

"Island rhythms: The web of social relationships and interaction networks in the Lesser Antillean archipelago between 400 B.C. and A.D. 1492,"
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ABSTRACT: The precolonial communities of the Caribbean archipelago were not insular. The discontinuous natural resource distribution, the maritime orientation of the Caribbean Amerindians, and the complexities of regional social interaction ensured that the precolonial Caribbean islandscape was dynamic and highly interconnected. This report explores the sociocultural behavior and intercommunity exchange relationships of the inhabitants of the Lesser Antilles. It combines related archaeological case studies encompassing the procurement and exchange of: (1) raw materials and utilitarian goods with a wide spatial and social distribution, (2) goods with high stylistic visibility and presumed social function as markers of identity or status, and (3) prestige goods with profound ceremonial value. The study of these objects reveals overarching social and ideological dimensions to Caribbean life. Data suggest that social relationships manifest themselves at different levels and through distinct rhythms while taking on various material guises during the Ceramic age Amerindian occupation of the Caribbean islands (400 B.C. to A.D. 1492). While there is great potential in unraveling interaction networks through the careful study of distribution patterns, the incorporation of ethnohistoric and ethnographic information is imperative to elucidate the web of social relationships underlying these material manifestations.

Las comunidades precolombinas del archipiélago caribeno no eran insulares. La distribución discontinua de recursos naturales, el enfoque marítimo de los amerindios caribenos junto con la complejidad de los patrones regionales de interacción aseguraban el carácter dinámico y interconectado de las diversas comunidades insulares pre-coloniales. En este papel se exploran las conductas socio-culturales y las relaciones de intercambio entre comunidades en las Antillas Menores. Se exploran casos arqueológicos relacionados de la adquisición e intercambio de 1) materias primas y bienes utilitarios, 2) bienes con una alta visibilidad estilística y función social como índices de identidad o status y 3) bienes de prestigio. Su estudio revela el rol fundamental de las dimensiones sociales e ideológicas en la vida caribena. Los datos sugieren que las relaciones sociales se manifiestan a diferentes niveles y en ritmos distintos, a la vez que se expresan de diversas maneras durante la ocupación amerindia de las islas, en la Época Cerámica (400 a.C.-1492 d.C.). Si bien existe un enorme potencial en desenredar las interconexiones en las Antillas Menores precolombinas a través del estudio de los patrones de distribución, la incorporación de información etnohistórica y etnográfica resulta imperativa para dilucidar la red de relaciones sociales subyacentes a estas manifestaciones materiales.

Caribbean archaeology has recently begun to move from an explicitly culture-historical approach to what Rouse (1977) has called the tertiary and quaternary levels of research and interpretation, the study of the character of precolonial societal systems and how they evolved. Major topics include the settlement

patterns and subsistence strategies of the precolonial inhabitants as well as their implications for indigenous sociopolitical development. The study of the exchange relationships among the precolonial island populations began in this context. Based on a limited, monothetic data-set, exchange relationships have been used to explain the first migrations of the Early Ceramic age peoples from South America into the Antilles, the assumed maintenance of mainland contacts during the Ceramic age, the social relationships and esoteric interaction between the Lesser Antilles, the eastern Greater Antilles, and the Virgin Islands during the late precolonial emergence of the Taino cacicazgos, and even early Colonial period regional sociopolitical developments (Boomert 2000, 2001a; Hoogland and Hofman 1999; Keegan and Maclachlan 1989).

This study defines exchange as the reciprocal movement of materials or goods through human interaction. Exchange involves an intricate web of symbiotic social relationships and meanings that result in complicated networks in which goods, persons, valuables, and knowledge circulate to promote the formation and maintenance of (political) alliances. (1) Ritualized items and utilitarian goods can be exchanged independently but frequently are exchanged simultaneously. Such exchanges can be accompanied by the sharing of myths, tales, songs, dances, and ritual knowledge. (2) Interaction networks and modes of exchange can vary according to the goods exchanged and different exchange networks can fulfill discrete functions.

This work also provides a framework for the study of interaction in the Lesser Antilles and examines the distribution of various materials and goods. It should help to unravel the enigma of exchange relationships among the precolonial inhabitants of the Antilles and the "rhythms" governing them. The concept of rhythms is adopted to express the dynamics of expansion and contraction, fission and fusion, and continuity and discontinuity that characterize the social relationships across the archipelago through time. To understand the emergence and nature of these relationships we summarize the insular setting of the Lesser Antilles, their settlement, and the current cultural taxonomy.

A Setting for Social Relationships as the Basis for Interaction and Exchange: An Arc of Communication

The Lesser Antilles are a series of stepping-stone islands between the South American mainland and the Greater Antilles, linking two centers of cultural development and encouraging interaction networks (Figure 1). Both regions were of great importance for the sociocultural development of the Lesser Antilles. Trinidad and the Windward Islands (Tobago up to Dominica) probably maintained intensive contacts with the South American mainland while the Leeward Islands (Guadeloupe to Anguilla) and the Virgin Islands interacted predominantly with the Greater Antilles. In addition to these larger interaction spheres, both regions also participated in more localized contact networks.

Most islands in the chain are intervisible (Figure 2). However, that visibility can be reduced during bad weather, increasing the feeling of insularity. The Lesser Antilles are limestone and volcanic islands on the Caribbean Plate (Van Soest 2000). Trinidad and Tobago, atop the continental shelf, belong to the South American mainland geologically, as do the various Venezuelan offshore islands. Their terrestrial flora and fauna reflect this affiliation (Boomert 2000:17). In prehistory, island geology, weather, and climate maintained a tenuous balance and certainly affected island life both in the short and long term. Island life could mean living untroubled one moment and being hit by droughts or hurricanes the next (Delpuech 2004). Furthermore, the diverse geology of the islands led to a discontinuous distribution of natural resources. This perhaps stimulated craft specialization among the Amerindian communities with easy access to materials, although the differential distribution of raw materials cannot by itself explain the complicated exchange systems of the precolonial Caribbean.

A fundamental characteristic of island life is the maritime orientation of its communities. The islanders likely traversed the sea frequently and comfortably, despite its occasional unpredictability (Broodbank 2002; Fitzpatrick 2004; Watters 1997; Wilson 1993). The Caribbean Sea does not separate, but instead links island societies to each other, encouraging interaction and exchange (Watters and Rouse 1989). **Communities on opposite sides of a sea channel likely had more intensive contacts with one another than those at opposite ends of the same island** (cf. Bright 2005; Rouse 1951; Watters and Rouse 1989). This must be accounted for when defining archaeological chronospatial units and reflecting on their significance (cf. Wilson 1993). Clearly, the Lesser Antillean physical setting was conducive to maintaining both extensive and intensive contact across the region.

