up to a few days, model 3 to one that would have taken up to several days, while model 4 concerns all ties between islands that could have been reached by a return journey that would probably have lasted at least several weeks.

Model 1 shows only connections between islands located in the proximity of other islands. As a result the overarching area is broken up into multiple island networks consisting of five larger components and three individual nodes. This view can be equated to inter-island travel within archipelagos or in the case of Puerto Rico and Guadeloupe journeys that connect regions within larger landmasses. Model 2 is a network that links both close islands and networks at more extended distances. This model resembles the PPA-network in that it separates the area into two larger network components separated by the Anegada passage (see Figure 2.1). There are also some differences, such as the relative geographic remoteness of East Hispaniola. From the perspective of the more easterly located islands, it is

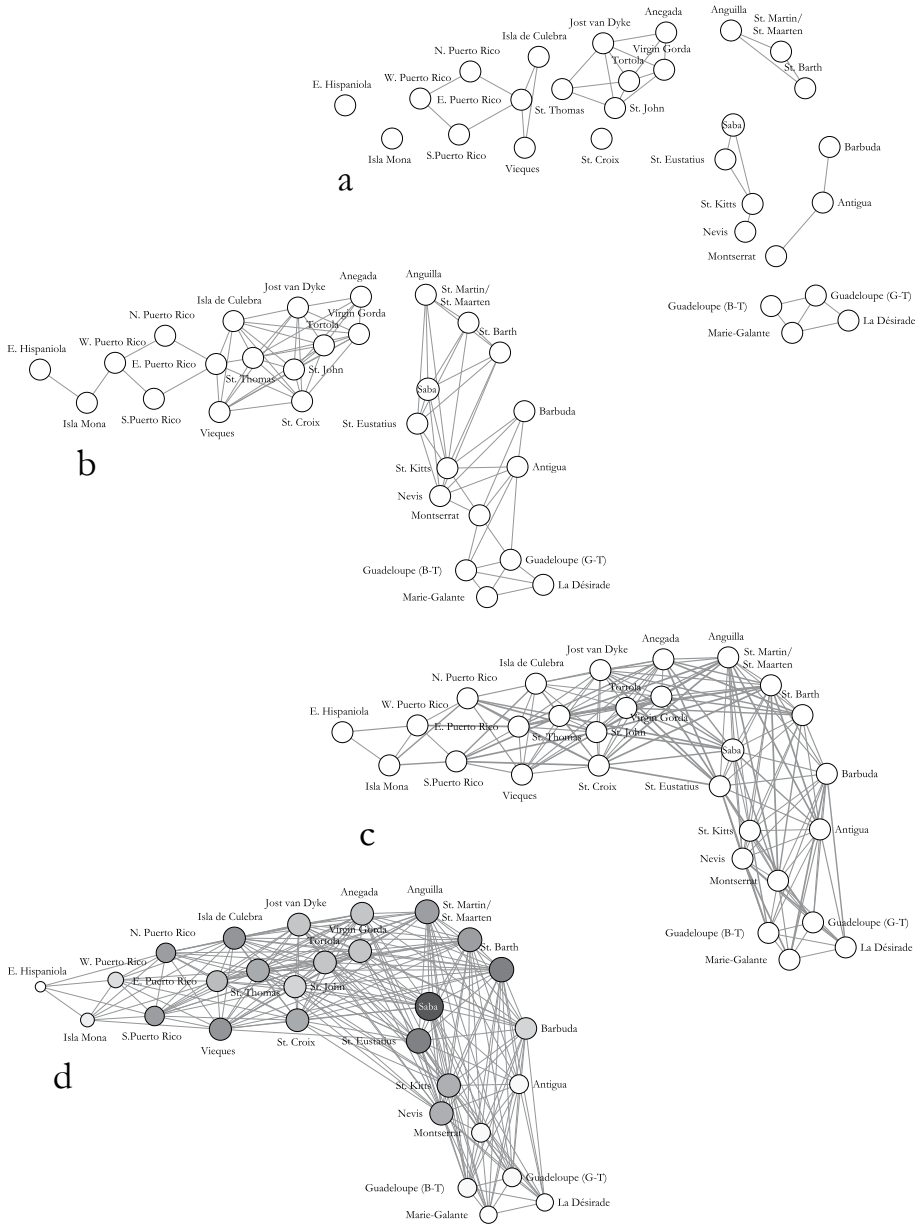

Figure 6.1: MDN of the Northeastern Caribbean. a: 0-45 km; b: 0-105 km; c: 0-195 km; d: 0-285 km. degree centrality is indicated by means of node size. Betweenness centrality is indicated by means of node colour from light (low) to dark (high).

only reachable through Isla Mona, which in turn only connects to Western Puerto Rico. Furthermore, while the northern Lesser Antilles displays a "string of pearls" layout, it is clear that there are multiple paths through the islands and that a strict island by island stepping-stone journey would not be required when setting off on extended open sea-voyages.

The extended distance models 3 and 4 show a fully bridged Northeastern Caribbean. In Figure 6.1c the network model variant of the Anegada passage is now closed by means of seven ties with distances ranging between 105-135 km between certain locations on the Virgin Islands and the islands of Anguilla and St. Maarten. At the 105-165 km, range Saba and St. Barth's also connect to several islands in the Virgin Island archipelago for a total of sixteen ties in total. At the 195 km-plus range (Figure 6.1d), the Anegada passage is crossable at least sixty-six times. In this last model the average degree of nodes is 16.25 (median = 18), implying that a generic island within this region linked to sixteen or seventeen other islands within 300 km. In network terms, therefore, for those prepared to set off on extended, often open sea voyages, the Northeastern Caribbean was quite well traversable with points of departure linked to a high number of destinations that could be reached within a couple of weeks travel.

On the other hand, the shear geographic size of the area should not be underestimated, even in networks of extended travel distances East Hispaniola and Guadeloupe are still separated by three steps. Indeed, with two hundred twenty-six ties connecting twenty-nine nodes even at these scales the network is far from being perfectly connected.[2] Even with a relatively large fixed distance radius, the geographic network of islands in the Northeastern Caribbean holds the middle between a small-world network and a dense lattice model. Looking at the relative centralities of nodes in the network is also insightful, especially in the case of Saba. Considering the progressively larger fixed radius models it becomes clear that the structural position of the island of Saba is advantageous at every level. Together with St. Eustatius, St. Kitts and Nevis it is part of a two-clique component, forming an extended archipelagic system at the lower distance ranges. In model 2 this two-clique has expanded to include the majority of the Leeward Islands, except for the Guadeloupe archipelago. Within this larger region Saba does not seem to hold a specifically central position (see below), yet looking at the extended distance models (Figure 6.1b and 6.1c) it is obvious that Saba holds a pivotal geographic position in connecting the Greater Antilles and Leeward islands. In this regard it is even more centrally located in terms of degree than other strategically located islands such as Anguilla, St. Martin and several Virgin Islands. In fact, Saba ranks much higher than these other islands in terms of its betweenness centrality (9% of the relative betweenness measures versus 4.5-7% for the other islands). This implies that aside from being a highly connected point of departure it is also located on the majority of the shortest, fixed radius paths across the archipelago. This geographic model allows for a preliminary and tentative approximation of Saba as a small but strategically located place in the Northeastern Caribbean (cf. Hoogland and Hofman 1999).

