Archaeological investigations between Cayenne Island and the Maroni river : a cultural sequence of western coastal French Guiana from 5000 BP to present

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Chapter 12

The synthesis and reflections

In this chapter all results of the presented excavations will serve to create a diachronic cultural overview or sequence, regarding the region located between Cayenne Island and the Maroni River, one of the major objectives of this research. The site analysis presented per chapter has revealed a first ascription to a specific Age in time and regional context. These analyses will serve as guideline for this synthesis which remains a proposition, and certainly requires further adaptations in the future whenever new sites are discovered (Table 12.1 and Fig. 12.1).

12.1 The Archaic Age

The existence of Preceramic or Archaic sites had been presumed, but never attested for in French Guiana (Rostain 1994a:411). In 2005, INRAP members detected two Archaic sites, undeniably revealing the presence of Meso-Indians in the eastern Guianas, namely at Plateau des Mines on the Lower Maroni River and at Eva 2 near Malmanoury (Mestre and Delpech 2008; van den Bel et al. 2006). A date of *c.*7000 BP was recorded for the Plateau des Mines site (PDM). Eva 2 was dated slightly earlier than 5000 BP (cf. Table 4.1). PDM also featured much more recent dates of *c.*4000 BP, possibly indicating another later occupation, but still without ceramics, similar to the one accounted for at the Eva 2 site at *c.*3500 BP, which did yield ceramics at a later stage. Interestingly, the early ceramics of the CSL site (Phase 1) share technological aspects with Eva 2. Both sites are contemporaneaous, considering the ceramic occupatioin. In this way, PDM is a true Preceramic site whereas Eva 2 has two components: a Late Preceramic and an Early Ceramic one, rendering the latter site transitional and stressing the importance of this Late Archaic/Early Ceramic Age (Phase A) site. Both Archaic sites share relevant characteristics: (a) the presence of grinding tools, (b) production of short flakes, (c) earth ovens and (d) their implantation on the White Sand Formation, all of which can now be considered important markers for the Late Meso-Indian population of the eastern Guianas.

At the beginning of the Holocene, a technological shift is recorded for these Meso-Indians. It marks the start of the Early Archaic Age and the end of the Lithic Age (Willey 1971). Hunting now focused on a wide variety of small game

Age	Phase	Calibrated date
Lithic		12,000-8000 BC
Archaic	Early	8000-5000
	Late	5000-3000
Ceramic	Early A	3000-0
	Early B	0-AD 900
	Late	900-1500
Historic	Early	1500-1800
	Late	1800-2000

Table 12.1. The archaeological Ages of coastal French Guiana.

and, more importantly, their toolkit was extended by means of grinding and retouched flaked tools. As to the Early Archaic Age, we dispose of a small quantity of data with regard to this phase in the Atlantic Guianas. However, archaeological research in Greater Amazonia has revealed that this population appreciated the consumption of all sorts of roots (notably arrowroot) and palm fruits which they tended during visiting cycles through their territory (Gnecco and Aceituna 2004). The presence of earth ovens appears to be a significant indicator of this transition. Processing tubers and vegetables in earth ovens or cooking pits can be associated with the Archaic Age of Guiana as it is the case in North America (Dering 1999; Thoms 2003, 2009). In fact, these pits represent the intermittent stage of food consumption, i.e. from roasting on an open fire (Lithic Age) to boiling in ceramic containers (Ceramic Age). In this evolution, the earth oven is a relevant innovation as to cooking food and notably tubers, which were previously only roasted. Cooked or steamed tubers, grains or beans can now be manipulated by means of specific grinding tools too in order to obtain masses, i.e. when preparing soups.

In addition to the introduction of elaborate grinding tools (e.g. pestles, mortars, edge grinders, milling stones) the lithic assemblage is marked by means of producing short flakes interpreted as implements for grater boards (Perry 2002a). As Perry pointed out (2001:260), many sorts of edible roots, not only manioc, have been reduced to pulp on these graters (cf. Section 12.5.2 for a further discussion on grater boards). Cooking, grinding, and grating appear to be significant activities in the process of food consumption. Further research is required in order to assess the final products and the way in which the various crops were prepared for consumption. The starch analysis of four milling stones from Eva 2 evidenced the grinding of maize kernels, sweet potatoes, arrowroot and jack beans. It can be suggested that these crops were thus ground and then, for example, steamed as *tamales* in the earth ovens.

Another important trait of the French Guiana sites is their location on the White Sand Formation. Although we have little conclusive evidence concerning the geomorphological origins of this geological formation, the presence of an Archaic occupation level at *c.*1 m deep, is particularly interesting and requires further geo-archaeological research (Vincent Freycon, personal communication, 2013). The detection of such sites is rather difficult without any mechanical means or systematic augering surveys. It may be evident that the discovery of such sites requires a strike of luck when merely field walking. It may partially explain why they were not found earlier, with the exception of individual finds (e.g. the Jorka point) (cf. Fig. 4.21b). The apparent choice of the Archaic population to settle down at the edge of these white sandy hilltops can be linked to the procurement of raw quartz material emerging in veins in the vicinity of Eva 2 or in the small creeks at the foot of the PDM site. It is believed that Archaic sites are certainly present in Suriname and Guyana regarding the White Sand Formation in these countries.

In addition to this environmental preference, the radiocarbon dates propose that these Late Archaic occupations appear at *c.*6000 BP. This suggests a possible link with the flattening out of the MSL and with the onset of the so-called Holocene drought. Interestingly, this particular date of 6000 BP also represents the end of sedimentation of the Phase IV Terraces in the Lower Maroni River. Moreover, it corresponds as well to the earliest radiocarbon dates for the Alaka Phase and Mina sites along the northern South American littoral, with the exception of the Middle Amazon River and the island of Trinidad. However, the

latter sites are dominated by means of salt or fresh water shell middens which lack in French Guiana, but the site location is somehow similar: Alaka and Eva 2 are situated upon higher Precambrian hillocks overlooking the swamplands of the Early Holocene Plains (Williams 2003:211–212). It can be presumed, although there is no archaeological evidence, that the earlier Archaic sites were positioned more towards the mouths along river banks of which many may have disappeared due to the Holocene sea rise.

Climatologically, another relevant event coinciding with the end of the MSL –the end of the Mara depositions and beginning of the Wanica transgression in Suriname– and the Late Archaic occupation along the coastal Guianas, is the so-called Holocene drought, placed between 6000 and 4000 BP (cf. Fig. 2.4). In French Guiana, this drier period is marked by means of large quantities of charcoal thought to represent predominantly forest or savannah fires, notably Phases VI and VII according to Christophe Tardy (1998). However, as Tardy has pointed out correctly, these fires may also have an anthropogenic origin revealing an increase in deforestation in order to facilitate horticulture. Instead of collecting or tending crops, people had now started to grow their own crops in patches of cut-and-burned/charred forest and/or along the edges of savannahs, hereby generating large quantities of charcoal.[341] If this agricultural potential was exploited by an increasing population remains an issue to be investigated, but it is evident that successive harvesting needs more (careful) tending, implying a further sedentism for these Late Archaic populations.

The presence of domesticated maize at Eva 2 may have represented a trigger of such cultural changes. Its early date provides fresh data concerning its diffusion in Lowland South America (Freitas and Bustamente 2013; Pagán Jiménez et al. 2015). With the appearance of early ceramics at Eva 2 and CSL in *c.*2500 BC, the changes in food consumption and the process of sedentism now become clearer, notably for the CSL Phase 1b, with the first evidence of pit burials (with complete ceramics), black charcoal pits and large round cooking vessels of which maize, sweet potato, and arrowroot starches have been scraped off from the bottom. It is thought that this early pottery, as elsewhere in South America, is better understood as a social and economic development than as the spread and adaption of a rare invention (Raymond et al. 1998:167).

Although we observe variations in vessel morphology between Eva 2 and CSL ceramics, dubbed the Balaté ceramic complex, both ceramic wares are not only heavily weathered and tempered with pounded quartz, but also have relatively thin vessels walls. This is not crude, experimental ware, but it is certainly not as elaborately decorated as the later Ronquínan or early Saladoid wares from the Middle Orinoco –notwithstanding that the latter series may be dated more recently as William Barse suggests (2000, 2009). In fact, it refers better to the early, grit-tempered La Gruta phase dated between 2500 and 1600 BC (Roosevelt 1997:90). The early French Guiana wares share numerous traits with the incipient Alaka Phase ware and the slightly more recent Hosororo as well as with Kauri Kreek pottery, especially with regard to: (a) temper, (b) the pointed bases and (c) the firing mode yielding a ligth yellowish brown colour. However, the Eva 2 and CSL ceramics do not feature any decoration. The characteristic Kauri Kreek

341 I would like to refer here to Ingold (1996:21) who defines the essence of domestication as the constant human involvement with fast-growing plants.

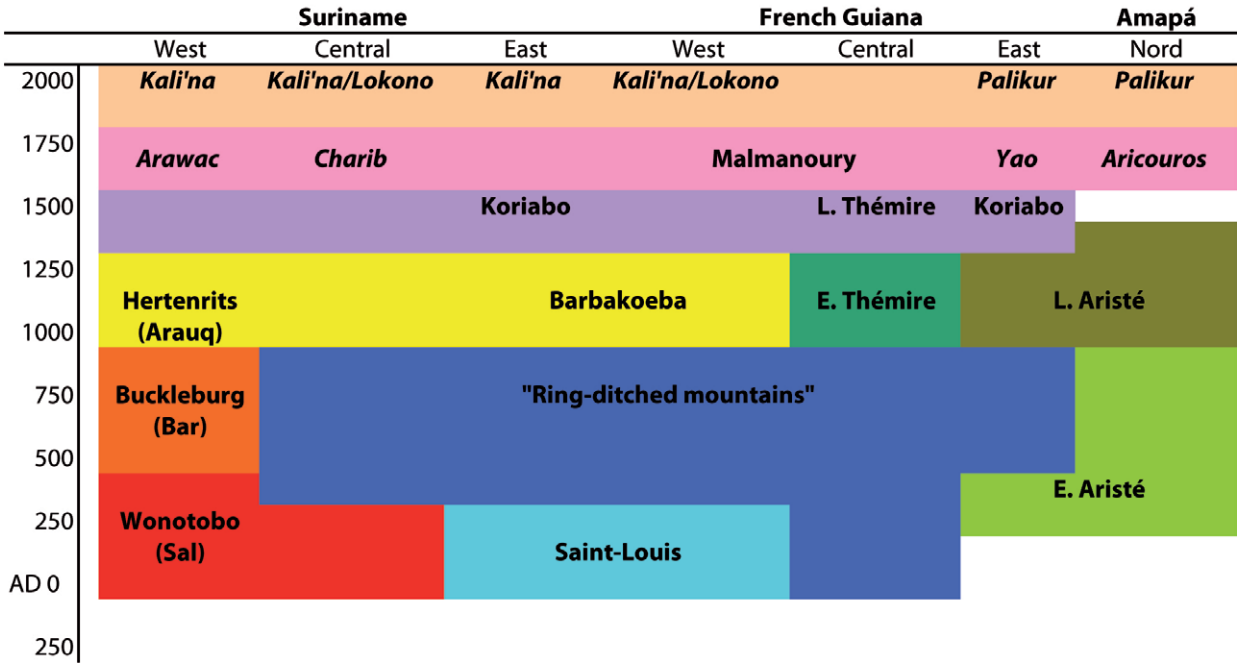

Figure 12.1. A simplified chronological chart of the Early (Phase B) and Late Ceramic Age archaeological complexes in the Central Guianas (cf. Figs. 1.6 and 3.2).

fretwork decoration was perhaps present at CSL as the specific firing colour is shared by both ceramic assemblages. These ceramics may have cultural links with the Mina or Salgado ceramics (Roosevelt 1995; Gaspar and Imazio da Silveira 2000; Williams 1992:243, 2003:251, Table P).

At both sites short quartz flakes predominate the lithic assemblages. These flakes are produced by means of the bipolar technique (Mode 1). However, grinding tools, scrapers and pitted anvils most certainly characterise these sites too. Similar artefacts were encountered at Mina, Alaka and the Trinidadian *sambaquís* sites. Unfortunately, earth ovens were not found at the latter sites, probably due to the absence of extensive excavations. Their geographical position, the *sambaquís* and the large artefact variety, reflect a broad spectrum subsistence economy in the vicinity of mangroves. The pre-Columbians caught shellfish, hunted animals and collected (wild) vegetables. Human burials also occurred at these sites, again revealing similarities with the earliest occupation of CSL.

In conclusion, the Late Archaic site of Eva 2 as well as the early phase of CSL possibly not only share a Preceramic component, but also represent a transition towards the Early Ceramic Age (Phase A). However, these sites did not yield any (late?) Early Archaic material such as the crude pebble choppers as found at PDM or Banwari Trace –although CSL did feature two bi-facial patinated artefacts (Method 2). The large quantity and spatial distribution of clustered earth ovens perhaps reveal a visiting cycle spanning many centuries, reflecting an important station of specific subsistence activities which eventually imposed a more sedentary way of life. This development also enhanced the production of ceramics taking crop cultivation to another level.

12.2 The Ceramic Age

This section discusses the Early Ceramic Age (Phase B) and Late Ceramic Age. The division between the Early Ceramic Age Phases A and B is marked by means of a gap in time lasting *c*.2000 years on which we have very little or no data at all with regard to the eastern Guianas, known in certain regions as the Formative Period. This lack of data may certainly be associated with an absence of archaeological information in general. Nonetheless, an "Early Ceramic Gap" may indeed exist as certain archaeologists suggest (Rouse 1978: 211; Roosevelt 1997:94; Oliver 2001:67). In both cases the discrepancy between Phases A and B is striking, notably as to the quality and morphology of the ceramic material. Another major difference is that ECA Phase B has griddles, apparently demonstrating an innovation in food processing, possibly acquired during the alleged time gap. We will now apply the term Early Ceramic Age for ECA Phase B. Only when mentioned otherwise does it refer to the much earlier Phase A in which ceramic material can be considered as Late Archaic, incipient, initial, or as formative ceramics (Fig. 12.1).