Island Culture: Settlement Patterns and Cultural Taxonomy

The precolonial Lesser Antilles attracted successive migrant groups from different directions. The first Ceramic age migrants from the South American mainland, recognized by their Saladoid pottery, originated in the Orinoco region and the Venezuelan coastal zone. These horticulturalists moved northward by about 400 B.C., bypassing some of the islands of the Lesser Antilles, swiftly reaching Puerto Rico (Callaghan 2003). On Hispaniola and Cuba, pottery occurs in Archaic contexts before people producing Saladoid ceramics arrived in the Antilles (Ulloa and Valcarcel 2002; see also Keegan and Rodriguez Ramos 2004). This may represent an independent development in the Greater Antilles, not linked to Saladoid pottery. The Saladoid movement into the Antilles occurred in several stages in a non-linear and seemingly indiscriminate fashion (Haviser 1997; Hofman and Hoogland 2004; Keegan 2004). The oldest radiocarbon dates come from Puerto Rico, Vieques, St. Martin, Montserrat, and Guadeloupe. By the first centuries A.D., the southern Lesser Antilles were also occupied. Chronometric hygiene (cf. Fitzpatrick 2006; Spriggs 1989) is needed to clarify the complex Caribbean settlement history. No particular preference for settlement

locations can be discerned from the archaeological data. Settlements are located on the coast and in the interior of islands in diverse ecological settings. Over time, settlements increased considerably in number and size. Between 400 B.C. and A.D. 400 the ceramic assemblages of the Lesser Antilles are characterized by La Hueca (or Huecan Saladoid), a curvilinear incised ware (Figure 3; Hofman and Jacobs 2000-2001) and Cedrosan Saladoid pottery (Petersen et al. 2004; Rouse 1992), which includes a zoned-incised crosshatched (ZIC) and a white-on-red painted (WOR) ware (Rouse 1989; Rouse and Alegria 1990). The intrusion of Barrancoid-style ceramics in the Lesser Antilles by about A.D. 350-400 marked the end of the Cedrosan development in the southern islands (Rouse 1976).

By A.D. 600-850 the islands apparently were densely occupied, given the large number of prominent sites. A possible site hierarchy has been advanced for the Leeward Islands along with the consolidation of local polities and exchange networks (Crock 1995; Crock and Petersen 1999; Hofman and Hoogland 2004; Hoogland 1996; Petersen 1996; Versteeg et al. 1993). The pottery shows a gradual decrease in the use of polychrome painting, modeling, and incision for decoration, ultimately leaving only monochrome painting and simple modeled face lugs (Rouse 1992). After A.D. 800 in the Windward Islands, the pottery tradition developed from a Troumassan to a Suazan subseries (Allaire 1977; McKusick 1960; Rouse 1992). The Caliviny style (Figure 4), characterized by painted scroll motifs and polychrome painting, was in use throughout the Troumassoid sequence in the Windwards but was restricted to the southern Lesser Antilles (Bullen and Bullen 1972). In the Leeward Islands the Troumassoid series is represented by the Mamoran subseries, characterized by more poorly executed and fewer decorated pottery vessels than the Saladoid (Hofman 1993; Murphy 1999, 2004; Petersen and Watters 1991; Rouse and Faber Morse 1999).

After A.D. 1200 the southern islands remained densely occupied. Survey data from St. Lucia suggest more but smaller sites. In southern St. Lucia, Late Ceramic age settlements have been found from the coast to deep inland along riverbanks (Hofman, Hoogland, and Keegan 2004). Few settlements are reported on the northern islands, and radiocarbon dates for contemporaneous sites are no later than cal A.D. 1350. It appears there was a preference for habitation in defensible locations or what Petersen and Crock (2001:126) have called "non-optimum settings" or locations high above and/or distant from the sea, with sparse vegetation and little, if any, farmland in the immediate surroundings. Sites were located in remote geographical settings such as Kelbey's Ridge II, Saba, atop a 120-m-high ridge on one of the most inaccessible islands of the Lesser Antilles. These locations likely functioned as refuges or strategic outposts (Hofman and Hoogland 2004). In this period the northern Lesser Antilles were characterized by Chican Ostionoid ceramics, reflecting the growing influence of the Taino cacicazgos. Suazan subseries ceramics, long regarded as the crudest Caribbean Amerindian pottery, occur from Tobago to Guadeloupe and La

Desirade before finally disappearing about A.D. 1350-1400 (Allaire 1977; Hofman 1995a; Rouse 1992).

Just prior to the colonial period the Windward Islands witnessed the appearance of Cayo and other ceramic styles related to the Guianas. Caraibe-tempered Cayo ceramics have been identified on Grenada, the Grenadines, St. Vincent, St. Lucia, Dominica, and Guadeloupe (Boomert 1986, 1995; Kirby 1974; Richard 2001), while possibly related pottery is known from La Desirade (Hofman 1995a).
Discerning Artifact Distribution Patterns

From the establishment of Saladoid communities in the archipelago onwards, elaborate systems of exchange crystallized, knitting dispersed island territories into a series of overlapping interaction spheres. The procurement of precious raw materials and the circulation of exchange wares was a deliberate strategy to effect interaction and regional integration. Several types of exchange and specific contact networks are shown by provenance studies (3) and stylistic analysis of pottery, microlapidary objects, lithic raw materials and tools, and shell and bone implements and ornaments (see also Boomert 2000; Hofman 1993; Wilson 2004:270-271). Ethnohistoric and ethnographic information sources can clarify the mechanisms that encouraged the diffusion and movement of particular goods and ideas within these networks. These sources also do justice to perishable goods, undoubtedly important in exchange relationships but largely absent from the archaeological record.