2 The density is 29%.

Local, region and interregional ties at Kelbey's Ridge 2

The post-hole patterns of the house structures recovered at Kelbey's Ridge 2 are quite important for the understanding of the patterns in the site ego-network, because several key features of its archaeological record can be linked to them. Seven structures were originally identified at Kelbey's Ridge 2, of which five or possibly six were round houses, measuring between 5 and 8 m. (Hoogland 1996). The site's house structures seem to have been rebuilt and moved a number of times, with at least four phases in the house's trajectory (Hoogland 1996; see also Samson 2010 for an Eastern Hispaniolan example hereof). Other features at the site point to an area that integrated residential, food preparation, and ceremonial spaces. Because the site has been partially destroyed it is not completely clear whether there was more than one residential structure present at any one time during its 50 years of occupation, but it is presumed that community members spent most of their time in a shared and mostly open living space.

The ceramic assemblage of Kelbey's Ridge 2 was quite large (sherd n = 33.000) but due to depositional processes most sherds consisted of small, often badly weathered fragments. Only 0.7% of the sherds was decorated. Based on these and other features, Hofman (1993) characterised the ceramics as belonging to the Chican Ostionoid subseries, which is only loosely related to the preceding Mamoran Troumassoid series or the Suazan Troumassoid of the more southerly located islands (Allaire 1977; Bright 2011). Other lines of evidence, for instance the absence of scratching, various pot shapes and burnishing, also clearly indicate a break in tradition with earlier ceramic assemblages found on the island.

Provenance analysis of the clays of a collection of ceramic sherds from Saba has shown that *c.*66% of the clays used for making ceramics by both the inhabitants of previous occupation phases and the later Kelbey's Ridge 2 settlement were locally obtained (Hofman, Isendoorn, *et al.* 2008). Two locations on the island, Rendezvous Point and Booby Hill, provided clay of sufficient quality to produce pots. Due to high non-plastic grain content, low-firing and high shrinkage, the local types of clay often resulted in pots that were easily cracked or broken. One source on the nearby island of St. Eustatius yielded more workable clay and, in addition, a clay suited for the production of the red slip found on 3.2% of the pottery assemblage (Hofman 1993). The islands of St. Martin/St. Maarten and Anguilla had several workable clay sources, which would have perhaps been procured by peoples living on Saba. An analysis of the clay microscopic fabric hints at this. Although most types of clay show microscopic inclusions (as is normal for clay from volcanic islands), certain sherds have inclusions only found in clay sources from limestone islands. Even if this does not prove that clay was procured at a specific location, it shows that several types of clay or perhaps even finished pots were procured from Saba's immediate island neighbours (Hofman, Isendoorn, *et al.* 2008; Hofman, *et al.* 2005).

The zoo-archaeological assemblage, dental anthropological studies, and carbon and nitrogen isotopic studies of the diet illustrate that subsistence practices at 14th century Kelbey's Ridge 2 were mostly oriented towards the procurement of marine foods. This is in line with expectations acquired from other, similar sites

in the Northern Lesser Antilles. The community resided in close proximity to the rich fishing grounds of the Saba Bank, of which it probably took keen advantage. However, osteological analysis of the skeletal material encountered at the site also suggests it was not a necessarily highly affluent community. Pathologies and wear patterns reveal that the inhabitants of Kelbey's Ridge 2 led arduous lives, with heavy physical activity. In addition, the composition of the burial assemblage suggests a large mortality rate among infants (Hoogland 1996; Weston 2010).

The site layout and size, structural, locally marine oriented subsistence patterns, and local procurement of most raw materials together, present a first rough characterization of 13th and 14th century Saba as a small social network. In such a network members would all have been in frequent and close social contact, perhaps the majority of them being related. Even if this was a settlement consisting of colonists without previous blood or affinal relations, living and providing together would have forced them to literally become close, with all the social bonding and friction implied.[3]

This is prominently reflected in the manner in which the individuals were interred at Kelbey's Ridge 2 (Hoogland and Hofman 2013). Seven pits containing the remains of eleven individuals were found during excavation.[4] Their bodies were placed in small round or oval burial pits in a seated, strongly flexed position. Mortuary practices at the site are quite distinct from the local and wider region (Hoogland 1996; Hoogland 1999). For example, it features the only documented case of cremation in the Lesser Antilles – a burial practice more popular in the Greater Antilles (Hoogland 1999; Mickleburgh 2013). It is also out of the ordinary that many of the individuals found at Kelbey's Ridge 2 are secondary interments of infants with older adults (Hoogland 1996; Weston 2010). The deceased were kept in open burial pits and bones were removed from interments. The open pits or removed bones served to materially anchor (part of) the deceased community member within the social networks of the living.[5] Body and body parts of dead individuals were regarded as more than just mementos, however. From an Amerindian point of view dead bodies were not soulless and at least part of his or her "life-force" remained inside the body after passing away. (Chacon and Dye 2007; Hofman and Hoogland 2004; Petersen and Crock 2007).

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3 Analogous types of kin networks and the social contracts and conflicts that accompany them have been extensively documented by Lowland South American ethnographers, among other works serving as the main subject of works such as the classics *Les structures élémentaires de la parenté* by Claude Lévi-Strauss (1949) and *Individual and Society in Guiana* by Peter Rivière (1984). See Ensor (2013) or Keegan (2007) for Caribbean archaeological perspectives on kin networks. See Mol and Mans (2013) for a network case-study that contrasts contemporary Guyanese and proto-contact Hispaniolan indigenous kin networks and the distribution of material culture in them.

4 Note that the part of the population that is normally most active – male and female adults – are not represented in the burial assemblage (Weston 2010; Hoogland and Hofman 2011). Hoogland and Hofman (personal communication, 2013) suggest that this may have to do with the fact that the adults that were part of this community would most of the time be away from the settlement on extended fishing or exchange voyages and that after death their remains would not have been brought back to the site.

5 See Hoogland and Hofman (2013) for a more extensive description and interpretation of the burial practices encountered at Kelbey's Ridge 2.