12.2.1 The Early Ceramic Age (Phase B)

The excavations at CSL uncovered a completely new episode with regard to the Lower Maroni River region. It presents the first excavated ECA coastal site located to the west of Cayenne and to the east of Paramaribo. CSL Phase 2 yielded impressive thin-walled and well-finished, carinated and hyperboloid bowls with predominantly red and some white-and-red painting. It included large carinated bell shaped vessels with an occasional ZIC decoration, possibly revealing Early Cedrosan influences and perhaps extending the eastern boundary of the Cedrosan Saladoid interaction sphere from the Courantyne towards the Maroni River Basin (Boomert 2000:217).

The principal CSL repertoire is dominantly sand-tempered. It dates from between 0 and AD 400 (Phases 2b and 2c). Interestingly, several earlier dated vessels (Phase 2a) have even more complex shapes featuring polychrome painting. They may have had a dissimilar function as urns, but may also (a) belong to a distinct earlier occupation or (b) be ascribed to the LCA, despite the fact it contained earlier charcoal. Contact between the Maroni and Amazon Rivers is demonstrated by means of a possible trade sherd (cf. Fig. 5.26e) as well as several individual finds from the Maroni River itself.

CSL Phases 2b-c share general characteristics with other ECA sites of the western Guianas, notably Wonotobo Falls, Kurupukari and Yaou. Contemporaneous sites beyond the Atlantic Guianas and on the Lower Amazon River are generally attributed to the Incised-Rim or Zone-Hachured Traditions. Although scholars consider this terminology as obsolete with regard to the latter region because it no longer fits archaeological data. These traditions were often compared with the Orinocan Barrancoid and Saladoid series, respectively. Fieldwork carried out during the last two decades concerning the Middle and Lower Amazon River point to a rather long Formative Incised-Rim Tradition (Barrancoid), spanning between *c*.3800 and 900 BP, bridging the above-mentioned ECA gap. It may not only represent very early phases, but also much recent ones (Gomes 2011:283, Table 1).

Concerning the western Guianas, the Late Cedrosan sites in Guyana and western Suriname represent the easternmost interaction sphere of the Saladoid series. During the second quarter of the first millennium AD they were 'Barrancoidized'

(Boomert 2000:491). This gradual process resulted in the construction of the first Mabaruma man-made habitation mounds in the western Suriname plains and eastern Guyana (Versteeg 2008:309). Although anthropogenic mounds are unknown in French Guiana to date, two aspects of anthropogenic modification of the landscape took place during the last quarter of the first millennium BC and the first half of the first millennium AD: (a) the construction of ring-ditched mountains and (b) the development of dark earths, or *terra pretas.* The inception of these developments at this point in time appears to be present in Greater Amazonia too. Here the construction of earth works, the presence of *terra preta*, and of high-quality ceramics may even represent a macrotradition or culture horizon in which CSL would, to a certain extent, fit in. By now, in Amazonia, the ECA population is thought to have been fully sedentarized, expressing a cultural complexity and gaining in numbers (Machado 2005; Lima 2008; Neves 2008).

Thus, similar developments were reported as to the western Guianas which can be attributed to supra-regional developments in the Guianas. On the one hand, the ECA in the eastern Guianas is still poorly understood, notably between Cayenne and Paramaribo hampering the discussion on cultural continuity towards the LCA. Nevertheless, the results of the CSL excavations are beginning to fill this gap. On the other hand, areas such as the interior uplands and the eastern littoral of French Guiana plus northern Amapá remain fairly unknown terrain. CSL pottery indicates that certain morphological ceramic features were shared with the 4 ha, ring-ditched site of Yaou on the Upper Maroni River, revealing contact or possibly a cultural link between these sites. Other ring-ditched sites yielded sparse ceramics with ZIC decoration, perhaps trade ware from western Suriname.

In sum, CSL and other French Guiana sites do not feature the Late Cedrosan ware as found in Wonotobo, but have certainly been influenced by it. The French Guiana ECA ensemble represents a distinct regional series, possibly the Orinocan counterweight. Indeed, another ECA region is probably represented by means of the *Ouanary encoché* series in eastern French Guiana, but further research is certainly needed here. The excavations at CPP clearly demonstrated the presence of *Ouanary encoché* on Cayenne Island during the first half of the first millennium AD (cf. Section 9.5.4). This distinct ECA series must be dissociated from Late Aristé. This idea suggests the existence of at least three large ECA (culture) areas positioned between the Orinoco and Araguarí Rivers during the first millennium AD, from west to east: (a) the Wonotobo Falls (Late Cedrosan), (b) Saint-Louis and (c) *Ouanary encoché.* The latter two series possibly share cultural connections with ring-ditched sites (e.g. Yaou, Maripa, Favard, Blondin). At present, I adhere to a more ceremonial function of ring-ditched mountains in which funerary practices and rites of passage in combination with feasts play an important role (Iriarte et al. 2008). It may be evident that this hypothesis needs further research. In addition, it indicates that continuous archaeological research in the entire landscape –not favourising specific locations– as the INRAP carries out in French Guiana, plays an important role within the evolution of archaeological research and hypotheses.

Subsistence patterns

As pointed out above, this part of the ECA features griddles for the first time, representing an important innovation in food processing. Although we do not know if these ceramic artefacts were present in the Guianas prior to the Late Cedrosan episode, they enabled the baking of flatbreads, i.e. *tortillas* (maize) and cassava (manioc), probably being the most commonly consumed products among this Neo-Indian population. Once baked, this bread can be preserved for a long time in a Neotropical environment (and elsewhere).This is a major advantage when compared with other products (e.g. soups and *tamales* made of arrowroot and sweet potatoes) and prepared in ceramic containers. In addition to large quantities of maize and some manioc, starch grain analysis also recorded the presence of beans and chili pepper with regard to Phase 2 at CSL (Tables 5.14-5). This suggests a full control over crops and permanent habitation stressed by means of the large number and overlapping of features.

The continuous habitation at this riverbank between *c*.AD 0 and 400 has modified the site's local topography and soils. Digging pits and postholes as well as the surface erosion due to weathering has flattened out the higher parts of the riverbank. Simultaneously, the lower hydromorphic parts, i.e. the back-fan area, were filled with debris and colluvial sediment identified by means of micro-morphological research. These microscopic cumulative layers probably represent ancient walking surfaces packed with artefacts and measuring up to 60 cm in thickness. Together with the original buried A-horizon, it represented nearly 1 m of dark earth, referred to here as *Guiana Dark Soils* (Brancier et al. 2014).

A multi-element analysis revealed soil enhancement, notably of P and C. In general, the chemical signature is less strong than its Amazonian equivalent, suggesting dissimilar origins or intensity of the enrichment by the coastal Guiana population. This concept of enrichment is primarily based on site erosion due to construction, deposition of organic waste and artefacts and local gardening (Glaser and Birk 2012:49). This theme certainly needs more attention in the future.

Interestingly, oval shaped pits contained complete ceramic vessels. They were interpreted as inhumations and have been acknowledged as to Phase 1a and Phase 2b, displaying little change in various aspects of the mortuary practices (e.g. pit shape and deposition of vessels). They possibly represent a persisting funerary tradition for the entire ECA (Phases A and B) contrasted by the urn burials of the LCA (Boomert 2000:398). Although only a flank of the higher bank was excavated at CSL, the majority of the features of Phase 2 were dispersed around the foot of the levee. Does this suggest the presence of an open area or plaza at the edge of the terrace? This is possible, but the stretched morphology and rather small width of the terrace is not favourable for very large plazas. Nonetheless, such issues need further research in the future and, more importantly, extensive excavations in order to understand the full village lay-out and/or infrastructure at site level.

Applying raw quartz material is still very important at this point in time, notably saccharin quartz (Modes 2 and 3). The population of CSL Phase 2 has diversified their choice in raw material when compared with the Late Archaic people who sought after greenstone, granites, sandstone, igneous rocks and phyllite. Greenstone predominantly serves to craft axes and igneous rocks to produce grinding tools (cf. Table 5.13).

12.2.2 The Late Ceramic Age

Introduction

Whereas Archaic and ECA sites appear to be rather scarce, LCA sites constitute the majority of archaeological sites along the Guiana littoral. Their omnipresence in the latter region is first of all guided by means of the relatively easy access to this region because of (a) the existing infrastructure and (b) the predominantly Holocene context of the landscape despite the presence of Pleistocene ridges and Precambrian outcrops. It is precisely at these outcrops that ECA vestiges were found on Cayenne Island, indicating this "island" was occupied before the LCA started in *c*.AD 900. Unfortunately, we have insufficient data on the littoral of French Guiana as to the second half of the first millennium AD, which may represent another (second) ceramic time gap: the transition from the ECA to LCA. Somehow, at least for the littoral, this lack of data appears to be linked to the Late Holocene marine incursions as is the case in Suriname. The reason for this is that radiocarbon dates related to the above-mentioned gap are available only for (ring-ditched) sites in the interior and other mountaintop sites, located mainly on the Precambrian shield.

As demonstrated for Suriname and French Guiana, human occupation of the Young Coastal Plain was recorded only during the last phases of the transgression, which differs along the coast, when comparing western Suriname and French Guiana, i.e. 1300 and 500 BP respectively (Versteeg 1985:737; Palvadeau 1999:86). For this matter, it is presumed that the earliest LCA occupation are to be found at the higher Pleistocene ridges (e.g. Rorota, Katoury, AM 41) and the Precambrian elevations (CPP) along the littoral of French Guiana. Only later do we encounter archaeological sites on the earliest Holocene sand ridges (e.g. Bois Diable/La Sablière, Sainte Agathe), forming the new coastline consisting of seasonally flooded savannahs. When this occurred is uncertain, but presumably took place during the second half of the LCA.[342]

Christophe Tardy (1998:237, 256) detected another peak of possibly paleofires during the LCA, i.e. Phase X, in various areas of French Guiana. Also present in many other regions in South America and the Antilles, it evokes a global event (cf. Section 8.8). This peak coincides with abundant LCA human activities (e.g. the construction and management of raised fields) located roughly between the Essequibo and Cayenne Rivers. The latter raised fields were associated with more complex societies, called chiefdoms by Rostain (2008a:231; 2010b:345). It can be noted that Versteeg is less decisive and does not adopt this rather fashionable term when discussing the association of raised fields and the man-made Buckleburg habitation mounds (Barrancoid) in the swamps of western Suriname dating from *c*.AD 300 (Versteeg 2008:307).

Phytolith research carried out during the Moundbuilders Project in the coastal savannahs of French Guiana reveals that maize and squash were mainly cultivated by the pre-Columbian population (McKey et al. 2010; Iriarte et al. 2010, 2012). However, their age appears difficult to prove as both charcoal and phytoliths

342 The future multidisciplinary project named *Guiachenier* seeks 'to identify the links between chenier dynamics and patterns of past and historical to modern human colonization of these deposits, through the dating of archeological sites, and determination of Precolombian and modern phases of abandonment as cheniers progressively became isolated from the sea by muddy progradation.'

are represented by dispersed elements in the 30 cm thick savannah A-horizon. Interestingly Iriarte et al. (2012, Fig. 3) stressed the fact that sweet potatoes and manioc were absent in the K-VIII pollen site record which is dominated by maize. They opined that the abandonment of the raised fields is probably related to the post-Columbian population collapse resulting in a decline of agricultural labour (ibid., p. 3). It has been suggested that the radiocarbon dates (N=2) can be associated to the Sable Blanc Est site near Iracoubo which yielded griddles containing maize starches with similar dates (McKey et al. 2010, Table S1). It is opined in the latter publication that Amerindians made the large amount of small heaps (Fr., *buttes*) and that they were subsequently maintained by ants and worms. However, the natural mound-field landscapes (Meggers 2003), such as in the llanos of Surales (Colombia), were built by worms (*Rhinodrilidae*), as McKey et al. (2014) propose. In my opinion, this can also be the other way around, i.e. the small mound-fields in French Guiana were initially made by ants and subsequently exploited by humans. Aerial photographs reveal large stretches of savannahs filled with thousands of small heaps measuring *c.*30 cm in diameter (cf. Rostain 2013:152, Fig. 48) as if created simultaneously. If these heaps represent man-made agricultural fields, one should detect patterns of successive expansion of these fields, revealing criss-cross patterns consisting of numerous patches and irregular canals in varying directions, as witnessed in Suriname (ibid., p. 165, Fig. 43) and parts of French Guiana (ibid., p. 159, Fig. 51) as well as in other wetlands in South America (Lombardo and Prümers 2010:1880, Fig. 6). In the future, a clear distinction should be made between the tapistry of small heaps (a natural phenomenon) and the larger beds of articulated raised-fields, i.e. anthropogenic features.

The often presumed high productivity of raised-field agriculture in the South American wetland areas has never been demonstrated. However, it has been observed that the raised fields in the Bolivian Amazon were built in order to avoid waterlogging during periods of extreme precipitation. It is also stated that these fields do not reveal 'a pre-Columbian green revolution,' but rather a bare means or mitigation strategy in order to adapt and survive in a flooded environment (Lombardo et al. 2011:510). Thus, we must urge caution when presuming that 'well studied regions can be extrapolated to the entire Amazon' (Barlow et al. 2012:48). Indeed, this type of large-picture archaeology obscures local and regional diversity. This is probably also the case regarding not only the Guianas but also many other regions in Amazonia which is eventually best known for its cultural mosaics or patchwork, reflected by an astonishing biodiversity (Neves and Rostain 2012), and appears to be less pristine as many thought 50 years ago.