Early Ceramic Age I: 400 B.C.-A.D. 400 (Figure 5)

Before A.D. 200 La Hueca (or Huecan Saladoid) and Cedrosan Saladoid ceramic assemblages appeared stratigraphically jointly at some settlements and isolated from each other at other settlements within the area stretching from Basse-Terre to eastern Puerto Rico. Early Ceramic age ceramic iconography partly recalls the South American mainland. Realistic and mythological faunal representation occurs on vessels of both styles (Roe 1989:272). Despite sharing some aspects of technology and iconography, the wares are characterized by their own set of techniques, vessel shapes, and combination of stylistic motifs (Hofman and Jacobs 2000-2001). Local clays were used for most pottery, although some exotic clays have been identified, suggesting that either clays or finished pots were transported between the islands (Hofman 1999). After A.D. 200, sites yielding La Hueca or Huecan Saladoid ceramics are virtually absent and those yielding Cedrosan ceramics increased in number from Puerto Rico to the South American coast. Scrutinizing the Cedrosan Saladoid subseries more closely, micro-regional styles can be discerned. For instance, the Cedrosan assemblages of Soufriere on the southwest coast of Dominica and Fond-Brule on the northeast coast of Martinique have stylistically identical painted jars (not known from other sites in the Windward Islands) (Honychurch 1997).

Axe heads (celts) of indigenous gray-green, partly recrystallized mudstone (greenstone) were produced on St. Martin and distributed throughout the

northern Lesser Antilles. Hope Estate was the only settlement on St. Martin where greenstone was worked into tools, evidenced by considerable waste including flakes, large chunks and preforms (DeWaal 1999; Haviser 1999; Knippenberg 1999).

The finished tools were distributed to all other known settlements from Guadeloupe (Morel) to Puerto Rico (La Hueca, Sorce and Punta Candelero) (Knippenberg 2004, 2006; Rodriguez Ramos 2001). Flint from Long Island had a similarly extensive distribution. Long Island, north of Antigua, is one of the few places in the Lesser Antilles where it occurs abundantly (Van Gijn 1996). This flint, already much desired in the Archaic, was most widely distributed during the Early Ceramic age, with material showing up from Martinique (Vive) to Puerto Rico (La Hueca and Punta Candelero). Sites had direct access to Long Island flint from Guadeloupe to Nevis, and beyond this zone nodules were exchanged down the line. Nodules were reduced on the spot at the supply zone and receptor sites (Knippenberg, 1999, 2001 a, 2006; Rodriguez Ramos 2001).

Alternatives to St. Martin greenstone and Long Island flint were used, albeit in minor proportions. Primarily varieties of local northern Lesser Antillean cherts from Antigua, and to a lesser degree La Desirade, were used for making flake tools. These are not, however, widely distributed. Axe heads from sites in the northern Lesser Antilles have many more possible sources, including various igneous and metamorphic rocks, as well as green rock varieties, possibly nephrite. Many of the igneous rocks may be from the Lesser Antilles, although source locations are not known at present. The metamorphic rocks and green stones probably originate from more distant sources, as they are not local to the Lesser Antilles (Knippenberg 2006).

Specialized microlapidary workshops have been encountered in early Ceramic age contexts throughout the region. The distribution of the exotic raw materials from which ornaments were fashioned suggests long-distance distribution networks, but evidence of similar exchange mechanisms for other goods, material as well as immaterial, is lacking. Some of these networks stretched as far south as the South American mainland and possibly Central America, and involved the spread of semiprecious lapidary items as well as shell pendants through the Lesser Antilles to Puerto Rico (Boomert 1987a; Cody 1991a, 1991b; Harlow et al. 2006; Watters 1997). Workshops have been identified at Pearls, Grenada (Cody 1991a, 1991b), Trants, Montserrat (Crock and Bartone 1998; Watters and Scaglione 1994), Royall's and Elliot's, Antigua (De Mille and Varney 2001 ; Murphy et al. 2000), Hope Estate, St. Martin (Haviser 1999), Prosperity, St. Croix (Faber Morse 1989), La Hueca/Sorce, Vieques (Chanlatte-Baik 1983; Narganes Storde 1995a, 1995b) and Punta Candelero, Puerto Rico (Rodriguez Lopez 1991a, 1991b).

Numerous semiprecious rock types as well as less exotic rocks were used to manufacture the microlapidary items recovered at these sites. However, not all petrographic identifications are equally trustworthy. Pinpointing the natural

distributions of specific rock materials is problematic. Some were available throughout the Caribbean, including the littoral portion of the mainland, while others had more restricted natural occurrence. Amethyst is present patchily, on Martinique, and Puerto Rico (where it seems to be of poor quality), and possibly on Grenada (Cody 1991a, 1991b; Rodriguez Lopez 1991b; Westercamp and Tazieff 1980). Quartz is more common, and occurs on Puerto Rico, St. Martin, Antigua, Martinique, and possibly other volcanic islands of the Lesser Antilles (Christman 1953; Martin-Kaye 1959; Westercamp and Tazieff 1980). Serpentine or serpentinite is reported from the Venezuelan Coastal Cordillera (Araya, Paria), Margarita and La Orchilla, and from the southwest of Puerto Rico (Volckmann 1984; Wagner and Schubert 1972). Jadeite, peridotite, and olivine may occur together with serpentinite in these areas, while amber is known from Hispaniola's coastal zone and carnelian from Antigua and Hispaniola (Murphy et al. 2000). Poor quality malachite is present in Puerto Rico and Antigua (Martin-Kaye 1959; Rodriguez Lopez 1991b). Barite has been documented for Antigua, calcite for Grande Terre (Guadeloupe), Antigua, St. Martin, Anguilla, and Puerto Rico (Christman 1953; Knippenberg 2006; Martin-Kaye 1959; Murphy et al. 2000). Finally, greenschist is present on the South American mainland and Tobago, and lignite in the Orinoco Valley and on Trinidad (Boomert 2000). Ornaments made of these minerals are found throughout the Lesser Antilles up to Puerto Rico. Lignite and tourmaline have as yet only been found on the mainland and Trinidad. Lesser-used minerals such as nephrite and turquoise may have reached the Lesser Antilles from the mainland. Particular workshops apparently specialized in specific materials. Trants, for instance, yielded mainly microlapidary objects of carnelian, a mineral exotic to Montserrat and most likely obtained from Antigua (Murphy et al. 2000; Watters 1997). On the other hand, the Cedrosan inhabitants of Pearls specialized in manufacturing amethyst beads while the workshops at Sorce/La Hueca and Punta Candelero concentrated on serpentinite beads and pendants (Narganes Storde 1995a; Rodriguez Lopez 1991b).