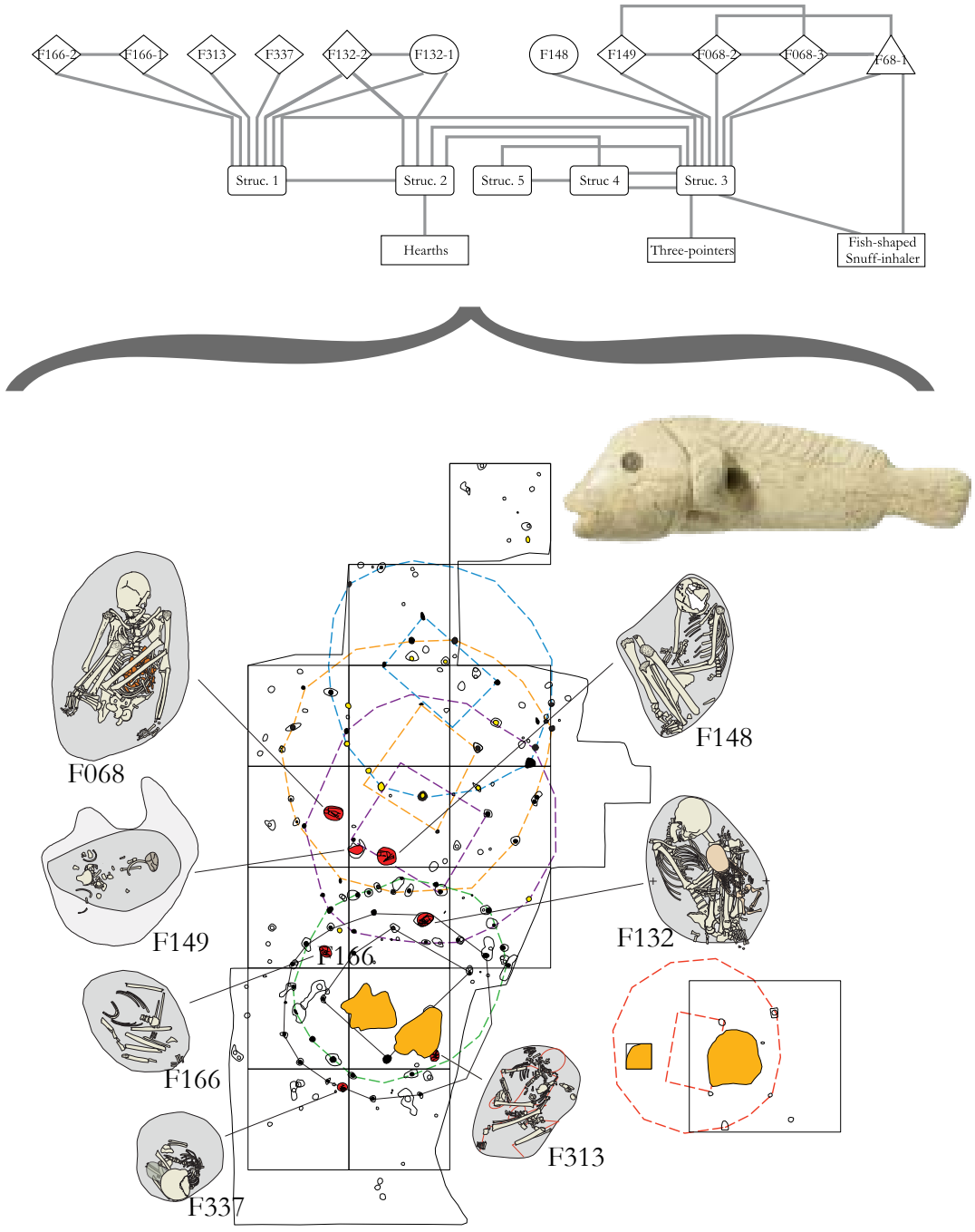


Figure 6.2: Features and finds at Kelbey's Ridge 2, viewed as a network. As can be seen from the bottom half of the picture the ties between burials, structures, hearth and the object nodes are based on spatial correlation (Hoogland 1996). Illustrations and photograph courtesy of Menno Hoogland.

In this regard the associated finds also point to the fact that the bodies of the deceased were still seen as individuals that remained part of communal life. Firstly, objects have been found that were widely valued as important shamanic tools: a finely crafted, fish-shaped snuff inhaler and hollow avian bones that could have been inserted into the inhaler. This potent item can be associated with burial F168, a triple burial of an older man with two young children.[6] Two three-pointed *cemís* were also found near the graves. These spiritually charged objects may have been deposited near the burial pits on purpose, but this is difficult to ascertain because they were collected on the surface of the site. Nevertheless, these objects and all burials can be linked to the house structures that could be re-constructed from the patterns of post-holes at the site (Hoogland 1996). The associations between structures, burial features and finds can serve to reconstruct an intra-site network of socially important "architecture" that probably spanned the 50 years during which the site was occupied (Figure 6.2; after Hoogland and Hofman 2013)

This shows that ancestors at Kelbey's Ridge 2 were literally integrated into the social life of the community. What is more, the physical presence of the (open) burials, the displayed bones of ancestors, and the houses with their interlocked post-hole patterns served to connect the social networks of the living and ancestors through time, as well. The overlap between the post-holes of the structures connects the network of ancestors buried beneath the floor of the houses. Similarly, genealogical histories, perhaps exemplified by the practice of secondary interments, would have connected the material networks of the houses, as well (Hoogland 1996). Even though the precise ebb and flow of everyday personal interactions and life histories remains archaeologically largely invisible, their material counterparts are remindful of smaller Amerindian communities from Lowland South America (Mans 2011). It is clear from the precise reconstructions of burial practices that day-to-day social interactions between the living members of the community were greatly entwined with their deceased. The death of a community member did not mean a breaking of ties between community members.

Saba and especially Kelbey's Ridge was not an optimum location in many ways. Indeed people living here faced all sorts of hardships, leading to for instance general health problems and a high infant mortality rate (Weston 2010). Nevertheless, in spite or perhaps because of this interpersonal ties were strong and were carried across several generations, providing a sturdy basis for 14th century Saba's interactions with its wider island world. All in all, the image arising from the micro-networks of Kelbey's Ridge is that of a tight-knit community.

This strong local base was beneficial when engaging with other communities in the wider region. Regarding this, it has often been noted that the last 3 to 2 centuries before contact witness a sharp decline in site quantities with regard to the Northern Lesser Antilles (Crock and Petersen 2004; Hofman, Bright, *et al.* 2007; Knippenberg 2007; Rouse 1992). It is not known exactly what the reason

6 Although the snuff inhaler was not found in the grave, but next to it, a small, tubular bird bone was part of the burial assemblage. Hoogland has convincingly argued that this bird bone must have been a part of the snuff inhaler, by being inserted into it to allow for inhalation of narcotics (Hoogland 1996).

behind this was. Various ethnohistoric sources report that the region was mostly depopulated due to raids carried out by the inhabitants of the Southern islands (Figueredo 1978; Petersen, *et al.* 2004; Rouse 1948a; Siegel 2004; Whitehead 1995). The evidence for inter-communal strife at Saba and other sites in the area is not exactly overwhelming; the evidence for such regional conflicts is mostly circumstantial in Kelbey's Ridge 2 (Weston 2010). This might be proof of inter-communal violence, but it could also be a result of violence from within the community. On the other hand, the choice for the site's location may have been prompted by increased intercommunity conflict and competition, especially when compared to prevalent site locations in the centuries before (e.g. Morne Cybèle 1, Hofman 1995). Its position high-up on the slope would have afforded good defensibility and a clear visibility of the nearby beach, neighbouring islands and sea-traffic approaching from a North-easterly and Easterly direction. All in all, the region was probably not a peaceful Rousseauean paradise, but evidence for large-scale inter-communal warfare or raiding throughout the archipelago is lacking.