Raised-field agriculture is often associated with complex societies of which chiefdoms are believed to be emblematic in Amazonia. If there were any chiefdoms in the Guianas, these would have been rather modest ones when compared to the characteristics of the Orinocan, Amazonian and Caribbean examples, according to Anna Roosevelt:

> *The domains of these societies were very large sometimes tens of thousands of square kilometers in size, and these were sometimes unified under paramount chiefs. Populations were densely aggregated, and some settlements held many thousands of people. There was largescale building of earthworks for water control, agriculture, habitation, transport, and defence. Reportedly warlike and expansionist, some societies had hierarchical social organization supported by tribute and subsistence*

> *based on intensive cropping and foraging. Crafts were highly developed for ceremony and trade and linked by widespread styles emphasizing human images in addition to the traditional animals and geometrics, and there was a widespread cult of worship of the bodies and idols of chiefly ancestors.* (Roosevelt 1993:259)

Although some of these elements can certainly be presumed to apply to the Atlantic Guianas, they nevertheless outscale the Guianas by means of the above-mentioned regions. Perhaps Amapá may finally hold the best hand regarding complex societies with the presence of so-called LCA stone henges as large-scale monumental earth and stone works (Cabral and Saldanha 2010). On the other hand, one must not forget the presence of the numerous impressive ring-ditched sites in French Guiana, Suriname and Amapá during the ECA and single ditched or restricted hillocks during the LCA. They may have served multiple functions (e.g. habitation, defence, ceremonial or funerary?) and probably persisted for a long time. It would be interesting to check the number of ring-ditched sites restricted to a specific area, perhaps forming a territory, and/or if these earthworks are situated at the periphery or the centre of a possibly restricted area, such as proposed for the distribution of hierarchical Wayana villages in the Guianas (Duin 2009, 2012), large circular villages in southern Amazonia (Heckenberger 2005) and the (communal) plazas and ball courts in the Greater Anilles (Wilson 1990; Siegel 1999; Oliver 2009).

An element most certainly shared among the pre-Columbian populations of the eastern Guianas is the widespread trade of specific gifts or prestige objects, notably greenstone amulets or *muiraquitãs,* and specific Koriabo vessels. The archaeologists easily detect the latter objects, but organic artefacts (e.g. basketry, wooden stools, shell-bead chains (*quiripá*), feather work, dogs) are more difficult to trace. Unfortunately, we know very little of the origins or sources of these archaeological objects. Did these greenstone pendants or Koriabo pots hail from a specific region or were they only produced by certain groups, as suggested in ethnographic and historic sources (Boomert 1987, 2000; Butt-Colson 1973). Despite the fact that only a small number hereof have been found in excavations, Boomert (1987:43) has demonstrated that various types of raw material were used for the Suriname specimens and that, interestingly, their mode of production differed from that of the Lower Amazonian ones.[343] Further research (e.g. tracing chemical signatures and sources of greenstone and/or nephrite) concerning the discovery of the greenstone material applied by the Amerindians may point at influential production centres. In this light, a stylistic and morphological comparison of typical Koriabo necked vessels may lead to the geographical delimitation of possibly dissimilar regions and populations.

To conclude, the size of this network illustrates the importance and meaning of these objects. Shared by many Amerindian groups in the Guianas, it is the variation or style of these objects that may elude us with regard to the various Amerindian cultures populating the Guianas. As Peter Rivière (1984:8) states, it is 'through variation in language, body ornaments, technical equipments, methods of food processing, funerary rites, and consumption of hallucinogens that the peoples of Guiana mark themselves off from one another.'[344]

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343 The West Indies represent another important area where many greenstone pendants are frequently associated with the Saladoid era (Boomert 1987:46), showing a possible cultural link with Suriname.

344 See also Turner (1984).

The cemeteries

Another important theme illustrating dissimilarity from the previous age that can reveal cultural differences at a regional level is the appearance of the "isolated" burial grounds, or necropoles, i.e. cemeteries located far from the habitation site. The excavations at Iracoubo (AM 41) demonstrated this distance between the dead and the living, if we accept that both sites are contemporaneous. The existence of a necropole has also been hypothesised with regard to Awala/Yalimapo in the west of French Guiana. It can also be demonstrated as to the Late Aristé (anthropomorphic) urn sites of eastern French Guiana and northern Amapá and even further towards the mouth of the Amazon River, i.e. Mazagão, Aruã, Maracá, and Marajoará. When aligning all these (basically funerary) ceramic complexes, an urn burial horizon for the LCA in the eastern Guianas arises. This can certainly be considered a cultural marker for that period. The origins of secondary urn burials can be traced back to the Lower Amazon River and notably to Marajó Island. Here impressive mound-building populations developed between AD 400 and 1300 (Roosevelt 1991; Schaan 2004). A possible cultural link between these urn sites is the omnipresence of grog as a temper for all these LCA ceramic complexes.

As to the LCA in the coastal zone of French Guiana, the following types of cemeteries have been suggested in three regions: (a) urn burials in deep pits or depositions in cavities as to the Late Aristé Phase, (b) elongated pits with deposited and discarded complete ceramic vessels on Cayenne Island and (c) concentrations of urns or small urn mounds in the western coastal plains (van den Bel 2009a:145–146). A brief discussion of each region follows now.

Late Aristé The Late Aristé Cunaní necropole in Amapá has been known since the end of the 19th century (Goeldi 1900). Only recently extensive archaeological research has been carried out in eastern French Guiana (Mestre and Hildebrand 2011) and northern Amapá (Cabral and Saldanha 2009) yielding similar cemeteries. These Late Aristé burial sites are often located on overlooking hilltops where erected stone slabs mark the numerous burial pits. The necropole of Pointe Morne on the left bank of the Oyapock River is also identified by means of a restricting ditch which presumably marks the access to the burial ground, hereby constituting an important funerary and/or ceremonial site within the pre-Columbian landscape (Mestre and Hildebrand 2011).

Not only the caves but also the burial pits contain beautifully crafted, grog-tempered composite (anthropomorphic) urns as well as other types of highly decorated ceramics, i.e. square jaguar-print platters and '*ralladores*,' or ceramic graters (P. Hilbert 1957:15). Human bone material was also found inside these urns, suggesting a use as containers of secondary deposition of (long) bones. The foot shaped burial pits were dug into the subsoil (now and again measuring more than 2 m in depth!) in which the urns were placed at the bottom. The pits were probably closed by means of a stone slab in order to cover the entrance of the pit, as recorded in Amapá (Cabral and Saldanha 2009). The complex vessel shapes and the elaborated decorations suggest representations of clothing, body painting, jewellery, tattooing, etc. These attributes possibly reflect the social status of (village and/or war) leaders, shamans, ancestors, cosmological elements, personalities from myths, lineages, etc. This is thought to apply to other burial sites in Amapá (Guapindaia 2001) or Marajó Island (Schaan 2004) too. These vessels are usually referred to as ceremonial ware (Roosevelt 1991:370–371).

As glass beads and other imported European ceramic wares were found in the Late Aristé urns –but also in those of the Aruã and Maracá complexes– it is suggested that this funerary tradition continued into colonial times (Goeldi 1900; Meggers and Evans 1957; Nimuendajú 2004). However, it is also assumed that the local historic population reused these pre-Columbian urns as "sacred" ancestral objects or heirlooms in order to serve again as burial containers, as was common practice among the early 20th century Palikur (Nimuendajú 2004:43–44) and among the latest inhabitants of Eva 2.[345]

Cayenne Island Here, the dead were buried in rectangular or elongated pits, with straight walls as encountered at many LCA sites after the introduction of compliance archaeology in French Guiana. It is hypothesised that once the pit had been dug, a body was placed in the pit in a stretched position and covered with ceramic recipients, either (ritually) broken or complete. It has been suggested that other (personal) objects and/or utensils were placed in the pit of the deceased too, but no such archaeological evidence has been found up to now –with the exception of the possible *maraca* or grater board in Burial 5 of Eva 2– as described in historic sources (cf. Appendix 4).

Furthermore, the CPP site shows an alignment of three burial pits whereas Saint-Cyr and Mombin II show concentrations of numerous burial pits (Delpech 2013). In contrast to Late Aristé cemeteries, these burial grounds are situated within or next to the habitat site. Thus, they are geographically part of it and not separated, but further research is certainly needed here. At present we have no evidence that these burials are marked in the landscape. Interestingly, single and double ceramic depositions (urns?) are to be found distributed among the burials and other features, resembling the ones found at Iracoubo.[346]

Iracoubo The AM 41 site is a true, isolated burial ground. It consists of two urn burial concentrations with approximately 20 ceramic depositions each. They were probably marked by means of a small man-made burial mound (partially?) covering the urns. As with Cayenne Island, the ceramic containers represent domestic ware and do not resemble the fancy ceramics as seen at Late Aristé sites, although several of these vessels may have been manufactured for a specific occasion. We came across: (a) a rather small pit that fits the ceramic container and (b) a rather large rectangular/square or "boxed" pit outlined with ceramics, notably of griddles or very large fragments hereof. Interestingly, the concept of outlining the pit wall with potsherds is also common on Cayenne Island (Delpech 2010a, 2011b, 2013).

The way of placing a single or a set of vessels into the pit may differ: either upright, upside down or else one vessel placed upside down on top of another one. It is presumed that the rectangular pits are associated with people of higher social status, based on: (a) the rarity of this type of pit within the concentration, (b) its central position within the ceramic concentration and (c) the possible mortuary gifts. It is imagined that these pits were reserved for village leaders or shamans whereas their family members (either blood, married or enslaved) were

345 A coffin shaped polychrome painted urn with a flat lid that appears to be a ceramic imitation of an European (Christian) coffin was found in the cavity of Trou Delft, located at Mound Caripo (nowadays named Mont Bruyère) to the east of the modern Ouanary hamlet in the embouchure of the Oyapock River (Petitjean Roget 1993).

346 See also Mont Grand-Matoury for a possible urn burial (Grouard and Tardy 2003, Figs. 8 and 12).

placed around them. Further fieldwork carried out to the northeast of the AM 41 necropole revealed the presence of many more urns, sharing similar features as are mentioned above, notably stacked sherds, double urns and boxes (Briand 2012a). These burials are situated upon the same sandy Pleistocene ridge as the SBE site and show multiple concentrations of urns along the RN 1 for more than 2 km in length. However, in contrast to AM 41, these urns were found within a habitation context, suggesting that both types coexisted, but further radiometric results may prove otherwise. It is hypothesised, drawing upon historic and ethnographic sources, that these burial concentrations are located inside abandoned villages: the new village was founded or shifted further up the same ridge whereas the old village served as a burial ground and garden. In this manner the creation of multicompound, stretched villages emerged on the sandy ridges in the coastal zone of French Guiana during the LCA.

Awala/Yalimapo The restricted spheric urns of Awala/Yalimapo and CSL, on occasion with straight or everted necks, are generally larger than those found at Iracoubo and resemble those found at Kwatta-Tingoholo. These burial grounds are also located on (Holocene) sandy ridges and may be the result of shifting villages as hypothesized with regard to Iracoubo (cf. Section 7.4). On addition to bones, these urns may contain smaller vessels and now and again (strings of) shell beads (Coutet 2011, 2014b:212; Coutet et al. 2014:27–30), such as noticed at Eva 2 too, representing the personal belongings of the deceased. At Kwatta-Tiniholo, in addition to primary and secondary burials, this site featured burials where the body of the deceased, probably wrapped in a hammock, was placed in the urn (Duijvenbode 2012:5), whereas at Awala and Eva 2 the (burnt) debris of the bones revealed a secondary deposition. However, further excavations are needed not only to confirm this idea, but also to obtain more information on their spatial distribution and the contemporaneity of various burial types.

Eva 2 The phantoms of Eva 2 are primary burials as described in historic and ethnographic sources. Apparently, primary urn burials as described above as to Iracoubo and Awala, were abandoned by the historic Amerindian population of Eva 2. Nonetheless, large urn burials were as yet practised during the 19th century despite the Jesuit and other European influences of the 17th and 18th century. They appear to be less influential as aspected from this point of view (Collomb 2010). In fact, the large urn Burial 5 of Eva 2 demonstrates the continuation of urn burial practices during colonial times considering the large, buried vessels of Crique Sparouine (Fig. 6.6c) and Bois Diable/La Sablière (Barone-Visigalli 2007:31, Fig. 5a). They reflect the interment of perhaps an influential individual (e.g. *yopoto*). Of interest here is the spatial organisation of the burials, which are paired (relatives?), presenting a possible linear alignment similar to the alignement of elongated pits at CPP (cf. Fig. 9.9).

The ceramic series

The existing cultural framework of the Guianas is primarily based on the study of pottery. However, the Rousian model suggests a unilinear historical sequence, i.e. the diffusion of the Orinocan evolutionary model or the successive spreading of the Saladoid → Barrancoid → Arauquinoid series from the Middle to the Lower Orinoco River and eventually its distribution into the Antilles and the western Guianas (Rouse et al. 1984) in which Thémire is a final phase of a singular evolutionary

trajectory (Rostain 2013). It has to be noted that the deterioration in ceramic production from the Early to Late Ceramic Age, as witnessed in the Orinoco delta and the Caribbean, was not accompanied by means of a cultural decline when considering ethnohistoric sources (Kirchof 1948; Boomert 1984, 1985, 2000; Whitehead 1988).[347] A slightly different development is witnessed as to Marajó Island. Here, for example, the influential Marajoará culture ended in *c*.AD 1300 and succeeded by means of regional centres (Schaan 2004). Although Rouse did most certainly recognize local cultural differences, his framework focused on similarities which effectively homogenized archaeology into "series of peoples and cultures," as much as the Europeans used to describe Amerindian society (Keegan 2013:74). Many archaeologists have applied the above-mentioned tripartite model in order to fit their data as to createing a larger picture of homogeneous culture areas (notably chiefdoms), thereby ignoring specific artefact assemblages and obscuring local differences which form the base for the present research.

The LCA ceramic assemblages studied here belong to various ceramic complexes of the Atlantic Guianas. Indeed, they share several general characteristics to be considered supra-regional markers for the LCA of the French Guiana littoral and possibly beyond. Traditionally, markers serving in order to distinguish larger cultural areas are: (a) temper, (b) vessel shapes and (c) decoration modes. Before discussing the cultural affiliations of the presented ceramic series in more detail, an introduction of these general markers will be provided first in order to asses the alleged homogeneity or "veneer" of the LCA.