Large numbers of exotic stone and shell beads and pendants have been encountered at these workshops. Trants yielded many stone beads and pendants, made of 29 exotic varieties of rocks and minerals (Crock and Bartone 1998). Sorce/La Hueca is even richer, yielding several thousand complete microlapidary artifacts, while its Huecan locus yielded more than 1,000 ornaments and inlays made of shell and mother-of-pearl as well as pieces of decorated bone and petrified wood (Narganes Storde 1995b; Oliver 1999). The number of finished stone and shell beads and pendants from Punta Candelero has been estimated at more than 2,500, and that of unfinished pieces at several thousand (Rodriguez Lopez 1991b). Elsewhere, fewer micro lapidary objects were recovered. Throughout the Caribbean, the most numerous pendants are frog shaped, but a few are specimens representing jaguars, dogs, bats, raptorial birds, frigate birds, caimans, turtles, sharks, manatees, and possibly rodents like hutias (*Isolobodon portoricensis*). Pendants of predominantly serpentinite representing king vultures carrying animals in their claws have been found from

Puerto Rico to as far south as Grenada and Trinidad (Boomert 2001b). At La Hueca, more than 40 of these pendants have been recovered (Narganes Storde 1995a). A long-distance connection is reflected in the depiction of fauna not endemic to the islands, such as the king vulture (or possibly the Andean condor) and the jaguar (Boomert 2000, 2001b; Chanlatte-Baik and Narganes Storde 1983; Rodriguez Ramos and Pagan Jimenez 2005; Roe 1989; Siegel 1991). Fragments of hammered ornaments made of guanin, a gold-copper alloy, are known from early Ceramic age contexts in Puerto Rico and Vieques (Siegel and Severin 1993). They probably originated in the South American mainland, but their route to Puerto Rico is still unclear.

Early Ceramic Age II: A.D. 400-600/800 (Figure 6)

During late Cedrosan Saladoid times microregional interaction between the various islands occurred, evidenced by more localized style zones evincing common island imagery with more generalized and occasionally fantastic creatures, including bats, dogs, or lizards (Hofman and Hoogland 2004; Roe 1989:272). One style zone crystallized in the south where Barrancoid elements spread from the mainland to Trinidad, to Tobago, and in a more attenuated form to the other Windward islands, and perhaps as far as the southern Leewards. A second style zone is apparent between Grenada and Guadeloupe, a third between Antigua and Saba, and a fourth between the Virgin Islands and Puerto Rico. Ceramics from Indian Creek, Antigua, and Golden Rock, St. Eustatius show striking similarities in temper, manufacturing techniques, shapes, and decoration (Faber Morse 2001).

Numerous settlements on St. Martin, Anguilla, St. Eustatius, Saba, and St. Kitts processed St. Martin greenstone (Crock 2000; Crock and Petersen 1999; Haviser 1999; Knippenberg 1999, 2004, 2006; Walker 1980). Finished tools were exchanged from these production centers to as far south as Martinique and as far north as Anguilla. Flint was still being used and distributed widely. Fall-off analysis shows that the supply zone had expanded including Saba and St. Eustatius as well. The distribution, however, contracted and material no longer reached Puerto Rico (Knippenberg 2006).

Small threepointed objects, an important category of zemis (4), appeared in Saladoid sites (Figure 7), and likely fulfilled various ritual functions. Their first appearance was apparently not coeval with the initial entry of horticulturalists in the region, but seems to have been a later, local phenomenon. For the Leeward Islands, the earliest threepointer finds postdate ca. A.D. 300; threepointer manufacture was greatest during the Late Ceramic age (Knippenberg 2006). They were manufactured of shell and a variety of stones including calcirudite, and various types of limestone and igneous rock such as pumice (Crock and Petersen 1999).

Modest numbers of finished beads and pendants, as well as debitage, have been found at Golden Grove, Tobago (Boomert 2000), and at Tutu, St. Thomas (Righter 2002). They are predominantly made of diorite, calcite, and rock crystal varieties. Noteworthy is the decline in the number of lapidary items in the northern Lesser Antilles, clearly showing that the long-distance trade network was diminishing.

Carved zoomorphic ornaments made of naiad shells (*Unionidae* sp.), likely deriving from the South American mainland or Trinidad, are known from Hope Estate, St. Martin, Indian Creek, Antigua (Indian Creek/Mill Reef complex, i.e. mid-late Saladoid/early Troumassoid), Dizac, Martinique (late Saladoid), Richmond and St George's, St Croix (mid-late Saladoid), and Anse a la Gourde, Guadeloupe (late Saladoid) (Serrand 2001).

Late Ceramic Age 1: A.D. 600/800-1200 (Figure 8)

The waning of the Saladoid series and its replacement by Troumassoid and Ostionoid ceramics in the Lesser Antilles, the Virgin Islands and Puerto Rico around A.D. 600/800 reflects the continuing process of regionalization that started in late Saladoid times. A major cultural division developed between Puerto Rico, the Virgin Islands, and the Leeward and Windward Islands respectively. A lesser distinction developed within the northern and southern Windward Islands (Allaire 2003; Hofman and Hoogland 2004). On the basis of stylistic traits, the Troumassan Troumassoid interaction sphere appears to have comprised three distinct areas: Tobago, Barbados, and the remaining Windward Islands. This may point to a mediating role played by communities on Tobago between Trinidad and mainland South America on the one hand and the Windward Islands on the other (Boomert 2005). On Trinidad, the breakdown of the Saladoid tradition coincides with the decline of the Barrancoid series and its replacement by the Aranquinoid series on the island, in the Orinoco Valley, and in the Guianas littoral. In fact, Arauquinoid stylistic influences can be recognized in Troumassoid assemblages throughout the Windward Islands (Boomert 2005; Bullen 1964; Hofman and Hoogland 2004).

The causal factors behind these regional ceramic developments are not well researched, but they likely reflect major alterations in the cultural expression of the extant sociopolitical alliances, group identities, social networks, and interaction systems throughout the region (Hofman 1993, 1995b). Beets et al. (2006) recently suggested that climate change may have played a role in instigating social changes or at least stimulated already ongoing processes. The boundaries between the style zones of the Caribbean remained fluid during this period. Within the broader style zones, micro-style areas developed, indicating the diffusion of ideas or intercommunity contact networks. An example in the northern Leewards is provided by the strong similarities in vessel type and ceramic decoration between the assemblages of The Bottom on Saba and Sandy Hill on Anguilla. Frequent decorative motifs, such as pelican heads in

combination with ovoid rim lugs symbolizing their wings, are associated with certain vessel shapes at both sites (Hofman 1993). Textural and mineralogical composition of the The Bottom ceramics indicate the use of local clays for most pottery. Exotic fabrics have been recognized only among some decorated ceramics, which were likely imported from one of the limestone islands surrounding Saba. In contrast, the Anguilla vessels use volcanic clays and tempers, indicating that either the finished pots or the raw materials came from a volcanic island (Crock and Petersen 2004). Comparable microstyle areas can be recognized in the eastern Guade-loupean area, comprising the settlements of Anse a la Gourde on Grande-Terre (Guadeloupe) and Petite Riviere on La Desirade (Hofman, Delpuech, Hoogland and De Waal 2004). A third example is represented by the distribution of Caliviny-style pottery throughout most of the southern Lesser Antilles (Boomert 1987b; Boomert and Kameneff 2005; Bullen 1964; Suttly 1983). A network may have existed between settlements on St. Vincent where over 20 sites have been documented with Caliviny pottery, and St. Lucia, Martinique, the Grenadines, Barbados and Tobago, all with fewer than 10. The distribution may reflect the spread of Caliviny-style pottery from one source but it may also have arisen through the diffusion of stylistic ideas.