It has been suggested that from AD 1000 onwards a growing inter-island polity, possibly based in Anguilla, tried or even succeeded in politically dominating the wider archipelago (Crock 2000; Haviser 1991). This is partly based on the idea that communities from Anguilla had begun to adapt the Greater Antillean chiefdom political system to the inter-island networks of the Northern Lesser Antilles. This was carried out by controlling exchange networks within the wider region, exemplified by the distribution and production of St. Martin greenstone axes and calci-rudite three-pointed stones at Anguillan sites (Crock 2000). In addition, objects with Greater Antillean stylistic characteristics such as shell *guaízas* and elaborately crafted (calci-rudite) three-pointed stones were also encountered in Anguillan assemblages (Petersen and Crock 2004).

The Saba Bank represented another strategic network node that was directly connected to archaeological features at the site. These marine resources formed, as discussed above, the mainstay of the local diet at Kelbey's Ridge 2, but these rich fishing grounds would have provided such a quantity they were probably also exploited for intercommunity trade (Hoogland and Hofman 1999). Recently, Keegan and colleagues (2008) and Morsink (2012) have re-emphasized the importance of smaller islands in marine subsistence webs. Fish and other kinds of sea food could have easily been salted or dried, stored and be circulated as exchange objects. Hoogland and Hofman (1999) have suggested that this activity was one of the main reasons for the existence of the late pre-colonial settlement at Kelbey's Ridge. Remains of sea food are plentiful here, as well as in the closely related Spring Bay 1c site. In addition, Kelbey's Ridge 2 features four large hearths, located within the area of Structure 1, 2 and 3, which yielded evidence for shell and fish preparation (Hoogland 1996). The size of the hearths is relatively large, indicating that substantial catches were prepared in or dried above large fires, perhaps for later storage and circulation. Such a circulation of food stuffs could have taken

place as Market Pricing models of relations in which fish was bartered for other goods. Evidence acquired from elsewhere suggests that such food circulation could have been the result of delayed reciprocal strategies between groups – which is most akin to an Equality Matching model.[7]

When Hoogland and Hofman first shared the results of their fieldwork with a wider archaeological audience (e.g. Hoogland and Hofman 1991), the prevalence of Chican Ostionoid ceramics at the site came as something of a surprise. At the time, this assemblage and the assemblage of Spring Bay 1c represented the farthest Eastward spread of this Greater Antillean style. Elements of the Chican subseries were later also encountered on the ceramics of sites on other Leeward Islands (Crock 2000; Petersen, *et al.* 2004), but Kelbey's Ridge 2 remains the only site in this region to have a completely Chicoid assemblage (Hofman 1995). Its identification at 14th century Saba was partly responsible for a re-framing of the typo-chronological and culture history of the Northern Leewards, which was subsequently labelled "Eastern Taíno" by Rouse in his 1992 publication. According to the latter's ideas on the matter, parts of the Northern Lesser Antilles would have been occupied by a cultural group related with, but also clearly different from the Classic Taíno of Hispaniola and Puerto Rico.

In this regard it is noteworthy that several other lines of evidence point to a higher-level network connection to the Greater Antilles. Firstly, a microscopic fabric analysis, carried out as part of the ceramic provenance analysis mentioned above, indicates that at least one sherd with Chican characteristics consists of a sedimentary clay that most certainly had its provenance in one of the larger islands to the West (Hofman, Isendoorn, *et al.* 2008: 28). A similar composition has not been reported for any of the other clay sources tested on the islands of the Lesser Antilles (Crock, *et al.* 2008; Hofman, Isendoorn, *et al.* 2008; Isendoorn, *et al.* 2008). Other material remains at the site reflect "Taíno" influences, too. Stylistically, the fish-shaped snuff inhaler of manatee bone displays distinct Greater Antillean influences, which would logically connect it to the *cohoba*-ritual complex (Hofman and Hoogland 1991, Hofman 1995; Hoogland and Hofman 1999). Kelbey's Ridge 2 is not unique in this. A variety of objects with Greater Antillean stylistic connotations has been found in Chican, Suazan and Cayo contexts as far South as the Grenadines (Hofman, Bright, *et al.* 2008). As such objects often display small stylistic deviations from a Greater Antillean norm or consisted of local raw materials, it has been suggested they did not necessarily represent direct contacts with Greater Antillean communities but rather a sphere of esoteric interaction (Allaire 1990).

The combined evidence for Greater Antillean relations with the small island and the late and short-lived nature of the settlement, led Hoogland and Hofman to characterize Kelbey's Ridge 2 as a "Taíno" outpost, (Hoogland and Hofman 1999: 107). In light of the strong local embedding of the site it is perhaps odd it is identified by a relatively minor component of its assemblage. Through these few

7 For example, the role of the Surinamese Trio village of Amötopo is to supply game and fish for the wider Trio community, not as part of barter trading but in the form of communal aid networks functioning as social lifelines (Mans 2012; see Chapter 4).