Temper We must first point out the general shift from the ECA sand-tempered to the LCA grog-tempered wares. Meggers and Evans (1957:151, 156) had noticed this trend with regard to the Aristé and Mazagão wares. Herein the pounded potsherds serving as a temper agent may have spread to the northwest into the eastern Guianas from Marajó Island, the supposed cradle of the Marajoará ceramic complex belonging to the Polychrome Tradition (Meggers and Evans 1957:385–386; Roosevelt 1991:349–351; Schaan 2004:274–275).[348] The latter tradition started in *c*.AD 400 (Schaan 2008:145). It stands opposite to the sponge-tempered ware –albeit often admixed with other agents (Scaramelli 2006:104)– of the Middle and Lower Orinoco River. This ware was omnipresent during the late prehistoric Incised-and-Punctate Tradition to which the Arauquinoid and/ Camoruco series belong (Roosevelt 1997:160–161) as well as on the Middle Amazon River represented by the Kondori and Paredão occupation (Quinn 2004;

347 Indeed, this supposed cultural back-set observed in LCA ceramic assemblages of the Lesser Antilles is incorrect, according to Peter Drewett. He suggested that, although Saladoid pottery is technically highly accomplished, it is rather dull whereas the later 'pottery of the Suazoid on Barbados is exciting, free flowing and individualistic' (Drewett 2004:215) thus stressing artistic freedom.

348 Denise Schaan (2004:126) states: 'Although the Marajoara phase ceramics as described by Meggers and Evans (1957) are grog-tempered, here Marajoara style vessels were also found tempered with either *caraipé* or a combination of grog and *caraipé*. The caraipé tempered ceramics are predominantly plain, but a small number of decorated sherds did not differentiate from Marajoara phase decorated types. Overall, the *caraipé* plain pottery has higher frequencies among the plain sherds, while grog was the preferred temper material for decorated vessels.' In fact, Meggers and Evans (1957:610) prefered to give *caraipé* a later date (Mazagão), corresponding to their ideas about the Andean origins of the Tropical Forest population: 'By the same token, the absence until later times of caraipé tempering, painted and modeled decoration of pottery, and secondary urn burial indicates that these are late traits and if they are of Amazonian origin, it was not in the eastern part.'

Gomes 2005; Guapindaia 2008; Lima 2008).[349] Consequently, based on the use of temper regarding these LCA ceramic assemblages, we have two potential regions from which the local LCA population of French Guiana may have originated or been influenced.

On the one hand, we observe an omnipresence of potsherd-tempered ware as to the LCA along the littoral of the Guianas, possibly suggesting Amazonian influences with regard to these ceramic series (Meggers and Evans 1957;143, 181, 210, 232, 358, 538; Evans and Meggers 1960:182; Boomert 1980:78, 1993:202; Versteeg 1985:676, 694, 717; Rostain 1994a:213; Thooris 1994a:15). On the other hand, sponge-tempered ware or an alleged Arauquinoid population seems to have reached the island of Trinidad in *c.*AD 600 from the Lower Orinoco. Here it had already mingled with local Barrancoid groups after coming down from the Middle Orinoco, following the downfall of the local Barrancoid series (Harris 1978:47; Voorhies et al. 1983; Rouse et al. 1984:23; Boomert 2010:116).[350] Unfortunately, sponge-tempered ware has as yet never been found at archaeological sites in the Guianas, suggesting no direct migration of Arauquinoid potters from the Lower Orinoco River or Trinidad to the Guianas.

Reconsidering this rather simple perspective –the Arauquinoid ceramic series as identified by means of sponge temper– Arauquinoid pottery has never reached either the eastern or the western Guianas whereas the potsherd temper is physically present in the Guianas, but may have arrived from the opposite direction, i.e. the mouth of the Amazon River. Thus, despite this more coherent point of view, the diffusion of stylistic similarities between the ceramic assemblages of the western Guianas, notably the key site of Hertenrits, and the eastern Venezuelan ceramic complexes as defined by Rouse and Cruxent, i.e. Arauquinoid, Valencioid and other LCA ceramic complexes. For instance, Camoruco and Guarguapo (Roosevelt 1980, 1997) represent the sole basis for a larger cultural interaction sphere synonymous with Lathrap's Fine-Line Incised or Carib expansion (1971:164–170) and the Amazonian Incised-and-Punctate Tradition (PRONAPA 1970:19–20), instead of a more obvious Amazonian basis. This scientific preference for the Orinoco with regard to the Guianas is perhaps a historical development favoured by more recent and structural archaeological fieldwork. The Orinocan model provided a better structure in order to comprehend pre-Columbian cultural development, as it demonstated in the Caribbean (Rouse 1992). For example, archaeologists agree

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349 The Early Corozal Tradition is characterised by grit and potsherd-tempered ware. It is slowly taken over by the sponge-tempered wares (Roosevelt1997:156–157) in c.1000 BC just as at the site of Agüerito situated on the Middle Orinoco River (Zucchi et al. 1984). Its origins are still unknown but an Amazonian one seems most likely given the biological presence of sweet water sponges which are rare in the Guianas.

350 The post-Barrancoid period was named Guayabitoid by Arie Boomert (1985:95) after Rouse and Cruxent (1963:125) and was later called Guayabitan Arauquinoid (Boomert 2010:115). The local Bontour complex is thought to be the result of regional dynamism, representing cultural and socio-political restructuring. It is the 'new' Arauquinoid manifestation of the island at the beginning of the LCA. For radiocarbon dates concerning the Bontour complex, see Boomert (1985:101) and Dorst (2007:335). However, only a limited amount of Bontour potsherds (4.3%) contain *cauixí*, suggesting that these vessels were imported from the Lower Orinoco valley (Boomert 1985:107). This complex is followed by the Guayguayare ceramic complex which reveals the presence of *caraipé* as a temper material and belongs to the most recent pre-Columbian and protohistoric period (Boomert 1985). According to Boomert (2010:118), this 'Mayoid pottery shows faint resemblances to the protohistoric Cayo ceramics of the Windward Islands which largely derive from the Koriabo complex of the Guianas.'

that the alleged abrupt changes at the beginning of the second half of the first millennium AD mark the post-Barrancoid period:

> *In contrast to other ceramic developments during the Camoruco tradition, many of the specific traits that link Camoruco to the Arauquinoid series seem to come into use quite suddenly. These traits include maroon paint, complex rectilinear incision, and highly decorated human adornos and effigies. This pattern of change raises the possibility that this particular pottery complex developed elsewhere and then came to influence Parmana region potters. Nevertheless, these new traits seem to come from a complex similar to the early pottery of the Camoruco tradition, rather than from a totally distinct cultural area. They seem, actually, to be a rapid reorientation and intensification of traits present in early Camoruco.* (Roosevelt 1997:163)

It is also generally accepted that LCA complexes of the Atlantic Guianas share a potsherd-temper tradition. Further research is needed here in order to break down this supra-trait, according to the choices that (local) potters had to make when confronted with environmental and social changes (Tite 1999; Arnold 2000). Nonetheless, the potsherd-tempered ceramics presented here illustrate that each site has its own vessel shapes and, to some extent, decoration modes, reflecting artistic and cultural variety while sharing a similar temper tradition. This is a key aspect to the understanding of these LCA societies and reflects various local/regional pottery styles which share a (temper) macro-tradition. The predominance of one temper mode (although minor differences are present) may certainly refer to mass production of ceramics and deterioration of quality in due course. Towards the end of the millennium when the important Marajoará culture headed for downfall (Schaan 2004:145), a similar development subsequent to the Barrancoid period has been accepted as to other regions, such as Marajó Island and the Lesser Antilles (Hofman and Hoogland 2004; Hofman et al. 2007).

Interestingly, grog temper is followed by means of another important temper agent omnipresent among modern Amerindian potters: burnt tree bark also known as *caraipé* or *kwepi* which appears to be more important during the latest phase of the LCA, such as La Pointe de Balaté and Eva 2. The shift towards *kwepi* may have had various reasons. Albeit probably blurred because of the arrival of the Europeans, the options are twofold at present: (a) possible technological advantages (innovation) and/or (b) intrusive pottery production modes (replacement). A similar shift has also been observed at the mouth of the Amazon which, according to Schaan (2004:136), may represent innovation: '… potters probably used the caraipé temper because of some of its properties, and their relation to vessel usage. The use of organic material can be especially advantageous in cooking vessels, because most of the temper burns out during firing, leaving voids that may interrupt cracks caused by thermal stress during usage (Rye 1981:34).' However, technological analysis of *kwepi* as a temper agent among the modern Palikur indicated it does not have significant advantages over

other temper agents. It is suggested that the use of *kwepi* may be culturally defined (van den Bel et al. 1995:50).[351]

Vessel shapes In accordance with the Orinoco model, Boomert (1977:508) proposed that the Arauquinoid series diffused into western Suriname, arriving in *c*.AD 700. As to Hertenrits he defined two post-Barrancoid phases: Early and Late Hertenrits. The latter gave rise to other affiliated complexes, such as Peruvia and Barbakoeba (Boomert 1993:207). Following Boomert, Versteeg (1985:708–709) and Versteeg and Rostain (2004:234–235) also suggested two Arauquinoid phases regarding the coastal Guianas, this time including French Guiana: (a) the first "wave" arrived in *c*.AD 600 in western Suriname and mingled with the local Mabaruma (Barrancoid) mound-builders (e.g. Early Hertenrits) and (b) another "wave" in *c*.AD 1000, for which an increase in Arauquinoid sites (from west to east: Hertenrits, Kwatta, Barbakoeba, Thémire) is recorded for the area between the Berbice River and Cayenne Island. It is related to the raised fields of this coastal zone (Boomert 1980; Versteeg 1985, 2003). The LCA occupation of the western coastal plain of French Guiana thus represents an extension of the Orinoco model in which Hertenrits is thought to represent 'the mother of all archaeological excavations in Suriname' (Versteeg 2003:109). However, the latter site is firmly rooted in the Barrancoid (Mabaruma) mound-building tradition, despite the fact that Barrancoid ware is apparently absent with Hertenrits and the first fresh water sedimentation at *c*.1265 ± 60 BP (Versteeg 1985:708, 2008:309). Towards the end of the first millennium it gave way to various, new regional styles attributed to an Arauquinoid migration or influence sphere. According to my understanding of the Hertenrits evidence, I would suggest that the Arauquinoid influence is only present after AD 1000, thus only one "wave." However, further extensive research is certainly required into this site and notably into the chronology of the Barrancoid-Arauquinoid transition.

The Barbakoeba complex is one of the ceramic complexes originating from the Arauquinoid interaction sphere. It has been defined for eastern Suriname and western French Guiana by Boomert (1993) and pushed further to the east by Rostain and Versteeg (2003). In this perspective, the Thémire complex of Cayenne is a spin-off of this regional development. It is believed to represent the easternmost and most recent Arauquinoid manifestation in the Guianas (Rostain 1994c:86–89; 2008b:292). In order to asses this hypothesis, let us return to the source: the Orinocan Arauquinoid series. According to Roosevelt, the incised style is highly diagnostic for Arauquinoid and therefore only present on the Orinoco River:

> *The particular style of Arauquinoid incision has not been found outside the Orinoco, to my knowledge, although other styles of the Incised and Punctate Horizon, such as Santarem, have a vaguely similar style of incision. As mentioned above, the Meillacoid and the Chicoid pottery series of the Greater Antilles also*

351 Denise Schaan (2004:136) suggests that *caraipé* tempered material is restricted to certain areas: 'The differential distribution of the caraipé tempered pottery throughout the site also indicates that these vessels were differentially related to different areas of activities. The use of caraipé did not carry any remarkable innovation in the decoration of the ceramics and did not completely replace the grog as temper.' The last remark is well illustrated by the case of the early 20th century Palikur when Curt Nimuendajú observed that Palikur potters still applied grog as a temper in rare cases whenever there was a shortage of *caraipé*: 'In Ermangelung von Kuepi stösst man Tonscherben als Zusatz.' (Nimuendajú 1926:42).

> *have a vaguely similar type of incision. Both the Lower Amazon and the Antillean styles of incision show shallower and better executed than the Arauquinoid incision, and they include more curvilinear motifs with the rectilinear. In view of these differences, the general similarity among all these distant styles may possibly derive from an ancient shared concept of iconography and stylization, rather than from contemporary communication of shared concepts about pottery decoration.* (Roosevelt 1997:140)[352]

From this point of view, an Arauquinoid migration is considered unlikely as to the western Guianas. The reason for this is that the Arauquinoid pottery tradition has such specific characteristics, i.e. temper and incisions, which have not been found at all within the Guianas. On the other hand, diffusion or cultural influences of a larger Arauquinoid interaction sphere with regard to the western Guianas is thought to be more likely when considering the stylistic affinities between Hertenrits and the Arauquinoid ceramic complexes on the Lower Orinoco River and Trinidad (Boomert 1977, 1980; Versteeg 1985, 2003; Bright 2011). However, if Hertenrits received any Arauquinoid influences they should have modified the Mabaruma styled ceramics produced by the authoctonous population of this floodplain. Unfortunately, as pointed out above, very little ceramic data are available on this first Hertenrits occupation.

Nevertheless, several Late Hertenrits vessels presented by Boomert (1980, Figs. 4-6) provide us with similarities as to vessels found at several LCA sites presented here (e.g. AM 41, Crique Sparouine, LPB, CSL Phase 3). Notably the globular collared vessels (Group B at Crique Sparouine, SM VIIIb of Zone A at AM 41 SMVIIIb and CSL EC 121 vs. Boomert 1980, Fig. 5.12-22) belong to urn burials. Comparable smaller recipients are jars as well as vessels with short keeled and everted rims (Group A at Crique Sparouine, SM IV of Zone B at AM 41 vs. ibid, Figs. 4.22 and 5.4). Numerous unrestricted open vessels include morphological resemblances too. This phenomenon, however, is too general for any possible cultural relationships whereas other Hertenrits vessels probably belong to the earlier phase, as proposed by Versteeg (1985:708) or to the most recent occupation IV (Boomert 1980:100, Table 3), eventually suggesting an ascription to the LCA.