More localized networks are also apparent in the distribution of local lithic materials. In particular, the Long Island flint, and, to a lesser degree, the St. Martin greenstone, have less-extensive distributions. Both remain common materials in the Anguilla-Guadeloupe region, but they either cease to occur beyond this area (Long Island flint) or diminish in frequency (St. Martin greenstone). The decrease in greenstone was already noticeable during the later part of the Early Ceramic age, when it becomes rare on Puerto Rico and in its immediate surroundings (Knippenberg 2001a).

Although microlapidary items are still present in post-Saladoid contexts, they were made of different materials. The cessation of long-distance distribution of semiprecious ornaments, which started during late Saladoid times (after A.D. 400), is the clearest example of more localized intercommunity contacts. Micro-lapidary items are now made of calcite, diorite, and rock crystal varieties (Knippenberg 2006). Workshops manufacturing diorite beads were present from Tobago to the Greater Antilles. Unfortunately, the regionwide natural occurrence of diorite renders it difficult to identify distribution routes and interaction spheres revolving around diorite beads, blanks or unworked rock fragments.

Threepointer manufacture and distribution witnessed its heyday between A.D. 800 and 1500 when the objects were most frequent and elaborate. The finest examples, from the Greater Antilles, date to just before the colonial period. Throughout the northern Lesser Antilles, the picture is slightly different, with peak threepointer manufacture between ca. A.D. 600-800 and 1200. Calcirndite was especially sought for threepointer production. This conglomerate occurs naturally at Pointe d'Arago, a cape on St. Martin's west coast (Knippenberg 2004, 2006). Several settlements on St. Martin and Anguilla were involved in the threepointer

manufacture (Crock 2000; Crock and Petersen 1999; Haviser 1987; Knippenberg 2004, 2006). Finished threepointers have been recovered from Guadeloupe, Antigua, St. Eustatius, Saba, Anguilla, and Puerto Rico. The most striking feature of the calcirudite distribution network involving these ritually charged objects is its restricted duration, only partly overlapping with the general period of threepointer manufacture and distribution. Most dated production contexts fall between ca. A.D. 800 and 1250.

Further intriguing finds include a threepointer and a greenstone fragment found at the Paso del Indio site, Puerto Rico, one of the few Late Ceramic sites on the island where exotic items from the Lesser Antilles have been encountered. Similarly, Anse a la Gourde, Grande-Terre (Guadeloupe), yielded numerous greenstone axes as well as some calcirudite threepointers (Hofman et al. 2001). The stone threepointers from Anse a la Gourde and several sites on Anguilla are larger and more elaborate than their counterparts from other islands. Again, the material variety is striking, including quartz, igneous rocks, calcirudite, calcite, and many varieties of limestone (Crock and Petersen 1999; Knippenberg 2001b, 2006). Many sites have yielded threepointers made of local stone as well as specimens of exotic materials. For instance, most limestone threepointers found on Guadeloupe and Anguilla are made of local rocks. Calcirudite threepointers were only manufactured locally, suggesting that direct access to its source was restricted to certain communities on Anguilla and the western part of St. Martin. This is in sharp contrast to the greenstone material, which exhibits a larger and more homogeneous production region, including the islands of St. Eustatius, Saba, and eastern St. Martin.

Late Ceramic Age II: A.D. 1200-1492 (Figure 9)

From A.D. 1200 onwards, new cultural boundaries developed and exchange networks shifted again. On the Greater Antilles, with Hispaniola as the cultural center, pottery of the Chican Ostionoid (Taino) series developed represented by a number of local styles. Roe (1989:290) has argued that in Taino times, pottery was mass-produced using simple, standardized vessel shapes and decorative modes. Chican Ostionoid pottery is finely embellished with plastic designs and associated with an elaboration of prestige objects and ceremonial paraphernalia. Chican ceramics have been documented as far west as eastern Cuba and to the northeast into the Bahamas where they are interpreted as exchange items among the Meillacan and Palmetto pottery styles (Keegan 2000; Veloz Maggiolo 1972). These vessels are most often marked with repetitive and highly stylistic motifs suggesting they possessed greater and more specific symbolic content than pottery that simply marked social status (Wilson 1990).

Contacts between the Greater and northern Lesser Antilles are evidenced by Chican pottery on Saba (Figure 10), Anguilla, and St. Martin. Chican ceramics in the Lesser Antilles belong to a heterogeneous set of styles including Boca Chica, Esperanza, and Atajadizo, each of which is endemic to a specific area of

Hispaniola and Puerto Rico. They compellingly imply different contact lines between those areas and the Virgin and Leeward Islands (Crock 2000; Faber Morse 2004; Henocq and Petit 1995; Hofman 1993; Petersen and Crock 2001; Petersen et al. 2004; Richter et al. 2004). Ceramics from Kelbey's Ridge II on Saba clearly are affiliated with the Boca Chica style of the southeastern Dominican Republic (Hofman 1993; Hoogland and Hofman 1999). However, most vessels are made from local volcanic clays. A minor part of the pottery is made of exotic clays, either from directly neighboring islands such as St. Eustatius, or from more distant islands, suggesting that either the clays or the finished products were imported (Hofman 1993:190-196; Hofman et al. 2005). In the southern Lesser Antilles there is some regional variation in Suazan ceramics, particularly between assemblages from Tobago and those from the Windward Islands. Late fifteenth-century ceramics from Morne Cybele and Morne Souffleur, La Desirade exhibit local Suazan features combined with possible mainland elements (Hofman 1995a; Hofman, Delpuech, Hoogland, and De Waal 2004). Similar long-distance relationships are evidenced by the Cayo ceramics found on Grenada, St. Vincent (Cayo), St. Lucia (Black Bay), Dominica (Woodford Hill), and Basse-Terre, Guadeloupe (Plage de Roseau). Relationships have been postulated with the Guianas because of the close similarities between Cayo pottery and the Koriabo style (Boomert 1986, 1995). As an offshoot of the Koriabo complex, itself a member of the Koriaban subseries of the Amazonian Polychrome Tradition, Cayo has been identified with the colonial period Kalinago (Island Caribs) who referred to the Guianas as their original homeland. Migrants from the latter area may have settled on the islands by intermarrying with the local inhabitants. On the other hand, clear stylistic affiliations between particular Cayo vessels and the Chican Ostionoid ceramics of the Greater Antilles suggest that relationships existed with these parts as well (Boomert 1986, 2004).