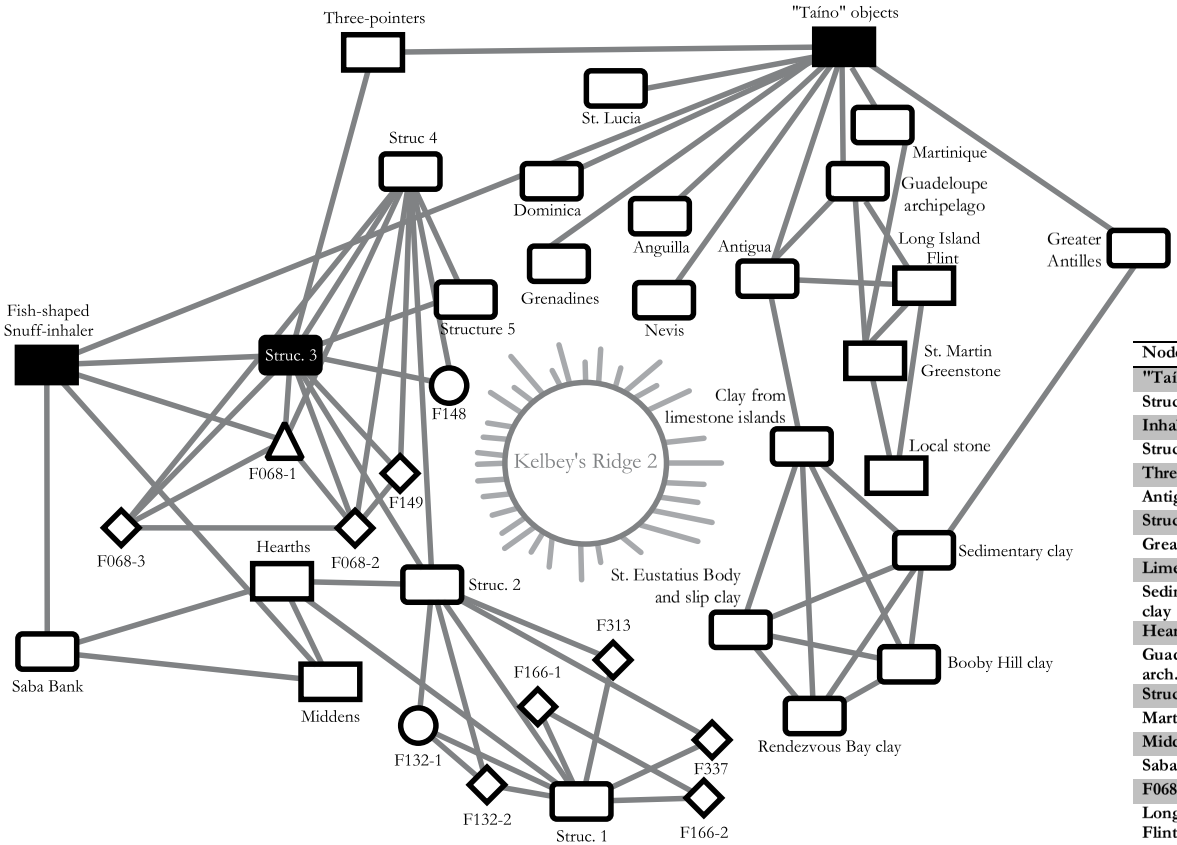
ties Saba was nonetheless plugged into more geographically distant networks. As a result, from a view that integrates the networks encountered at Kelbey's Ridge 2, the materiality of these exotic ties would have been higher than the local ties. This is related to the power of inter-cluster ties in sparse networks, as discussed in the context of the small-world phenomenon. Even one tie that goes beyond the local cluster may completely re-arrange paths in the network – in the case of the small-world example from a "cave system" to an incipient small-world. In other words, a tie referring to an exotic node has greater power than a collection of ties referring to the same set of nodes (compare Helms 1988). Seen from this perspective, even if local and regional ties were strong, a characterization of the site of Kelbey's Ridge 2 based on its integration within interregional cultural, material and perhaps even social networks is also justified (cf. Hoogland and Hofman 1999).

The ego-network of Kelbey's Ridge 2

Figure 6.3 combines the evidence of the ties discussed above into an ego-network. It is clear that the ties giving rise to this model are to a certain degree dissimilar. Ceramic or lithic provenance analysis does not lead to the same type of relational data as an analysis of burial practice at the site, for example. Furthermore certain data sets that present substantive information about the role of Kelbey's Ridge 2 in the wider archipelago are unbalanced and incomplete. In order to truly balance these data sets it would require repeating the equivalent of the fieldwork and analysis carried out on Saba on all the islands in the Northeastern Caribbean. However, as a basis this model serves to explore the interrelations of the local, regional, and interregional interactions evidenced at the site.

It seems counterintuitive to join intra-site features to exotics from places hundreds of kilometres away. Remember however that this ego-network tries to move away from geographic distances and scales to present a model of the interactions as seen from the perspective of the community. In other words, an ego-network can and should include ties on what would traditionally be seen as separate scales of analysis. In an ego-network the impact of nodes from various scales can be weighed against each other. In Chapter 3, I discussed how the original goal of an ego-network analysis was to indicate which nodes outside the ego-node have the largest number of incidences and thus are likely to exert the highest influence on the network of Ego.

The result of this is something that may normally be perceived as different scales of analyses – intra-site, regional, and interregional – are here part of interdependent tie sets. This collapse of multi-scalarity into a single model is of specific interest for archaeological network applications. One of the critiques on archaeological network approaches that has been forwarded by scholars such as Carl Knappett (2011) is that they have until now mainly served as site-to-site models. These are regional networks, or macro networks as Knappett calls them, leaving a large part of the local materialities of networks out of the equation. Site ego-networks might be one of the ways around this: Kelbey's Ridge 2 network site assemblage can only



Node	Betweenness (%)
"Taíno" objects	19.9
Struc. 3	15.2
Inhaler	13.7
Struc. 2	10.2
Three-pointers	6.2
Antigua	5.9
Struc. 1	4.4
Greater Antilles?	4.2
Limestone Clay	3.1
Sedimentary clay	2.6
Hearths	2.5
Guadeloupe arch.	2.5
Struc 4	1.8
Martinique	1.4
Middens	1.3
Saba Bank	1.3
F068-1	1.2
Long Island Flint	1.1
St. Martin Greenstone	0.9
All others	<0.1

Figure 6.3: Ego-network of Kelbey's Ridge 2. The node size correlates with node betweenness centrality. The black nodes indicate the presence of "Taíno"-style valuables. The light grey nodes denote stone material distributions. Dark grey nodes combine the two, showing that the ties between islands are by and large based on the presence of "Taíno"-style valuables. This network also clearly proves this at the local level, with an important set of socio-material dependencies that focus on the fish-shaped snuff-inhaler.

be understood as a multi-scalar model, incorporating evidence for both micro, meso and macro networks.

The network is moreover not only interdependent across network levels, but is also an interdependent network of people and their material culture. Interestingly, this specific network consists of more than just objects as things and biological individuals as persons, but it also links diverse set of nodes that interconnects houses with ancestors, fishing grounds, shamanic paraphernalia and hearths with regional trade. Additionally, the objects found at the site of Kelbey's Ridge 2 references a diverse set of material practices and beliefs of the island communities in the wider region. This showcases the possible breadth of material-based network models for understanding the impacts of local, regional and interregional connections between people and their things.

Aside from degree centrality, Freeman (1982) employed betweenness centrality analysis in order to establish which nodes have the highest impact on the network of the ego node. The more central certain subgraphs or nodes are for paths in an ego-network, the more relative power they will exercise over the way in which the ego node is able to independently interact with others in its network. It is important to understand that here, network "power" cannot be (directly) equated to political power nor does it show exchange networks – although some exchange networks are part of the relational database. The reason is that this type of ego-network is not a political or exchange but a site assemblage-based network. In order to make sense of this site assemblage network we need to apply a support theory that can explain what relations in sites portray.