In addition to Hertenrits, the excavations at Petit-Saut yielded a large register of vessel shapes in which globular collared vessels play an important role: (a) BPS-12 (Vacher et al. 1998:218, Plates 2.41, 46-48, 52), (b) BPS-17 (ibid., p. 230: Plate 16.23) and (c) BPS-172 (ibid., p. 235: Plates 24.78-80, 84-85, 95). On Cayenne Island, the LCA ceramics, as studied for CPP and PK 11, display similar affinities between the above-mentioned vessel types, i.e. CPP vessels in F

352 This opinion is shared by Kay Scaramelli who is not convinced of an Arauquinoid presence in French Guiana and prefers a macro tradition point of view (Kay Scaramelli, personal communication, 2013): 'Defined very broadly, it is possible to see stylistic relationships (use of sponge spicule temper, appliqué and incised motifs in rectilinear designs, modelled lugs, varied vessel forms that emphasize bowls, small jugs, large storage vessels, and griddles) in a vast area including the Brazilian, Colombian, and Venezuelan Amazon and Orinoco. Stretching the definition, one can see stylistic influence to the north, in the Valencioid ceramics of northern Venezuela, but no spicule temper; perhaps related to ecological factors. I have seen little evidence for Arauquinoid ceramics in the Antilles, but it does seem that there are clear stylistic relations to some of the Guianas. I would, however, not use the term Arauquinoid for these materials, since the series does have some important defining characteristics that have use for defining a stylistic class. I have seen works citing Arauquinoid presence in French Guiana, looked at the ceramic materials, and not been convinced of the use of the term. Maybe we need to think in terms of some kind of macro tradition that somehow encompasses the different related series.'

123, F 151, for collared or necked bottles and jars. However, this rather general vessel shape is decorated in an individual, or proper, style, differing from the above-mentioned examples with finger-indented clay strips or anthropomorphic appliqué figures. The manufacturing and firing techniques as well as the quality of the presented Cayenne ware is another apparent discrepancy between these assemblages, hereby isolating Cayenne Island as a dissimilar and singular regional style, as confirmed by means of its specific burial mode in rectangular pits.

The Cayenne Style is probably not the same as the existing Thémire ceramic complex. The latter is dated to the last century of the LCA, to wit after AD 1400, whereas the Cayenne Style is dated as early as *c.*AD 850. It thus precedes the original radiocarbon dated Thémire complex which may eventually represent a development out of Cayenne Style or another late LCA ceramic complex affiliated to Late Aristé (*Enfer polychrome*), as Rostain proposed (1994a:223). Subsequently, the following question must be asked: if Thèmire is supposed to be the latest development in the Arauquinoid series in the eastern Guianas, what would be the earliest development? (cf. Section *The Thémire complex* below for a further discussion).

In sum, based on the large variety of vessel shapes of the sites presented here, we must acknowledge many cultural regions, sharing only a small number of common vessel shapes. Therefore, it is proposed here that Crique Sparouine, CSL Phase 3, LPB, AM 41, PK 11 and CPP represent regional ceramic complexes sharing a number of general traits (e.g. grog temper, necked globular jars, large cashiri vessels), probably related to shared supra-sociocultural characteristics.

Decoration modes Next to temper and vessel shapes, numerous analogies are traditionally drawn between modes of decoration as to different regions in order to distinguish cultures or cultural spheres of interaction (Bright 2011). However, modes of decoration alone remain isolated decorative traits which may occur simultaneously in other (distant) regions, as is demonstrated since various 19th century comparative studies (Hartt 1885:95; Panhuys 1898). As suggested here, modes of decoration in combination with vessel shapes reveal more pertinent characteristics per site and help to define the distribution of a series in a specific region, i.e. CPP, CSL Phase 2. They represent a local style, but also can be translated to a larger scale (e.g. the fine-incised ware and necked Koriabo pots).

Far less or undecorated ceramic series, however, are represented by the bulk of the ceramic assemblages, often revealing a large variety of (undecorated) vessels, such as at AM 41. This often, as a counter effect, places therefore too much emphasis on rare decorated elements and/or specific vessel shapes. For instance, according to Rostain et al. (2008:37–38), so-called "visible coils" are relevant, decorative markers for SBE (but no quantification is given) whereas Boomert (1993:202–203) attributed 14.8% to this type of decoration and even more (24.6%) to 'horizontal, vertical or crescent shaped appliqué fillets' with regard to *c.*500 potsherds. In fact, AM 41 and LPB did not feature a single potsherd with apparent coils, only a small number of modelled double-headed Hertenrits-type appliqués and scarce red painting whereas LPB also featured finger-indented appliqué fillets.

It may be evident that more ceramic studies are required as to this part of the littoral in order to define the regional ceramic series before linking them beforehand to any existing ceramic complex, such as Barbakoeba. In fact, despite Boomert's efforts, it remains a very small collection of contextually unreliable artefacts and one single radiocarbon date, but by way of extensive excavations and subsequent

comprehensive ceramic analysis, the Barbakoeba complex can be enriched and adapted, as is the case with Thémire. However, the stylistic similarities between the Barbakoeba complex of eastern Suriname vs. AM 41, La Pointe Balaté, Sable Blanc Est and Bois Diable/La Sablière –supposedly its French Guiana equivalent– are difficult to assess, rendering a comparison between the original and new assemblages not without any biases. This is largely due to incipient archaeology in large vacant areas or, as I would call it, "scant archaeology" vs. extensive compliance archaeology. Similar developments have taken place in the Antilles, such as in Puerto Rico. Here 'many of the supposedly style-specific traits are simply the relic of taking snapshots of materials from a very few sites and then broadly applying that information over vast areas of the island' (Espenshade 2013:18). Therefore, ceramic styles based on vessel shapes will yield more pertinent ceramic markers than decorated potsherds alone. Furthermore, the vessel shape and vessel size may also provide information on site function, such as ceremonial or domestic areas when extensive archaeology is conducted (Blitz 1993; Kassabaum 2014).

Reconsidering cultural affiliations

After this introduction on the general aspects of the LCA ceramic tradition, we will discuss the sites presented here as to their chrono-cultural affiliations. Prior hereto, it must be said that each site is different and varies in the way they have been excavated (e.g. excavation methods and techniques), but also in site function. Nonetheless, it is attempted here to apply the existing regional framework in order to tag the presented sites. If discrepancies and similarities are observed in this comparative exercise, we will attempt to focus on them and propose adaptation and/or further research. We will therefore discuss the existing LCA complexes (cf. Section 3.4.3.2) in an attempt to compare them with the analysis of each site presented here. From this point of view we will deal with the following ceramic complexes: (a) Barbakoeba, (b) Thémire, (c) Koriabo and (d) Late Aristé. The ceramic complexes (a) and (b) are generally attributed to the Arauquinoid Tradition (Orinoquia) and the other pair to the Polychrome Tradition (Amazonia).

The Barbakoeba complex Although the Barbakoeba sites were test-pitted during the late 1970s, the complex itself was defined over a decade later.. He attributed it to the Arauquinoid series suggesting a date between AD 650 and 1200 (Boomert 1993:205). The Barbakoeba sites are located on the sandy Holocene ridges in eastern Suriname. They include black earths, or *terra pretas*, measuring between 30 and 40 cm in thickness. The ceramic register of this complex consists of ceramic material collected in 1961, 1964, 1972 and 1975 from three sites: Parmarica Creek-1, Barbakoeba Creek-2 and Boekoe Creek-2.[353] The ceramic material from the first two sites contained *c.*500 sherds in total of which 130 yielded an identifiable morphological profile. Only 61 potsherds were decorated and tempered predominantly with pounded potsherds (Boomert 1993:202).

Phase 3 of CSL and LPB were attributed to the LCA. They mainly yielded *kwepi*-tempered ware. CSL SM IIa resembles Forms 2 and 3 of the Parmarica Creek-1 site (Boomert 1993:204, Fig. 3). However, according to Boomert (personal communication, 2008), the absence of the characteristic necked jars (Form 4; ibid., p. 206, Fig. 5) obstructs a solid affiliation. Decoration is rare,

353 Peter Goethals discovered this site in as early as 1951.

only a small number of finger-indented fillets, positioned at the medial part –and not the neck– of a spheric vessel are recorded for CSL. Visible coils are lacking. The CSL sister site LPB included finger-indented neck-fillets, but no visible coils. Medial finger-indented clay strips and multiple coiled handles were recorded with regard to Crique Sparouine of which the latter were also found at CLS and in Suriname. This type of handle Dirk C. Geijskes (1964:74) described as to Hertenrits. It is illustrated by Versteeg for the Wageningen-1 site (Versteeg 1985:696, Fig. 28k). In French Guiana these handles are known from: (a) Îlet Lézard on the Middle Mana River (depot SA), (b) the Middle Sinnamary River (e.g. the BPS-172, 230 East) (Vacher et al. 1998) and (c) Bois Diable/La Sablière (Rostain 1994a, Fig.114.10), attributed to the *Melchior Kwep* type of Cayenne (ibid., Fig. 123). Horned ceramic pestle-like objects as found at CSL (F 126) are rare, but were recorded as to the Kwatta and Hertenrits sites in Suriname (Versteeg 2003:121, 149, 169). These ceramic objects were attributed to *Cayenne Peint* by Rostain (1994a, Fig. 116).[354]

Another influential site is Crique Jacques, situated between the village of Mana and Saint-Laurent du Maroni. Both Boomert (1993:207) and Rostain (1994a:223, 246) suggested a Barbakoeba affiliation as to the ceramic assemblage found during the 1985 salvage operation carried out by Cornette (1985a-b).[355] The present author visited the site in 2013 and came across a double-headed biomorphic *adorno* on the surface (similar to the one Cornette presented and now missing from the SA depot) which the above-mentioned scholars unmistakenly attributed to Barbakoeba (see front cover). A series of borings and additional chemical analyses evidenced a dark earth of *c*.90 cm in thickness, resembling the one encountered at CSL (cf. Annexe 3.3), suggesting it is probably a muli-component site.

A reconnaissance of the 1985 excavated ceramic material by the present author did not yield any material evidencing morphological or stylistic resemblances between CSL and Crique Jacques.[356] This Crique Jacques material was fired in a reducing environment. It includes grog and/or mixed temper. Vegetal temper (both charcoal and ash) as well as mineral temper (notably sand) were also observed. The thickness of the rims varies between 8 and 10 mm, suggesting rather large vessels shapes. This is confirmed by means of the large diameters of the convex bases, as drawn by Cornette (1985b, Fig. 10). The convergent rim CSL EC 673 (SM VI) can be compared to Type 7 of Crique Jacques (Cornette 1987:91, 93) or Types 1 and 2 as Coutet defined (2009:357–358). We may further note that: (a) less than 1% of the ceramic material is decorated and (b) a fairly large quantity of griddles supports are present (selected field material?). However, rims of necked jars with tapered lips (Form 4 of Boomert 1993:206) were not identified in the Crique

354 Double-headed *adornos* on vessel rims (Versteeg 2003) are thought to be characteristic of the LCA. Interestingly, very similar objects dating to this same period were also found at sites in the Lesser Antilles (Bullen 1965; Bright 2011).

355 The Crique Jacques site is situated on a white sand plateau at the junction of the Holocene floodplain. In 1985, the site was reported to Hugues Petitjean Roget by the Tiouka family of Awala. That same year AGAE members carried out two rescue operations. The Crique Jacques site is known, in the oral tradition of the local Kali'na, as the former village of *Tjo-Tjo Norè* and was abandoned a long time ago (Cornette 1987:83).

356 During this reconnaissance, the present author did recognize a Kwatta rim sherd in Cornette's collection. See also Rostain (2008a:291, Fig. 16.6-2).

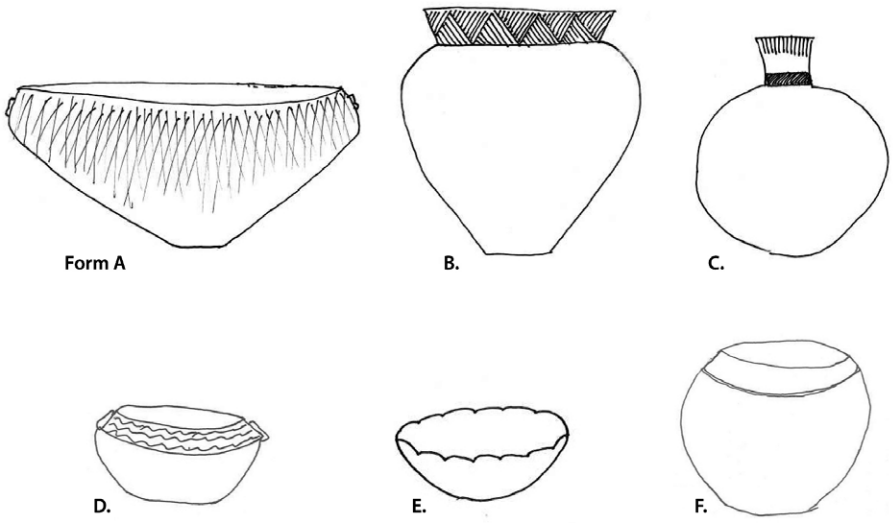

Figure 12.2. The common vessel shapes regarding Cayenne Island (Forms A-F).