Shell, bone, and stone artifacts showing strongly Chicoid iconographic characteristics with clearly supernatural associations found their way from the Greater Antilles, Puerto Rico, and the Virgin Islands to as far as the Grenadines. However, several equally Chicoid-like Late Ceramic artifacts found in the same area probably represent imitations or reduced models, reflecting the syncretic assimilation of distinctly Taino iconographic features into the Suazan Troumassoid stylistic norms then dominating the Lesser Antilles (Allaire 2003). An example is the drug-inhaling stand composed of a seated female pottery figurine, from a Late Ceramic context on St. Lucia (Lavoutte), which may be a local imitation of the wooden cohoba stands of the Greater Antilles. Other artifacts obviously inspired by Taino material culture include large stone three-pointers with anthropozoomorphic features, considered to be representations of ancestral spirits and used by the Taino caciques as legitimizing devices (Curet 1992; McGinnis 1997; Pane 1999 [1571]). Such threepointers have been encountered on Anguilla (Sandy Hill), Guadeloupe (Anse a la Gourde), and Dominica (Soufriere). Other artifacts include a wooden ceremonial seat (duho) found on Dominica, shell masks (so-called guafzas) from islands between Anguilla and Ile de Ronde, and vomiting spatulas. Both the exchange items and

their imitations clearly reflect long-distance interaction with the northwest across the archipelago.

Greenstone axe heads manufactured on St. Martin are found between Saba and northern St. Lucia in contexts dating to this period. Long Island flint had a more restricted distribution than greenstone while the calcirudite threepointer production likely ended in the previous period (Knippenberg 2004, 2006). Meanwhile, the movement of guanin objects from the South American mainland through the Antilles to the chiefdoms of the Greater Antilles and Virgin Islands apparently continued, as these objects play a major role in Taino mythology (Oliver 2000; Valcarcel 2005). Although Whitehead (1990) postulated that the Guiana Highlands formed a manufacturing center of such gold-copper ornaments, only one guanin object is known from this region, a bird-shaped chest pendant dredged from the Mazaruni River in Guyana (Whitehead 1990). This object and the few gold-copper objects found in the Greater Antilles, most of which date to late precolonial and early colonial times, show iconographic features reminiscent of the major pendant types from the guanin-working ateliers of the Colombian and Venezuelan Andes as well as the Isthmian region. This suggests either a direct crossing or diffusion along the Caribbean littoral or across the Venezuelan/Colombian llanos to the Orinoco Valley and on into the West Indies, passing through the Lesser Antilles.

A View from Ethnohistory and Ethnography

Certain exchange objects, which occurred throughout the Caribbean from the Early Ceramic age onwards, were still highly valued in the early colonial period, suggesting strong cultural continuity. Many of the perishable materials that were exchanged in the early colonial period, including salt, baskets, feathers, canoes, and hammocks, may have figured in precolonial exchange as well (e.g. Bernau 1847; Breton 1921; Dreyfus 1983-1984; Im Thurn 1883; Jane 1933). In colonial times complicated exchange networks in which goods, persons, and values circulated characterized large parts of the South American tropical lowlands, knitting together extended areas as systems of regional interdependence (Arvelo-Jimenez and Bjord 1994; Boomert 1987a, 2000; Mansutti Rodriguez 1986; Morey 1976). To this day remarkably complex exchange systems are active in parts of the mainland, notably the Guiana Highlands, where groups are renowned for the manufacture of specific items (e.g. Butt-Colson 1973). The system likely evolved from both a genuine and a pretended lack of raw materials or requisite manufacturing skills. Directly reciprocal exchanges in the Guianas take place today through trade partnerships between individuals, often linked by kinship or marriage. Feasts, held for marriages, initiation ceremonies, and burials, typically form the setting of such exchanges (e.g. Im Thurn 1883; Roth 1924). Early documents indicate that the monopolization of the production of important and powerful religious items and their exchange likely occurred between the elites of regional centers. Wilson (1990) mentions the well-known case of chief Caonabo's wife, Anacaona, as an example of a Taino elite person

who played an important role within an elite exchange network and was able to accumulate numerous valuables through gift exchange.

Traditionally the exchange of a few highly prestigious objects with strongly symbolic associations was paired with that of numerous ordinary trade wares. In fact, it is often difficult to distinguish between these two categories, as possession of both was visual proof of successful participation in one or more regional exchange networks and, consequently, yielded prestige. In addition, numerous myths, tales, songs, dances, and news and exchanges of knowledge and experience passed through the established exchange and trade links. Inter-elite gifting of esoteric knowledge in the form of the exchange of sacred songs is known ethno-historically from the Taino of the Greater Antilles (Wilson 1990).

Artifacts as Transcendental Values of Culture

Artifacts related to myths and legends can be material carriers of the transcendental values of culture (5) (Guss 1989; Henley and Mattei Muller 1978; Wilbert 1970; see also Vredembregt 2004). The high status of these objects derives from their character as visual signs of successful participation in regional trade and alliance networks. This prestige also appears to be closely linked to the ritual messages these valuables or precious objects spread. (6) Their possession indicated access to supernatural power as well as esoteric knowledge and wisdom derived from distant realms.

The Arawakan and Cariban speaking people of the Guianas today express identity and various aspects of the relationships among kinship groups through symbols and designs on pottery, stone, and perishables like baskets and calabash, as well as body ornamentation. Those designs, expressed in lines, dots, and circles, are inspired by the world that surrounds the people, a world inhabited not only by humans, plants, and animals, but also by numerous spirit beings. Each design has its own name that refers to living creatures in the forest, spirits, dances, and musical instruments (Van den Bel 1995). These decorative motifs are used by the Palikur of French Guiana as a means of communication between themselves, their supernatural world, and other people. During ceremonial feasts the Palikur not only decorate their pottery but also their bodies with clan logograms. In this way specific social networks can be recognized through the intrinsic meanings of style as emblems of kinship groups, individual identity, and political alliances in traditional mainland Amerindian societies (Duin 2000-2001; Van den Bel 1995; Vredembregt 2004).