Although archaeology is a site-centric discipline, it is difficult to find a general theory concerning relations of features of site assemblages that is both social and material (Pauketat 2001). This may have to do with the fact that the majority of sites are social and material palimpsests and as a result the archaeological record of even a relatively small site like Kelbey's Ridge 2 is dense with relational information. An ego-network analysis can help us to understand these diverse sets of relations. Indeed, although the terms are not fully synonymous one could say that seeing a site as an ego-network can be equated to perceiving the site as being entangled (Hodder 2012). Therefore, taking a small conceptual leap, a site ego-network actually presents a model of how a community was "entangled" in its relations with the things archaeologists encounter in its records. Interestingly, if the record at Kelbey's Ridge 2 is viewed in this manner, an analysis of betweenness centrality can point out where these entanglements were the thickest. In a sense, a site ego-network analysis can point out the types of material repertoires and practices that were most relevant for the people living here vis-à-vis other aspects of the site record. Hence we can start to hypothesize how certain material foci correlated to social ties at the local, regional and interregional network level. Figure 6.3 shows a visualization of betweenness centrality in the ego-network of Kelbey's Ridge 2.

Let us now look into certain characteristics that appear from an exploration of this particular ego-network. In terms of access to raw material sources, Kelbey's Ridge 2 seems to have been able to position itself as a relatively well-integrated community, partaking in a variety of distribution networks. Saba had its own types of clay as well as a good clay and red slip source on the nearby island of St. Eustatius. Clay from limestone islands also connects Kelbey's Ridge 2 ceramic assemblage to clays found on Anguilla and Antigua. In contrast, sedimentary clay and clay from Saba have not yet been reported on other islands and uniquely connect Saba to a larger landmass where such kinds of clay could have been found. In general the large majority of ceramics is produced from local clay sources, so it may be that the exotic clays represent finished ceramic vessels that were moved to the island, perhaps as part of an exchange or intercommunal visit. This implies that 14th century Sabans had access to wider island clay distribution networks but were far from dependent upon them. The exotic lithics, Long Island Flint and St. Martin Greenstone have a similar position in the network: they serve to connect Kelbey's Ridge 2 with communities on other islands throughout the Lesser Antilles, but they are only found in limited quantities. The difference is that here we see evidence for production and down-the-line distribution, which does not seem to have been the case with the production of ceramics (Knippenberg 2007). In short, regarding the supply of basic raw material sources Kelbey's Ridge 2 seems to have been able to be more or less self-sufficient.

In terms of individuals nodes the snuff inhaler has the highest centrality in the network. This is underlain by the fact it connects a set of cliques that would otherwise remain unconnected. Its fish-shape alludes to the importance of Saba's rich fishing grounds.[8] Its association with Structure 3 and the triple burial also connects it to the living and ancestral community members. In addition, its style and function clearly mark it as part of a Lesser Antillean group of objects that connected local socio-cultural practices to a Greater Antillean social, cultural and material system that has been referred to as "Taíno". Furthermore, its function as a deliverer of hallucinogenics would have connected the community not only to a pan-Antillean form of ritual practice, but it would have given some individuals trans-specific properties, i.e. the ability to make shamanic journeys and thereby shift perspectives. Through the snuff inhaler the community was linked to a multi-perspectivist network of other-than-human beings (Allaire 1990). The specifics of this communal and intercommunal network will remain invisible to archaeological inquiry, but central material nodes such as the snuff inhaler are nonetheless indicative of its importance by proxy.

House Structure 3 is an important node for connecting various parts of the network. For example, through a set of overlapping post-holes it connects other house structures through time, incorporating the relations of the present house into that of past houses. It also features a highly idiosyncratic triple burial (Hoogland and Hofman 2013). One of the individuals, the older man (F068_1) has the

8 Menno Hoogland (personal communication, 2013) suggests it is a grouper (*Epinephelus* spp.) a large fish that is present in large quantities at the Saba Bank.

highest betweenness rating of all the buried individuals. It is telling that the highest betweenness ratings in the network can be found at Structure 3 and the fish-shaped snuff inhaler, making them important connectors for the wider network.. The snuff inhaler and Structure 3 connect to each other by means of the network paths of an ancestor, the man buried in F068_1. They are also connected, through the hearths associated with Structure 3, to the important marine component of the subsistence economy. Furthermore, through its overlapping post-holes Structure 3 is also tied to a network of houses dating from before and after it. its associated material culture, specifically the three-pointers and the fish-shaped snuff inhaler, connects it to an interregional network of so-called "Taíno" valuables, all objects that share a similar connotation and style. As it can be reconstructed archaeologically, this indicates that Structure 3 was the central spatio-temporal nodal point of socio-material practices at Kelbey's Ridge 2.

Relational models at Kelbey's Ridge 2

Which relational models can explain the patterning in the ego-network? It has to be said that not one distinct set of relations seems to dominate. All in all, it is likely that Communal Sharing, with its focus on egalitarianism, strong reciprocity and sharing of tasks, food and most other items, would have informed daily social practice and community morals. Communal Sharing models of relations would be continued when the living became ancestors, although the relations now took place within more "materially" – house structures, shamanic burial gifts, bones as inspirited matter – oriented networks than before.

There is not much evidence for intra-site Authority Ranking models of relations. These models of relations can perhaps be indicated by means of the differential interment of grave goods. However, except for the notable example of the fish-shaped snuff inhaler, there are no easily identifiable grave goods. The burial assemblage, particularly the post-mortem manipulation of remains, does seem to hint at an Authority Ranking model of relations between the differently aged members of the community. The secondary interment of younger children next to or in the skeletonized bodies of the older members of the community – and not the other way around –mimics Authority Ranking models of relations that would have been a main feature of village life: adults providing and caring for or watching over the younger members of the community.

Nevertheless, it is also clear that these Communal Sharing and Authority Ranking models of relations would have been counterbalanced by intermittent interactions with outsiders challenging communal models of relations. Interpersonal violence, interactions with spirits and ancestors, and trading missions to other islands would all have necessitated a response other than the relatively mutualistic Communal Sharing model of relations. Realising that the community at Kelbey's Ridge 2 had quite a varied regional resource acquirement strategy makes it unlikely that inter-site relations were dominated by Authority Ranking models, preventing the

community to have access to particular resources. This is in contrast to what has been suggested previously by Crock regarding the period from AD 1000 on.