Jacques assemblage. Further research at Criques Jacques is certainly needed in order to comprehend the site's extension and complexity.[357]

AM 41 is situated in the supposed Barbakoeba sphere too (Rostain et al. 2008; Rostain 2013:121). This funerary site yielded no necked jars, i.e. Boomert's Form 4, finger-indented strips or visible coils at all, but shares abundant grog-temper with Barbakoeba. However, despite the dissimilar temper, LPB and AM 41 share several vessel shapes, notably the everted rims of (small) open bowls, corresponding to Boomert's decorated Form 3 (1993:204, Fig. 3). The latter shape is rather interesting: this drinking bowl, often decorated with red paint on its interior (and on occasion a polylobed rim), is possibly related to the consumption of maize or manioc beer (C., *cashiri*). It was also recorded for Cayenne Island and the historic site of Eva 2 (cf. Chapters 9 and 11). In conclusion, the original Barbakoeba complex as defined by Boomert is partially present in western French Guiana: it shares various characteristics with various sites studied here, but the latter also feature particularities demonstrating regional styles. The ceramic series of CSL Phase 3, LPB and AM 41 thus represent series which can be added to the Barbakoeba repertoire of western French Guiana. A difference can also be noted as to the region between Kourou/Iracoubo and Mana/Maroni, representing distinct, regional styles of Barbakoeba. Future reseach should focus on this regionality in order to split them off or to keep them lumped to the original eastern Suriname ceramic complex of Barbakoeba. Stylistic similarities between the early LCA ceramic series of the western French Guiana littoral and Cayenne Island, which are presented in this work, can be ignored (see also below).

The Thémire complex The contemporary sites PK 11 and CPP, as well as many other LCA sites discovered during the last decade, yielded many earlier dates for Cayenne Island (cf. Appendix 1), pre-dating the Thémire complex as Rostain (1994a) defined over two decades ago. Stylistic ambiguity is also present in the ceramic types defined by Rostain, as pointed out for PK 11 and CPP. We can attribute the same constituent elements to dissimilar types, demonstrating that the Thémire typology is too heterogeneous and too coarse, probably representing

357 More recently, a mechanical survey at the plateau next to Crique Jacques yielded more dissimilar material, showing the complexity of this very large site (van den Bel in Briand 2015).

	Barbakoeba	Themire	Aristé	Koriabo
Rostain 1994a:495	1000-1750	1300-1650	350-1750	1100-1750
Rostain 1994b:11	500-1650	1300-1650	350-1750	1100-1750
Rostain and Versteeg 2004:235	1000-1400	1000-1600	x	x
Rostain 2008b:281	1000-1650	1000-1650	600-1750	1200-1650
Rostain 2012:17, 24	900-	1300-	700-1750	
Rostain 2013:113-125	1000-	1400-1600	600-1750	750/1100-

Table 12.2. An overview of proposed dates (all AD) for the LCA ceramic complexes of French Guiana during the last two decades.

an amalgamation of wares. When applying Rostain's typology, it tends to lump our data and does not satisfy when compiling a detailed ceramic catalogue. In my opinion, however, the applied method is probably not at stake here (it may be of use in many other cases) as Rostain was certainly "on to something," but rather the quality and quantity of his shaky data base. The ceramic studies of the sites presented here enable us to acquire more details and accurate results, shedding a different light on the existing typology.

Therefore, six popular decorated vessel shapes are proposed here as to Cayenne Island (Forms A-F): four for PK 11 and five for CPP of which four are shared by both sites (Fig. 12.2). These forms as well as a several other characteristics defined for PK 11 and CPP are dated between *c.*AD 900 and 1500. There is a late trend of white-on-red painting towards the late second half of the LCA, as speculated for CPP. The latter part of this hypothesis approaches the radiocarbon dates presented regarding Thémire since the white-on-red painted ware was attributed to the Thémire complex, as Rostain most recently defined (2013:122–125). It is therefore suggested here that the original Thémire complex is the most recent development of a ceramic style present on Cayenne Island and in the adjacent areas since at least AD 900. Therefore an Early and Late Thémire ceramic complex is hypothesised here: a Late Thémire complex (*c.*AD 1400-1600) represents the original Thémire complex as defined by Rostain and the Early Thémire complex (*c.*AD 900-1400) is represented by means of the six forms derived from the ceramic series as defined for PK 11 and CPP. Nonetheless, according to this idea, are these earlier ceramic assemblages: (a) the earliest manifestation of a west-east migration; possibly also Arauquinoid or (b) a local development? Both issues are discussed here in four sections: (a) the earliest manifestation, (b) Arauquinoid or not, (c) Arauquinoid at Cayenne and (d) the possible origins and future research.

(a) The earliest manifestation

Looking at the proposed dates for Thémire between 1994 and 2013 (Table 12.2), Rostain is uncertain about the Thémire chronology. In addition to the amalgamous and coarse definition of this ceramic complex, as pointed out in Sections 8.5.5 and 9.5.4, we must also acknowledge the flagrant lack of any radiocarbon dates on which this complex is based. Only four dates have been attributed to the original Thémire complex of which two have been discarded (too reccent) and the other two were actually taken at: (a) the Bois Diable/La Sablière site west of Kourou, *c.*60 km to the west of Cayenne and (b) Sainte-Agathe near Macouria, *c.*20 km to the west of Cayenne. In fact, the accepted two results date from the 15th century, but were believed too recent when compared with the stylistically similar LCA ceramic complexes of Suriname which start during the second half of the first millennium (Rostain 1994a:448). Subsequently, these two dates were

interpreted as the most recent dates of the Thémire complex. It is presumed that Thémire developed parallel to the Arauquinoid ceramic complexes in Suriname, from AD 650 on (Rostain 1994a:224): 'Les datations calibrées, de 1400 à 1600 de notre ère, pour les sites de cordons sableux de Guyane, représentent apparemment les dates les plus récentes du complexe Thémire. En Guyane, il est probable que ce complexe a commence de se développer, parallèlement aux complexes Arauquinoide du Suriname, à partir de 650-700 ans de notre ère.'

Thus, instead of proposing a singular ceramic complex as to Cayenne Island, the results were forced into the existing model from another region, situated *c.*500 km to the west. At that time, this choice is somehow understandable when considering that Rostain's 1994 PhD dissertation is a final chapter to a very productive era in French Guiana archaeology. Cornette, Wack, Petitjean Roget and Rostain had not only acquired a large quantity of archaeological material, but also produced many typographed manuscripts in need of analysis and hypothesis. Together with his own research, Rostain eventually included all this research into one monograph dealing with coastal French Guiana between Mana and the Oyapock Rivers. The cultural ascription of the varied French Guiana ceramic complexes to the existing framework of the neighbouring countries was another step in the completion of this monograph. In this manner, a first milestone was erected for French Guiana which had received several reserved critiques on its cultural framework from the members of the BPS project (Vacher et al. 1998:206–211). The latter team underscored the weakness of Rostain's framework to which they did not wish to adher their results since it did not fit their data, notably the radiocarbon dates.

Fortunately, this lack of radiocarbon dates is somewhat resolved after more than ten years of compliance archaeology, as there are at least 50 radiocarbon dates available related to the LCA of Cayenne Island, ranging from the 10th century to the early historic era. Although Rostain hypothesized a late first millenium inception date regarding Thémire, it remained a late LCA ceramic complex, representing the 'ultimate manifestation of the Arauquinoid Tradition' (Rostain 2008b:292). In addition to various modes of incisions and modelling, a highly characteristic element of this most recent manifestation is white-on-red painting, which is on occasion combined with black paint, representing the introduction of polychrome traits from the Lower Amazon River (Rostain 2013:122). CPP features white-on-red painting, i.e. Forms E-F (Fig. 12.2), as well as ceramic depositions of carinated bell shaped bowls with white-on-red painting, i.e. CPP F 83, F 93, F 102, F 165 vs. Forms 6 and 7 (Boomert 1986, Fig. 12). Interestingly, similarly decorated ceramics also have been identified at Montabo Sud, Montagne à Colin and more recently Sainte-Agathe. They feature white-on-red and polychrome painting, suggesting a late cultural episode as to the LCA on Cayenne Island (Coutet 2009; Migeon 2007, 2012; Samuelian 2009).

Consequently, as stated before, if Thémire is the most recent manifestation of the Arauquinoid series, the question arises: What was the earliest manifestation like? It is suggested here that Forms A-D from PK 11 and Forms A-D from CPP, not sharing the above-mentioned traits for (Late) Thémire, represent this earlier manifestation of Thémire or Early Thémire, i.e. Forms A-D in Figure 12.2. In fact, the majority of the radiocarbon dates range between AD 900 and 1400, thus predating the original Thémire complex or Late Thémire. This proposed divison is also applicable to numerous other dated LCA sites recently excavated on Cayenne Island and adjacent areas (cf. Section 8.9).

As mentioned above, Rostain was certainly "on to something" back in the late 1980s. However, he did not dispose of sufficient radiocarbon dates in order to confirm his hypothesis. All archaeological data from Cayenne Island and adjacent regions (notably to the west of Cayenne) was lumped into two principal, preliminary ceramic types. Hence, it is thought here that Rostain's Thémire types contained both hypothesised LCA phases i.e. Early and Late Thémire, also stressing the fact that the majority of the latter sites may have been occupied during the entire Late Ceramic Age. The creation of a new singular ceramic complex for Cayenne, however, as Matthieu Hildebrand (in Mestre et al. 2005) proposed after his analysis of the Katoury ceramic assemblage, is believed too bold (cf. Section 3.4.3.2). Hildebrand ignored previous research carried out at the neighbouring type-site Thémire, hereby downplaying earlier research, notably pioneering studies carried out two decades ago. He stresses the homogeneity of the studied material, dated between the 10th and 13th century, which is again confirmed by means of the technological analysis by Coutet (2009:266, 427).[358]

In sum, the ceramic material from many sites allows us to compile a ceramic LCA catalogue for Cayenne Island consisting of decorated and undecorated vessel shapes as presented in Figure 12.2. They form a first contribution to this catalogue of Early and Late Thémire, as revised in this section. It must be noted here too that these forms certainly not only require further "polishing" but that this catalogue also should be enriched with other vessel shapes to be discovered in the near future.

(b) Arauquinoid or not?

The Arauquinoid dispersion is embedded in an earlier, much larger scientific debate as to the Carib expansion (Lathrap 1970:164) and that of a population increase around the end of the first millennium AD in adjacent key areas, i.e. the Orinoco River (Roosevelt 1980:218; Sanoja 1979:259), the Lower and Middle Amazon (Roosevelt 1991; Oliver 2008), and the southern Lesser Antilles (Rouse and Allaire 1978). This population increase is often associated with the introduction of (intensive) maize cultivation, notably in Orinoquia (Gassón 2002:255–256, 276). It is believed that, together with manioc, this seed crop was undoubtedly grown on the raised fields, maintained not only by the Hertenrits population of northwestern Suriname (Boomert 1980), but also by the Barbakoeba populations of central and western French Guiana (Rostain 1991; McKey et al. 2010). It is stated that during the the LCA there was a 'population increase, opening up of new trade routes, increased social interaction and development of new subsistence patterns seem to characterize the post-Barrancoid period everywhere in the S Caribbean, in the Antilles as well as on the mainland' (Boomert 1985:111).

The emergence of coastal sites in the western and later the eastern Guianas was associated with the expansion of the Arauquinoid populations from the Middle Orinoco River in *c*.AD 600. It was embodied mainly by coastal sites in Suriname (Boomert 1977, 1978, 1980, 1985, 2000; Rouse et al. 1984; Versteeg 1985, 2003) and later on in western French Guiana (Rostain 1994a, 2008b, 2012, 2013). Following Lathrap, the youngest Arauquinoid phase was associated

358 Claude Coutet (2009:250) observes in her PhD dissertation certain types of which 'the distinct traits are in fact idiosyncratic features which may not have been emphasised sufficiently when the Thémire complex was created.'

with the Incised-and-Punctate Tradition of the Middle and Lower Amazon River. It was subsequently projected across the Maroni River into western French Guiana where it would finally meet the northwestern extremities of the Lower Amazonian Polychrome Tradition near Cayenne Island (Boomert 1985:106, 1993:209; Rostain 1994a, 2013). This type of large scale or big-picture modelling is important, but hampered archaeological discussion due to the lack of sufficient, contextual data in the Guianas. Not only is it believed to be highly speculative, it also ignores possible cultural diversity. Stylistic comparison is often based on temper and decoration modes and, to some extent, morphological features:

> *These vessel shapes, diagnostic of the Arauquinoid series in the Middle Orinoco Valley, the Venezuelan Llanos, Valencia, and the related complexes of the "Incised-and-Punctate" tradition of the Middle and Lower Amazon (Lathrap, 1970:164–170) were replaced by simple ollas with cylindrical or concave upper parts, often showing punctated appliqué fillets at the base of their necks, like those of the Guayabitoid series, Hertenrits, Guarguapo, Apostadero, Mon Repos, Valencia, and Macapaima. Similarly, anthropomorphic face designs on trapezoidal bowl lugs disappeared while naturalistically modelled zoomorphic adornos developed into simple "horned" lugs.* (Boomert 1985:106)

The differences between the "original" homeland styles were "regionalized" in the areas of Arauquinoid expansion or replaced by means of local modes (e.g. as grog for *cauixí* temper).[359] From an archaeological point of view, the migration of people from the Lower Orinoco River should indeed include cultural replacements or the appearance of incoming objects brought by incoming populations. In my view, this pattern is not evident along the coastal Guianas, only revealing a possible contact or exchange, suggesting a possible supra-interaction sphere. The stylistic similarities between the heartland and the distant offshoots are restricted to general features which cannot serve as diagnostic elements on a regional level. The ceramic study of the LCA sites presented here show dissimilar ceramic assemblages sharing only a small number of general characteristics, each representing a local variation of a possibly larger socio-political entity in which the ceramics assemblages may reflect the identity of a specific group during the LCA of coastal Guiana.

This tendency only becomes apparent in coastal French Guiana after AD 900. This is probably the result of biased archaeological research in the coastal plains. However, from the existing point of view, the cultural origins of this development remain obscure when compared to the Early Hertenrits phase –if there is such a thing in French Guiana. In addition, if there were any Arauquinoid migrations or influences in the eastern Guianas, they coincided with the dispersion of the Barbakoeba complex during the Late Hertenrits phase, thus after AD 1000. However, in my opinion, it never enjoyed much popularity among the inhabitants of Cayenne Island. Moreover, the more recently established chrono-cultural framework for the LCA in the Orinoco delta, notably with regard to the Arauquinoid expansion as proposed by Roosevelt (1997:185) or Barse (2000:341), are all in favour of a LCA expansion into the western Guianas towards the end of the first millenium, as Versteeg suggested two decades ago

359 The absence of cauixí in the Arauquinoid wares of Suriname is troublesome (Boomert 1977, 1978, 1980). Rostain (1994a:230) simply states that 'temper is not a discriminating element for the Arauquinoid series' avoiding the issue concerning this important marker of the Arauquinoid series in the Orinoco.