Symbolic expression is also clearly embodied in precolonial Caribbean material culture. Pottery is heavily decorated with various designs representing flora, fauna, and mythological creatures. Figurative and abstract representations of turtles, frogs, bats, pelicans, dogs, and monkeys embellish ceramics from the Early Ceramic age on (Roe 1989). However, the symbolic significance is not only expressed in the decorative motifs, but permeates the entire manufacturing process. The beliefs embedded in the different production steps support the social significance of the final product as well (Hofman and Jacobs 2000-2001;

after, for example, Guss 1989:127). The regional stylistic homogeneity of Early Cedrosan ceramics is strong evidence that Early Ceramic age communities from as far south as coastal Venezuela and Trinidad had frequent and sustained interaction with those as far north as Puerto Rico. The high stylistic visibility and uniform iconographic expression of Early Ceramic age pottery may have reflected symbolic communication and a shared cosmology to strengthen group identity and ethnic affiliation (Hofman 1993:203-216).

Valuing Valuables

Specific objects found in the Caribbean from the Early Ceramic age on, such as frog-shaped pendants ("Amazon stones") and guanin ornaments, were still regarded as the principal valuables of colonial period long-distance exchange (Boomert 1987a, 2000). Obviously, the differential distribution of exotic rock and mineral resources in the region was one, but not the only, factor determining the system of ceremonial exchange among communities during the initial Ceramic age settlement of the Caribbean. Expertise in certain types of microlapidary work on particular materials may equally have played a role in the development of the specialized workshops. The lapidary craftsmen manufactured beads, pendants, and other ornaments from local and nonlocal stone and shell materials including some from as far away as the South American mainland. Perhaps a combination of direct voyaging and down-the-line exchange formed the basis of the system. Ethnohistoric information suggests that these highly esteemed, exotic objects may have changed hands between elites to conclude social and political transactions such as alliance formations, marriage payments, and homicide compensations. They obviously formed key elements in personal adornment and status rivalry among precolonial peoples and may have been used in competitive exchanges with dramatic displays and transference during dance feasts (e.g. Boomert 1987a, 2000; see also Earle 1982).

Boomert (2000:422-425) suggested that the ornamental valuables were acquired and manipulated by village chiefs as part of feasting ceremonies of gift giving and competitive emulation in which community leaders tried to demonstrate wealth and power to attract and maintain large followings, thereby outshining possible rivals (Boomert 2000:422-425). Exploration voyages to reconnoiter virgin territories for settlement, and to seek out new subsistence sources and raw materials, also led to the acquisition of highly valued esoteric knowledge. These can be excellent means for an emerging community leader or empowered individual to ascertain a position (Helms 1988). The Early Ceramic age migration waves into the Antilles formed the social framework and the precondition for the development of a village society characterized by fluctuating leadership roles of headmen.

The prestige objects encountered throughout the Antilles may represent the products of highly expert village artisans and craft specialists who combined craftsmanship with shamanic activities. Pendants showing raptorial birds,

probably king vultures, carrying animals in their claws have been found from Puerto Rico to Trinidad. They may have formed shamanic insignia reflecting the still-current belief among South American tropical lowland peoples that the king vulture is instrumental in assisting the shaman's soul to reach the celestial world during drug-induced trances (Boomert 2001b).

The green rock amulets found at Early Ceramic age sites are also known from the colonial sources. These typically female-associated ornaments are identified in Amazonia, the Guianas, and the Antilles. Their manufacture was ascribed in the early colonial period to the mythical tribe of the "women-without-men," which the early European travelers were apt to relate to the Amazons of classical antiquity (Boomert 1987a). Worn in necklaces by women during inter-village feasting, the "Amazon stones" were principally transmitted as means of homicide compensation and marriage transactions to establish or maintain political alliances. The high prestige of these frog-shaped valuables derived from their associated mythological symbolism and ascribed qualities of nurturing fecundity and assisting women in giving birth. Major microlapidary manufacturing centers, using nephrite as the main raw material, were present on the Lower Amazon in late precolonial times, while contemporaneous ateliers using local green rhyolite for making "Amazon stones" have been identified in coastal Suriname. In early colonial times the people of the Antilles obtained such pendants and beads from the Guiana coast. Those manufactured from nephrite, which reportedly reached the Lesser Antilles, may have come from the Lower Amazon. However, the majority were made of other rocks that apparently originated in the eastern Guianas (Boomert 1987a).

Numerous shell beads encountered in Caribbean sites, for example at Anse a la Gourde on Grande-Terre, where more than 1,000 were found on the pelvis of a buried woman (Hofman et al. 2001 ; Figure 11), also have ethnohistoric counterparts. Strings containing hundreds to several thousand small, fiat shell beads of equal size, known as uruebe or quiripa, formed another major valuable exchanged during early colonial times. Their manufacturing center was in the llanos of Colombia and Venezuela, although they were exchanged as far as Trinidad, the Lesser Antilles, and the Guianan coast (Gasson 2000). Clearly, the prestige value of the quiripa was related to the skill with which they were made and the effort and time this entailed. Whether the precolonial specimens represent objects that formed part of an exchange cycle such as the early colonial quiripa is not clear. Other valuables that were exchanged, but on a geographically restricted scale, include small pieces of quartz crystal used in shaman's rattles, jasper-like pottery polishing stones, salt bricks, pearls, and conch trumpets (Ahlbrinck 1931; Fisher 1928 [1610]; Hoff 1968; see also Boomert 2000:424).

Ear, nose, and breast ornaments in the form of crescents and birds of prey, manufactured of thinly hammered guanin plates, represent the most ethnohistorically discussed but archaeologically least visible valuables of the

Caribbean. Such typically male-associated ornaments reportedly found their way from the mainland to as far north as the Greater Antilles. The Taino valued guanin above gold because of its symbolic associations, shiny appearance, hardness, color, and special smell. As smelting technology was unknown to them, only hammered objects of nearly pure gold found in the Greater Antilles are of possible local manufacture (Oliver 2000).

Epilogue: A Web of Social Relationships

During precolonial times in the Lesser Antilles, interaction occurred at different levels in varying intensity, depending on the exchanged good, timing, and motive. Exchange was instrumental in shaping and maintaining healthy social relationships between islanders, thereby safeguarding one's own fitness. The multiple exchange modes reflect fluid social ties based on kinship, marriage, or lineage. Exchange patterns changed through time as a result of shifting and expanding group territories, fission and fusion of local groups, and changing sociopolitical organization.