In Crock (2000)'s original identification of Anguilla as the head of an inter-island *cacicazgo* two lines of evidence have served to strengthen the argument: control of lithic resources and ownership of Chicoid-styled valuables, suggesting links with Greater Antillean material repertoires. A first look at the ego-network shows that from the perspective of the 14th century site of Kelbey's Ridge 2, relations between island communities in this period were much more nuanced. In contrast to the previous centuries there are much fewer sites and thus fewer communities and a lower population. This is not only the case for Saba, but also for the island of Anguilla and others in the region. This would have made the needs for and benefits of any centralized authority much lower. Indeed, the ego-network shows that Authority Ranking relations would not have been strong enough to actually bring the local network under full control of Anguilla: the betweenness centrality of Anguilla is only slightly higher than those of other islands. Especially when seen in the light of the possible connections of this and other communities to the Greater Antilles, Anguilla would have just been one of several island regions with which the inhabitants of Saba were in contact. In other words, by the 14th century AD we see no indications that Anguillan communities had any type of control whatsoever over the inhabitants of Kelbey's Ridge 2.

In fact, (resource) network control can also be found at Kelbey's Ridge 2: its assemblage has objects with links to a wider material cultural repertoire and evidence for direct acquisition and exchange of Long Island flint. Saba was procuring and producing both St. Martin Greenstone and Long Island flint. These two stone material networks with their deep history (Chapter 5) had begun to contract at the beginning of the Late Ceramic Age and continued to do so. However, these materials and their raw material sources must still have been important to the communities that remained in the region. As such it is noteworthy that Saba was the most Southerly potential distributor of St. Martin Greenstone and the most

Northerly potential distributor of Long Island Flint. In other words, Saba was located at the interface of two lithic distribution networks and three regional interaction spheres (Knippenberg 2007). The Minimal Distance network also illustrates that it held a strategic geographic position that would have established it as the gateway between the more Southerly located islands, the Northern Lesser Antilles and the Greater Antilles.

Based on the evidence for Greater Antillean connections, geographic position and strategic marine and lithic resources, Kelbey's Ridge 2 has the potential to have been somewhat of a hub in the sparsely populated region rendering Saba an attractive site for an outpost (cf. Hoogland and Hofman 1999). Based on this

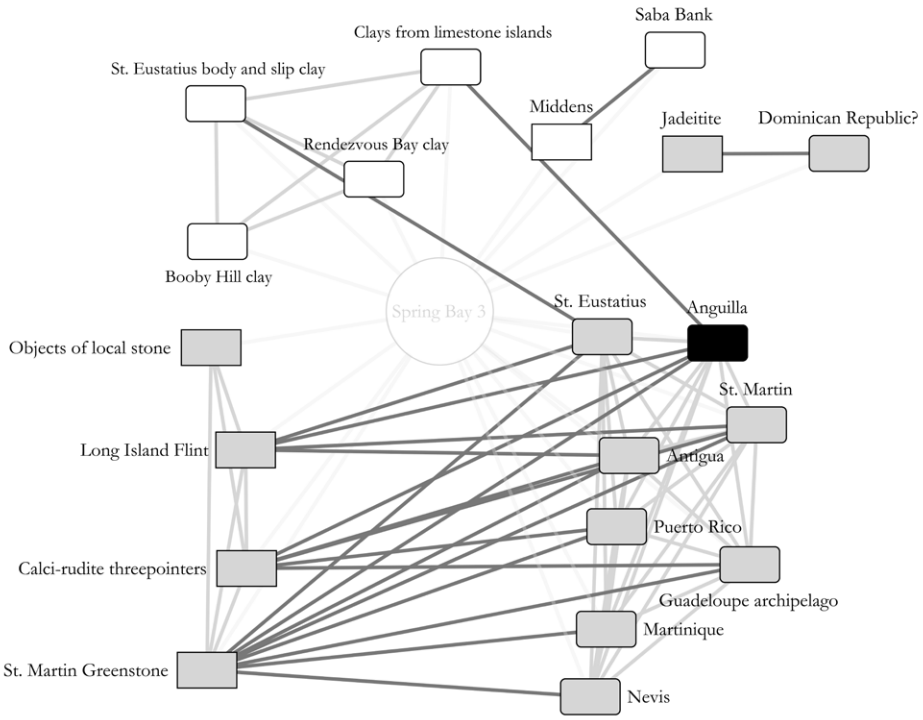


Figure 6.4: Ego-network of Spring Bay 3. The light grey indicates nodes correlated with types of stone distributions. The dark grey of the Anguilla nodes indicate the presence of "Taíno"-style valuables and stone material distribution centres. This indicates that the ties between islands are by and large based on the stone raw material distributions, in contrast to the ego-network of Kelbey's Ridge 2.

relatively tentative evidence, it would go too far to place this community at the head of an inter-island network based on Authority Ranking models of relations. All in all, it seems that the 14th century Northern Lesser Antilles were somewhat of a frontier zone. This is more suggestive of a situation in which Equality Matching

and perhaps Market Pricing – perhaps based on sea food export – network strategies would have pre-dominated (Hoogland and Hofman 2011).

This idea is strengthened by a comparison between the ego-networks of 14th century Kelbey's Ridge 2 and those of the earlier (cal. AD 1000-1200) Spring Bay 3 site (Figure 6.4).[9] Spring Bay 3, positioned in the bay valley at the foot of the hill on which Kelbey's Ridge is located, represents a phase of habitation unrelated to the later settlement (Hoogland and Hofman 1999). As such the ego-networks of the two sites should not be longitudinally connected. From those aspects of the network that can be compared (not all types of relational data are the same for Spring Bay 3 and Kelbey's Ridge 2), a clear drop in number of sites and (calci-rudite) lithic distribution to islands in the wider region after AD 1200, and an increase in the distribution of Greater Antillean-styled objects differentiates the two.[10] It is furthermore notable that Spring Bay 3 provided a jadeitite axe of which the provenance study is currently pending (Knippenberg personal communication, 2013). Whatever its source, it is indicative of a lithic distribution network of a scope for which there is no evidence at Kelbey's Ridge 2.[11]

Interestingly we see a shift in the prevalent stylistic ascription of ceramic assemblages after AD 1200 (Hofman 1995). On Saba the Spring Bay 3 ceramics belonging to diverse Northern Lesser Antillean ceramic styles, were replaced by a mostly Chicoid assemblage. Ceramic decorative traditions and vessel forms of Spring Bay 3, among other sites from Saba, have links with the assemblage of Sandy Hill on Anguilla. They also show some similarities to ceramic assemblages from the Virgin Islands and Puerto Rico, in addition to overlaps with Troumassoid ceramic styles from the Windward Islands. However, in contrast to the ego-network of Kelbey's Ridge 2, the Spring Bay 3 network shows neither evidence for the use of sedentary clays nor for the full-fledged incorporation of Greater Antillean stylistic traits (Hofman 1993, 1995).

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9 A note has to be placed here with reference to the comparability of Spring Bay 3 and Kelbey's Ridge 2. First of all, the former was not as extensively excavated as the latter site. As a result it was impossible to re-construct entire structures at Spring Bay 3. This means it may be the case that Spring Bay 3 was simply a series of temporary camps. However, even if the cultural and social dynamics would have been different for both sites this does not imply that the ego-network of the assemblages cannot be compared. It does mean that it is impossible to extrapolate from this comparison that Spring Bay 3 was a permanent settlement and part of an inter-island chiefdom.