(1985:708–709). In sum, a faint glimpse of Arauquinoid "regionalisation" in Suriname is detectable during the LCA (Late Hertenrits or Barbakoeba), but physical expansion or migration appears too bold and is not sustained by means of pertinent archaeological evidence.

(c) Arauquinoid at Cayenne?

As stated above, the earliest radiocarbon dates go back to the start of the 10th century AD (and possibly slightly earlier). They correspond to: (a) the hypothesis of a second Arauquinoid (Camoruco?) "wave" into the western coastal plains of Suriname (Rostain and Versteeg 2004:235) and to (b) the hypothesized Barbakoeba distribution in eastern Suriname and western French Guiana, both effected in the early LCA (Boomert 1993). In addition, if we consider a "cultural continuum" for Thémire, as Rostain proposes –thus from Early to Late Thémire, as proposed here– the early LCA assemblages of Cayenne Island should demonstrate stylistic similarities with the contemporaneous Barbakoeba assemblages. However, this is not at all the case. For instance, when comparing the early LCA material from AM 41 (cf. Section 7.3), LPB (cf. Section 5.5.7.1) or even Crique Sparouine (cf. Section 6.4) with the PK 11 and Poncel assemblages (cf. Sections 8.5 and 9.5), it is difficult to point out any significant similarities in both vessel shapes and modes of decoration. On the contrary, it indicates that both regions have a style of their own. However, as in many other regions, these two regions do share certain (supra-regional) traits (e.g. potsherd temper, the modelling of nubbins, red paint). However, the latter features are considered too common to both areas and not necessarily point towards an Arauquinoid origin (Hildebrand 1999).

An ascription to the Arauquinoid series firstly represents the usage of the Orinocan tripartition as Boomert (1980) and Versteeg (1985) proposed with regard to Suriname. From the latter region, this well-known model was further applied to the Barbakoeba sites of the eastern plains in Suriname (Boomert 1993) and eventually to the Thémire complex of Cayenne (Rostain 1994a). If the final result of this alleged Arauquinoid migration from the mouth of the Orinoco River towards Cayenne –considering the many cultural encounters *en route*– can be traced back to an original Arauquinoid complex is at least doubtful. Nevertheless, Late Thémire can certainly be integrated into a supra-regional interaction sphere comprising the Lesser Antilles, Trinidad, the Lower Orinoco and the western Guianas (Bright 2011; see also the discussion presented below *The Koriabo complex*).

Secondly, it is also important to look into other cultural aspects of Early Thémire. These sites are related to a highly specific burial mode consisting of elongated pits with pottery debris and constitute different burial modes when compared to eastern and western French Guiana. Thirdly, Cayenne Island does not feature any raised fields (Rostain 1994a:132) which are believed to represent important cultural markers regarding the Arauquinoid tradition (Boomert 1976, 1980, 1993; Versteeg 1985, 2003; Rostain 1994a:61, 2008ab, 2013).[360] They thus represent an aspect not shared with the Barbakoeba sites in western French Guiana. In sum, the Early Thémire complex may certainly have local origins, but

360 The first raised fields are to be found in the Maillard Savannah, c.15 km to the west of the Cayenne River (Renard 2010), but raised fields may have disappeared during colonial times on Cayenne Island.

further research is needed to clarify this matter. As discussed below, in *c.*AD 1400, it integrated duotone and polychrome traits revealing Late Aristé and/ or Koriabo affinities, as reflected in Late Thémire.

(d) The possible origins and future research

In addition to a possible inclusion in the traditionally acclaimed Orinocan cultural interaction sphere concerning the western Guianas, I would like to scale this analysis down to a lower level and point out the possibility that the early LCA ceramic assemblages of Cayenne may also represent a regional complex of its own as suggested above. If we want to ascribe it to a distant culture area, the Amazonian Polychrome Tradition is a fine alternative considering the omnipresent potsherd-temper in both regions. The problem with this option is –as Rostain faced 20 years ago with regard to Thémire– the fact that we have only scant data dealing with the ECA occupation of eastern and central French Guiana. Late Aristé habitation sites are lacking and the latter LCA complex is mainly known for its funerary sites, containing predominantly polychrome (anthropomorphic) urns and other spectacular burial ware.[361] However, in combination with recent and old data, the excavations at CPP suggest the presence of Early Aristé on Cayenne Island (see also Gassies and Mestre 2012). The excavations at CPP revealed a single cylinder shaped pit, measuring at least 2 m deep at surface level (cf. Fig. 9.7). It contained thin, sand-tempered ware completely different from the LCA ware at this particular site and yielded converging, carinated bowls as well as characteristic fingernail indentations applied to the lip and interior rim in a series of open bowls. They were dated to the 4th century AD by means of one radiocarbon date (POZ-44824, 1635 ± 30 BP). Rostain (1994a:161–173) defined the latter type of decoration as *Ouanary encoché*, representing the earliest ceramic series for eastern French Guiana. Although Early Aristé was at first ascribed –correctly as it appears to be– to AD 350 (ibid., p. 495), the inception date was recently changed to AD 700 (Rostain 2012: 17, 24).

The reasons herefor remain unclear, but of the 23 radiocarbon dates attributed to seven sites where *Ouanary encoché* was found, at least 14 indicate it can be ascribed to the first half of the first millennium AD (cf. Table 9.9). The earliest dates are associated with ring-ditched sites, strategically positioned on high plateaus in the mountainous hinterland of the coastal plains (e.g. Blondin, Pointe Maripa, Favard). Interestingly, when reviewing the existing LCA ceramic collections of Cayenne Island, *Ouanary encoché* was found at several other LCA sites, such as Vieux Chemin (van den Bel 2007b:88) and Mont Grand-Matoury (Hildebrand 2000, Fig. 48.10), suggesting an ECA presence. It is presumed these populations prefered higher locations, such as mountain tops. The small amount of archaeological research carried out here (partially) explains the fact that so few ECA sites were found on Cayenne Island and surrounding areas.[362] Although further research is certainly required, notably in the interior concerning ring-ditched mountain sites, *Ouanary encoché* is indeed part of an early first millennium ceramic complex. It is proposed here, it is a distinct ceramic assemblage and

361 In 2009, however, a Late Aristé habitation site was extensively excavated by members of the IEPA, situated opposite the Pointe Morne site on site of the Brazilian bridge head along the Oyapock River to the north of the village of Oiapoque (Silva 2011).

362 The majority of the Cayenne Island table-mountains are classified monuments. Therefore little to no construction is present in these natural reserves.

separated in time from the much more recent Late Aristé complex, based on vessel shapes, temper and (incised) modes of decoration. [363]

Further investigation is also required concerning a possible Late Aristé presence at Cayenne (van den Bel 2012a) in order to obtain a better understanding of the transition from Early to Late Thémire. The difference between both phases may be linked to the Koriabo 'arrival' during the (late) second half of the LCA, as Rostain (1994a:447) proposed two decades ago with regard to the temporary type *Melchior kwep*. In my view, the white-on-red elaborate painting, polylobed rims, incised stools and necked or collared (toric) vessels found in Late Thémire assemblages are strong Koriabo markers. This also suggests that Late Thémire can be ascribed to the Koriabo ceramic complex (or Horizon?) and not to the Arauquinoid series at all. The Early Thémire, lacking the above-mentioned features, as stated above, and with proper morphological and decoration modes, rather should be attributed a local or perhaps an Amazonian origin and not a far-fetched Orinocan one.

In sum, the bias of a small archaeological data set in the past may have favoured a theory of migration from the west to the east. It provided a clean answer to the existing archaeological situation and prevailing theoretical framework. Scientific protectionism dismissed all other possible ideas on rectifying or developing the existent framework. However, during the last decade, continuous compliance archaeological research on Cayenne Island has made it possible to obtain a more detailed image of the LCA, notably the evaluation of the Thémire complex. It has also revealed possibilities for further research into the Early Ceramic Age, hitherto barely brought to light with regard to this region.

The Koriabo complex Evans and Meggers (1960) defined the Koriabo ceramic complex after excavating four sites located in the northwestern coastal area of former British Guiana and proposed five predominantly sand-tempered pottery types of which incised, toric pots and scraped, open bowls are characteristic (Evans and Meggers 1960:133, Fig. 53). As Koriabo ware was only found in connection with the latest Mabaruma phase, they suggested a date between AD 1250 and 1600 as to Koriabo (ibid., p. 147). This was confirmed by means of a single Koriabo trade-sherd at the LCA Apostodero site on the Lower Orinoco (Cruxent and Rouse 1958-59, Plate 103.18). Versteeg (1980b:50, 2003:183) adhered to this range dating to the second half of the LCA and rejected all earlier dates.

Boomert (1986) carried out ground breaking research on Koriabo when demonstrating the LCA ceramic stylistic affinity between the Guianas and the Lesser Antilles by means of comparing archaeological data, i.e. Koriabo ware from Suriname vs. Cayo ware from Saint Vincent. He hereby also confirmed certain historic sources (see the quotation of Keymis in Section 11.7.1) and stressing a (partially) historic age as to this ceramic complex. After discussing the radiocarbon dates of the BPS sites, Boomert (2004:256) proposed a range between AD 750 and 1500 as to the Koriabo complex, subdivided in Early and Late Koriabo. Ever since this definition, Koriabo has been part of a general disccussion on: (a) its chronology and (b) cultural origins (Boomert 2004; Rostain and Versteeg 2004). The studied sites yielding Koriabo material are now discussed in order to elucidate this discussion.

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363 If to be attached to a larger Amazonian Tradition, the Incised-Rim Tradition would actually be more appropriate than the Incised-and-Punctate one, as erroneously proposed by Rostain (sic).

(a) The site of Crique Sparouine provides a first significant example. This site yielded two distinct pottery wares and two possible occupations, but only four radiocarbon dates. The analysis indicated either that (a) a local population, producing its traditional ceramics, was in contact with a Koriabo population or (b) that a Koriabo population succeeded the local Sparouine population. A similar conclusion could be proposed with regard to CSL Phase 3 and, to a lesser extent, to LPB in spite of the fact that the latter local ceramic assemblage differs from Crique Sparouine. The neighbouring Saut-Saillat site also yielded decorated and undecorated Koriabo ware dating back to the most recent part of LCA and early Historic Age, suggesting possibly that the most recent radiocarbon dates found at the afore-mentioned sites correspond to the latest radiocarbon range, i.e. Koriabo.

Hildebrand (2008:48) stresses the possibility that the LCA can be divided into two phases based on a higher frequency of sites in relationship with a later, drier period, as Tardy (1998) defines as to French Guiana: (a) a drier phase between AD 1000 and 1250 followed by (b) a less drier phase between AD 1250 and 1500, as Boomert (1993:211) pointed out when drawing from the work of Colinveaux et al. (1985) in northwestern Amazonia. If Koriabo is associated to the drier phase, the CSL Phase 3b and the second occupation of the Crique Sparouine site may indeed refer to the Koriabo pottery at this site. The similarities between the undecorated necked (toric) pots of Saut-Saillat and those found at the historic level of Eva 2 are striking, suggesting that Koriabo along the French Guiana littoral can be dated at least to the second half (or later) of the LCA and early Historic Age. In this manner, the radiocarbon dates obtained for Bigiston, Christiaankondre and Angoulême make sense as to the Koriabo material found at these sites.

According to Rostain (2009:47, 2013:126), the AD 1200 date marks the 'arrival' of the Koriabo people or an invasion of the coastal plains. It took over the existing populations and spread along the coast. Considering Cayenne Island, this alleged arrival is visible by means of the presence of Koriabo material at CPP and other ceramic collections (e.g. Montabo Sud, Montagne à Colin, Mini Circuit Automobile). Interestingly, Koriabo decorated ware (e.g. toric pots, polychrome flower bowls, polylobed rims, incised stools) has not been encountered in Early Thémire sites (e.g. Katoury, Saint-Cyr, Mombin II, CPP) suggesting that this island was not part of the Koriabo interaction sphere during the early LCA (Early Thémire) and that this sphere probably emerged or arrived afterwards. This latter hypothesis is partially confirmed by means of the radiocarbon dates and superposition of Koriabo material found at the Lower Maroni and Oyapock Rivers (cf. Section 6.5). However, this certainly needs further testing as does the manner in which the climate played a decisive role in the rise of Koriabo and the abandonment of earlier occupations.

From this point of view, we should indeed follow Versteeg and Bubberman as to a shorter and later chronology as to Koriabo (1992:45; Versteeg 2003:183). They systematically reject all radiocarbon dates prior to 800 BP associated with Koriabo material, at least for the coastal area. However, numerous Koriabo sites have been encountered in the interior (Reichlen and Reichlen 1943; Evans and Meggers 1960; Groene 1976; Versteeg 1980a; P. Hilbert 1982; Vacher et al. 1998; Jérémie 1998, 2002a; Boomert 1978b, n.d.; Williams 1993; Rostain 1994a; Versteeg 2003; Duin 2009; Mestre 2012; Bellardie 2013) and are in need of further investigation, but the radiocarbon results are miscellaneous. This forced Boomert (2004:256) to extend his first Koriabo chronology to much earlier dates: from AD 750 on into historic times. According to Versteeg (1980b:48), the earlier dates

from the interior suggested that the Koriabo people travelled across the Sipaliwini Savannah from the Lower Amazon River and not only along the Atlantic coast, as Boomert (1977:513) had suggested previously. Of course, both routes are tenable as we have insufficient data to support any of them, again revealing a staggering lack of archaeological data as to the Guianas on which theory is based.