Early Ceramic age populations were relatively small among the islands, making the distance traveled to maintain contacts between communities great. Connections with South America are reflected by the flow of certain materials and by a shared mainland iconography. The maintenance of contact networks would have been of vital importance during the stressful colonization process of the Antillean archipelago. As Keegan and Maclachlan (1989) have emphasized, the decision to establish new settlements involves a compromise between the desire to maximize access to unexploited resources and the desire to maintain social relations with the parent community. The necessity of maintaining population fitness in a sparsely populated, vulnerable island landscape requires the establishment of a contact network and regular contact with other settlements (cf. Keegan et al. 1998; Kirch 2000; Moore 2001). Watters (1997) has drawn a parallel with the prehistoric colonization pattern of Oceania, where Lapita horticulturalists developed a "lifeline" of long-distance trade with their area of origin, concentrating on material exchange, especially of prestige goods not available in the newly settled islands. The exchange of prestige goods appears to be more an epiphenomenon of the rapid Saladoid migration(s) rather than a causal factor. The eagerness with which they engaged in exchanging prestige goods in the region suggests that, as in Oceania, exchange was a survival strategy of the colonizers, designed to establish firm linkages, probably through mating networks, among the various new settlements as well as between the latter and the homeland communities.

Over time, the stabilized conditions afforded by island adaptation and the subsequent increased population density resulted in the formation of more localized micro-regions, which acted independently with respect to resource procurement, as well as social matters (see also Knippenberg 2004, 2006). The process of regionalization is most visible during the early phase of the Late

Ceramic age, but apparently started earlier (see Hofman and Hoogland 2004). The decrease of long-distance exchange is most clear in the termination of the distribution of lapidary items and their replacement by objects made of local rocks as well as the development of local pottery styles. Roe (1989:270) suggested that a ceramic devolution occurred once the interaction system, on which these early pottery traditions depended, was ruptured by decreased long-distance trade. Interaction during this period was restricted to that between adjacent islands and no longer took place over long distances, explaining the coherence of style between neighboring islands and the diversity between more distant island groups. However, compositional analysis has also determined that Late Ceramic age pottery production was becoming more standardized despite the differentiation in style. This standardization may have been based upon a combination of population increase or shifts in exploitation coupled with the subsequent manipulation of a well-entrenched pottery technology, and possible development or modification of social organization and craft specialization (Fuess 2000).

At the end of the precolonial occupation, long-distance connections between the Greater Antilles and the mainland were again more apparent. The data suggest that the Lesser Antilles were incorporated in the influence spheres of these larger centers of cultural development and as such may have functioned in the exchange networks connecting both regions. Guanin is the prime example of a valuable that made its way sparingly from the mainland to the Greater Antilles (Valcaxcel 2005). On the Greater Antilles, this period corresponds with growing sociopolitical complexity and expanding chiefdoms around A.D. 1200 (Curet et al. 2004). Exchange between the mainland and the Greater Antilles is also palely reflected by pottery stylistic elements and the distribution and presence of prestige items in the Lesser Antilles (Hofman and Hoogland 2004). The Taino-style shell masks or guaizas found all the way down to the Grenadines are emblematic in this regard. They might well have garnered increasing prestige as they circulated between various actors that made up the network encompassing the Greater and Lesser Antilles and the South American mainland. Whether communities on the Lesser Antilles were equal trading partners in this social network or merely functioned as middlemen remains a moot point.

Exchange is a multifaceted phenomenon involving the natural, cultural, and social realms. It acts in society within a web of relationships underpinned by myriad material expressions. The interplay between these expressions and the societal demands at hand is responsible for the varied rhythms resounding throughout the islands. The complex web of social relationships that manifests itself from the Early Ceramic age through colonial and present times will be further disentangled in the coming years by additional multidisciplinary studies regarding the provenance and distribution of materials and the mobility of people and the exchange of ideas.

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NOTES

(1.) This study emanates from the multiyear project Mobility and Exchange in the Precolumbian Caribbean, which considered the dynamics of social, material, and ideological relationships from a multidisciplinary perspective that embraces archaeology, archaeometry, ethnohistory, and ethnography. This project (grant #016-044-312 of the VIDI innovational Research Incentives Scheme) is financed by the Netherlands Foundation of Scientific research (NWO). It continues the study of inter-regional relationships initiated with the NWO ASPASIA project (grant # 015-001-101, promoting women in academic careers) and NWO programmatic research grant #360-62-000. All three projects are directed by Dr. C. L. Hofman.

(2.) This article takes a multidimensional approach towards exchange, in which the dynamics of different aspects and levels of exchange are examined as a total social phenomenon or "fait social total" (Mauss 1950:147). Ideological, moral, social, political, and economical institutions are expressed in these phenomena. Boomert (2000:422) adopted a similar connotation of exchange for his research on the Trinidad-Orinoco interaction sphere as did Arvelo-Jimenez and Biord (1994), Butt-Colson (1983-1984), Mansutti Rodriguez (1992) and Morey (1976)

for South American tropical lowlands exchange networks. Similar complex systems of relationships characterized large parts of the early colonial period South American mainland, knitting together extended territories as interaction spheres or systems of regional interdependence. The circulation of exchange wares was a deliberate cultural strategy to effect interaction. The passing of myths, tales, songs, dances, news, and exchanges of knowledge and experience via established exchange links induced cultural unity throughout the region.

(3.) XRF and TIMS provenance studies are being conducted on ceramics, semi-precious stone materials and human skeletal remains. Analyzing trace-element composition of source and artifact samples using Inductively Coupled Atomic Emission Spectroscopy (ICPAES) along with thin-section analysis has been performed to determine the provenance of the chert materials. Thin section analysis has been carried out for artifacts made of calcirudite and St. Martin greenstone (Knippenberg 2004, 2006).

(4.) In the early fifteenth-century chronicles this term was used to refer to any kind of material representation or objectification of spirits. We have chosen to follow the spelling implemented by Pane (1999 [1571]).

(5.) By transcendental values of culture we mean those values that play a part in the ideological and spiritual realm.

(6.) By valuables or preciousities we mean exotic-looking, highly valued and rare manufacture goods, which changed hands between headmen and chiefs to conclude social and political reciprocal transactions (Earle 1982; see also Boomert 2000).

(7.) The ethnographic research drawn upon took place under the auspices of the Faculty of Archaeology of Leiden University during the 1990s and has resulted in several Master's theses.

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