10 Actually, the only place where calci-rudite artefacts have been found in this phase of the "Late Ceramic Age" is in Anguilla itself (Crock 2000; Knippenberg 2007). In other words, in the 14th century the calci-rudite three-pointer exchange network of previous centuries consisted of only one node.

11 It has to be noted that in the case of such incidental finds such as a single jadeite axe, absence of evidence is no evidence for absence. In other words it may be the case that the community at Kelbey's Ridge 2 was also tapped into a jadeitite distribution network extending to the Dominican Republic or further, but that evidence for this may simply not have been preserved or recovered. Of course, the ego-network models of Kelbey's Ridge 2 and Spring Bay 3 are not the alone in suffering from this problem. The robustness of inferences that are drawn from ties based on the presence or absence of singular finds like jadeitite axes needs to be evaluated in future applications of (ego-)networks in archaeology.

It is still difficult to understand which changes between AD 1200 and 1300 caused the shifts in stylistic traditions, generally lower number of sites, and the collapse of the lithic distribution system. Was this due to a collapse of an inter-island polity after AD 1200? This could be the case, if it were not that the evidence for these changes extends well beyond the possible extents of an Anguillan based chiefdom (Hofman 2013). Another theory is that ethnohistorical descriptions of raids on Puerto Rico suggests that Island Carib aggression in the region had become so fierce it drove the majority of the inhabitants out of the region (Rouse 1948b). Although this remains an option, little actual archaeological evidence for such large scale inter-communal violence exists. It could also be the case that a slow but steady change unfolded in the social and cultural layout of the region due to the encroachment of Greater Antillean polities into the region (Hoogland and Hofman 1999). At present this theory is best supported by a comparison of the ego-network of Kelbey's Ridge 2 and Spring Bay 3. In Spring Bay 3 the regional distribution of stone materials was the greatest connector, as indicated by means of dark grey and light grey nodes in both models. In contrast, elaborate three-pointers, amulets, statuettes, shamanic paraphernalia and seats with Pan-Antillean stylistic and ritual links hold together the regional network of Kelbey's Ridge 2 (cf. Allaire 1990; Hofman, Bright, *et al.* 2008).[12]

Beyond the Ego

Even if your island is small, your Ego(-network) does not have to be. This definitely holds true for the island of Saba. In some senses Saba may have been a small place, far away from the Greater Antillean islands and their blossoming societies and cultures, but it was ultimately only remotely local. As discussed in this chapter, during late pre-colonial times Saba's local networks were expanded with connections to other material practices and places that were often geographically or even cosmologically alien. Nowadays the situation is much the same, with Sabans and visiting itinerants who, as the local anthem says, "may roam far from", but will always have strong ties to the island.

Returning to the hypotheses drafted by Hofman and Hoogland (2011) on the reasons for the existence of the community at Kelbey's Ridge 2, it is interesting to note that the ego-network model supports an importance of a varied set of relations and that there is no clear indication of a dominant model of relation. From the MDN it is clear that it had a highly strategic location, making it more likely that a Greater Antillean focused network of values and valuables extended to the small

12 It is important to note that this pattern is somewhat tentative. A majority of the artefacts showing Greater Antillean influences have not been dated. Instead, based on relative chronology, stratigraphic placement and their stylistic ("Taíno" or Chicoid) affiliations these objects are regularly placed in the final phase of the indigenous cultural chronology of the Antilles (cf. Rouse 1992). It is interesting to note that Anguilla boasts some of the earliest sites, dated to around AD 1200, which have objects that evoke the notion of Greater Antillean connections, such as shell faces, large and carved three-pointed stones and even a similar snuff inhaler as was found in Kelbey's Ridge 2 (Crock and Petersen 2004; Mol 2007). It could be the case that, if an Anguilla-based, regional polity had existed around AD 1000 to 1200, it was responsible for tightening the bonds with similar polities in the Greater Antilles.

island. On the other hand, Kelbey's Ridge 2 was also well-integrated in regional networks of exchange. The communal ties, indicated by the house structure and burial patterns at Kelbey's Ridge 2, were also strong. Whether this implies that it was a settler community, leveraging its Greater Antillean roots in favour of trade opportunities in this region, or whether it was a local group that somehow became involved with Greater Antillean communities is currently impossible to say. A strontium isotope-based study of residential mobility at the site is, so far, inconclusive (Laffoon 2012). The mixed network ties and strategies of Kelbey's Ridge 2's ego-network are perfectly illustrated by House Structure 3, which as a socio-material node encapsulates communal, spiritual and inter-communal ties. All in all, this ego-network seems to most coincide with Hofman and Hoogland's fourth hypothesis: a variety of factors contributed to the occupation Kelbey's Ridge 2, all of which are expressed by the archaeological evidence for social interactions at and beyond the site.

Needless to say, the micro to macro-scale ego-network model cannot provide a fully comprehensive view of the larger structure of the networks that the inhabitants of Kelbey's Ridge 2 participated in. It remains unclear whether the overarching network was hub-like with a political or cultural authority, such as could have been the case when it was colonized by a far-off chiefdom from the Greater Antilles? Or perhaps this system was structured like a small-world, with strong local clusters with some ties leading from Saban to Greater Antillean communities? This could have been the case if Kelbey's Ridge 2 was a community of "entrepreneurs" that utilised their already strong regional position and the proximity of the Saba bank to extend their social and material networks. Was Saba perhaps "randomly" connected to other places? Its local population could have been complemented by drifters from the Greater Antilles, bringing its strong local networks in intermittent contact with wider regional networks – a situation that cannot be dismissed when looking at individual mobility at the site (Laffoon 2012). Perhaps Saba's network arose out of a combination of all three or even other dynamics. What is certain is that the model presented in Figure 6.3 contains possible ingredients for each of the above larger network structures. Unfortunately deciding between them is difficult when viewed from the ego-network of one site alone.

Nevertheless, the results of this network exploration show that, thanks to the long-running fieldwork programme on Saba and the extensive multi-disciplinary analyses of its archaeological record, it is possible to gain some more insight into the local effects of the multi-levelled networks in the region. Future archaeometric analyses on the assemblage of Kelbey's Ridge 2 and other sites in the region will allow for a more in-depth study of wider network processes. For now an enhanced understanding of the type of networks dynamics that shaped the site assemblage is only possible by other, more regionally focused studies. The model and analysis of the ego-network of Kelbey's Ridge 2 and its comparison with that of Spring Bay 3 identified two material culture practices that may shed further lights on patterns of homogeneity and diversity in this region of the Caribbean: inter-island distribution of raw materials and finished goods and a loosely affiliated inter-regional system of values and valuables. The incorporation of lithic distribution networks in the