The large number of radiocarbon dates as to BPS (N=131) evoked the problem of charcoal contamination, paleofires and multiple occupations (Vacher et al. 1998:81, 209). Archaeological palimpsests, or multiple occupations, stretching for more than 200 years (e.g. CSL, Crique Sparouine, PK 11, CPP) make it rather strenuous to determine (different) occupations, untangle ceramic series, and to attribute the results to the corresponding radiocarbon dates. It may be evident that charcoal samples taken from layers or test pits provide only a very rough indication of a or multiple possible occupations. A dozen radiocarbon dates are at least needed to determine an occupation span. More importantly, it is often more secure to collect charcoal from closed features with ceramic reference material, such as specific vessel shapes or decoration modes, preferably with charred crusts for complementary dating and starch analysis. Although contamination in anthropogenic features is possible, many samples will certainly bring to light the "not relevant" ones. In the future, pits filled with Koriabo material (depositions), such as pit F 278 of Crique Sparouine or the one at Goliath Kreek in Suriname, should yield secure results concerning their chronology and stylistic regionality.

(b) As mentioned above, the cultural ascription of Koriabo is part of a continuous debate. Boomert (1977:513) first proposed an affiliation to the mouth of the Amazon River and later also to the Polychrome Tradition (Boomert 1986:27). This affiliation was based on Meggers and Evans' (1957:158–167) work in Amapá. Here Aristé and Mazagão together represented the offshoots of a common ancestral ceramic complex, i.e. the Ancestral Mazagão-Aristé complex, to which the Koriabo complex and subsequently the Polychrome Tradition belonged (Boomert 2004:258). An affiliation to the Incised-and-Punctate Tradition for Koriabo and Early Aristé as Rostain proposed (1994a:459–463), believed 'untenable' by Boomert (2004:258, note 10).[364]

More recently Rostain acknowledged the complexity of persistent occupation as to many LCA sites. He changed his stance by claiming that Koriabo represents a 'Guianese Tradition' moving from the interior towards the coast and having a cultural affinity with Aristé (Rostain 2013:125–126). Nonetheless, either ascribed to the Polychrome or to the Incised-and-Punctate Tradition, the foundations of the Amazonian nomenclature are completely hypothetical in the opinion of many Amazonian archaeologists (Neves 2008:368–371). Indeed, 'it would be a misunderstanding,' as Boomert (2004:259) pointed out, 'to consider polychrome painting as the only or most diagnostic decorative element of the Polychrome Tradition.' Other techniques (e.g. incision, excision, grooving on plain and red- or white-slipped surfaces and, to a lesser extent, punctation and modelling) are equally characteristic as to polychrome wares. In fact, this variety in techniques and

364 Rostain (1994a:459) attributes the Koriabo to the Amazonian Incised-and-Punctate Tradition based on the absence of excision (Stéphen Rostain, personal communication 2008). However, it is possible to consider the scraping technique Koriabo potters utilised (cf. Fig. 6.18d) in order to create complex geometrical patterns as a form of excision (van den Bel 2010a:87). This is also a dominant decorative element in the LCA Guaritan subseries of the Polychrome Tradition found in the Central Amazon (P. Hilbert 1968; Neves et al. 2003; Lima et al. 2006).

the complexity of the decoration modes is believed to characterise this Polychrome Tradition, as does the presence of specific vessel shapes (PRONAPA 1970:19).

In the end, both theories propose the Lower Amazon River as the heartland of Koriabo. Boomert (2004:260) observes striking similarities between Marajoará, Guarita and Napo vessel shapes, drawing on Weber (1975:400, Table 70). Nevertheless, we must point out here not only the presence of toric vessel bodies – albeit without necks– with polychrome painting, but also various carinated profiles resembling non-decorated Eva 2 carinated pots. In general, the present author would also like to point out the stylistic resemblances of the Koriabo scraped open bowls (cf. Fig. 6.21) and the Guarita scraped ware as well as possibly toric pots (Tamanaha 2012 ii:65) present in Marajoará urns, although the latter have larger dimensions (Magalis 1975:238, Figs. 68-9). Striking stylistic resemblances are also drawn as to the Late Aristé polychrome ware, notably the painted designs on secondary burial urns, as found at Goliath Kreek in Suriname which were also encountered at CPP, i.e. EC 83 (cf. Fig. 9.18). In addition, the Koriabo and Late Aristé ceramic assemblages share pointed bases, eared rims and toric body parts, revealing a close affinity. In sum, Koriabo painted and incised ware as well as undecorated pottery is present in second half of the LCA and continuous to develop during the Early Historic Age, albeit with less decoration, as expressed at Eva 2 and the Lesser Antilles. Although present all over the Guianas, the origins can be found in the eastern Guianas, notably at the mouth of the Amazon River. Important affinities with Late Aristé require further comparative research.

The Aristé complex The Aristé Phase was defined by Evans (1950:80–110) and presented several years later in collaboration with Meggers (Meggers and Evans 1957:103–151). Nearly four decades later Rostain (1994a) presented the first radiocarbon dates associated with Aristé. It was first believed to be a short living pre-contact culture, notably because of the presence of European glass beads in this predominantly funerary ware (Meggers and Evans 1957:167). Four rock shelters located in the Ouanary Hills yielded nine radiocarbon dates ranging from between *c*.2000 and 300 BP. Rostain (2011, 2012, 2013) translated this into three phases based on: (a) the changing burial rites, hereby following Meggers and Evans (Rostain 1994a:111), (b) the pottery types of which the sand-tempered *Ouanary encoché* is attributed to the Early phase, ascribed to the Incised-and-Punctate Tradition (ibid., p. 418) and (c) the grog-tempered *Enfer polychrome*, presumably affiliated to Late Aristé (ibid., p. 419).[365]

Hitherto, *Ouanary encoché* was the earliest defined ceramic subseries for eastern French Guiana and northern Amapá as recently confirmed (cf. Table 9.9). However, its attribution to the Aristé complex (according to Meggers and Evans a LCA complex) and the Incised-and-Punctate Tradition is hypothetical, as Aristé was presumed to change from the latter tradition to the Polychrome Tradition. However, from a chronological point of view, one would rather suggest the contemporaneous Amazonian Rim-Incised Tradition.

As stated above with regard to the possible origins of Early Thémire, temper, modes of decoration, vessel shapes and radiocarbon dates of *Ouanary encoché* or Early Aristé demonstrate a distinct ceramic series. Separated from the Late Aristé phase, it suggests an entirely different complex or even a distinct culture. The association with ring-ditched mountains certainly requires further study. The

365 We must mention other types (e.g. *Caripo kwep* and *Hocco fer*) which are clearly in the minority.

presence of another early first-millennium ceramic complex, in addition to the Saint-Louis complex, is becoming more evident with regard to French Guiana, hereby stressing the importance of the ring-ditched mountains as well as the research bias between the "unknown" interior and the coastal area.

12.4 The chiefdoms

Introduction

The general ceramic markers (temper, vessel shapes, decoration modes) as described above are shared by the above-mentioned LCA complexes, suggesting the presence of one chiefdom in the east (Arauquínoid) and one in the west (Polychrome Tradition) (Rostain 2009:53). The presence of archaeological and/or ethnohistoric chiefdoms as regional polities consisting of subordinate villages under the permanent control of a paramount chief (Carneiro 1981:45) has been a heated debate in Lowland South America and the Antilles during the past three decades (Drennan and Uribe 1987; Redmond 1998).[366]

However, the premature conclusion that coastal LCA societies were chiefdoms distorts the very essence of these societies as dynamic cultures embedded within a much larger interaction sphere. To explain the large picture, neo-evolutionary concepts (processual *New Archaeology*), i.e. hereditary inequality, monumental architecture, complex societies, etc., have masked significant elements of Amerindian society, such as the variability or regional differences of complex society because the latter are 'sophisticated delusions' that 'stand as obstacles' created by anthropologists and not by indigenous people. They 'imply a cultural homogeneity and uniform political structure rather than a plurality and diversity of organisations, identities and historical experiences' (Pauketat 2007:3, 81).

The Amazonian tradition of defining the various types of society (Oberg 1949:52, 1955) can be opposed to Yoffee's (2005) comparative study of developmental sequences as a way to understand diversity and complexity. It appears that "pure" archaeological research must be abandoned and archaeologist need to be more like ethnologists, as Rivière suggests (1984:4): 'It is not sufficient to note that the Trio distinguish themselves both from the Wayana to the east and the Waiwai to the west by means of their hairstyle (amongst other things). It is necessary to know how the choice of a hairstyle, in relationship to other choices, forms a cultural identity.' This ethnographic approach is again fuelled by means of an (etno) historic approach, as Whitehead (1988) promoted as to the Guianas, in which ideological and/or warfare domination appears to be an important factor of Amerindian society and regional florescence. Thus, it seems likely that the post early-contact upheavals and the (socio-political) behaviour of the Amerindian population during the 16th and 17th century, at least partially, are part of earlier patterns of migration, resistance and genesis. Although we cannot underestimate the impact of the European arrival (e.g. diseases, slave trade, warfare, missionization), it seems fair that the Guiana population, including the

366 Linguistic research carried out during the 1960s and 1970s inspired scholars to define culturally characteristic traits. For instance, Basso (1977) defined eight cultural markers shared by three Carib-speaking groups in the Guianas. These markers suggest a cultural homogeneity of these Carib groups, leaving little space for the origins of these traits, such as warfare, trade and alliances (Dreyfus 1983-84:40).

groups that fled from Trinidad, responded to these social pressures in ways that made sense to them from their point of view and not merely in novel manners. The (ritualised) realm of warfare observed in the early documents was clearly not newly created during the post-contact era (Santos-Granero 2009b).

The ideological aspects of successful warfare could only have deep historical roots in a precontact era, as is often recorded in early historic documents. An achieved status by means of skill in warfare played a key role in determining which men became war leaders and were subsequently entrusted with diplomatic authority. These forms of 'high culture' (Baines and Yoffee 1998:237) or cultural notions of order, legitimacy and status make way to support this culture or 'the consumption of aesthetic items under the control, and for the benefit of, the inner elite' in the Guianas (e.g. greenstone frog pendants, basketry, Koriabo ware).[367] It is the access to and the socio-political importance of these precious goods rather than their intrinsic value that creates status in pre-Columbian and (early) historic Amerindian culture (cf. Section 12.5).[368]

In addition to status and trade, slavery and warfare, particularly war against peoples with dissimilar languages and practices (C., *itoto*; A., *igneri*), represent common cultural traits in the Guianas and the Caribbean.[369] However, it cannot be asserted that warfare was simply about "making slaves" as in a Western notion of acquiring a free labour force by way of applying violent means. The reason for this is the fact that all adult men and the majority of the women were actually killed by the raiders. The loot consisted of products similar to those at home and these items were not accumulated in such large quantities that they could be converted into economic power (Santos-Granero 2009b:197). Therefore, raids were also about expressing regional, political dominance and capturing ritual paraphernalia in order to obtain vital or spiritual energy stocked in idols, bones, teeth, etc. Capturing the "other" (enemy) was vital for the well-being of society on both political and religious levels. Instead of pigeon-holing on ceramics, Guiana archaeologists should draw upon anthropology as, for example, Duin (2009:25–27, 2012) pointed out with regard to the concept of the Wayana community house by means of elaborating on the model of regional organization nourished by means of socio-politicalities, rituals, architecture and social memory. Indeed, late pre-Columbian and early historic Amerindian societies were highly dynamic (Ingold 1993:154) in which villages with dissimilar status exchange goods and vital energy or potency. Although we have little archaeological evidence, Duin opts for a multiscalar, regional approach regarding the interior of French Guiana,

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367 Yoffee's high culture draws on Lévi Strauss' rigid 'house' concept (Lévi Strauss 1979:47). In it a moral person, keeper of a domain composed of material, owns immaterial property. It perpetuates itself by the transmission of its name, fortune and titles in a real or fictive line thought to be legitimate on the sole condition that this continuity can express itself in the language of kinship or of alliance or preferably both. See S. Hugh-Jones (1995) and *The Durable House: House Society Models in Archaeology,* R. Beck (ed.), (2007).

368 It is important to point out that (trade) objects have a different value from the European perspective as pointed out by Catherine V. Howard in her PhD dissertation on Waiwai identity (2001:234-235): 'Ogilvie's observations underscore a point that is key to understanding the regional exchange system: it is the *movement* of exchange items that is fundamental, not their stasis; their value is constituted not in possession, but in the *process* of acquiring them and giving them away. Contact with other societies should not be measured in terms of the accumulation of goods, but rather, analyzed in terms of how these goods flowed through the exchange network and how their meanings were transformed through such channels. '

369 Breton (1665:223).

drawing heavily on Heckenberger's research (2005) on the Amazonian circular plazas embodying permanent central agencies.[370]

However, we must take care when transplanting such models on apparent similar regions: this model was designed for southern Amazonia. On the other hand, the Wayana are recent intruders into the interior of the Atlantic Guianas and not descendants of the coastal population, if we want to apply the Amazonian model of circular plazas. Projection into the past can be dangerous as Amerindian cultures have changed over time and were heavily impacted by means of European influences (cf. Chapters 10 and 11). Moreover, we must not underestimate the opposite danger of 'archaeological perversion' (Viveiros de Castro 1996:193). However, this kind of projection may also claim an eye opening effect as to research in the Guianas, as it did for the Middle Amazon area (Heckenberger et al. 1999; Petersen et al. 2001).

Guiana complexity

Village leaders and shamans exercise political power in Amazonian societies. They are able to control their position not only by means of commissioning festivities, ceremonies and games, but also by maintaining large networks. Herein the exchange of prestige objects secures socio-political alliances as the distribution of Koriabo ceramics and greenstone objects exemplify. Despite the fact that the Guianas feature several large earthwork sites related to the indications of population control and central power (Roosevelt 1991; Schaan 2004; Rostain 2013), they are in fact not present in large quantites, but rather pinpointed in a small number of regions (e.g. the man-built mounds in western Suriname, the stonehenges in northern Amapá), with the exception of the ECA ring-ditched mountain sites which apparently occur in large parts of the entire Guiana interior. As mentioned above, these features do not necessarily reflect the central power from an indigenous point of view, but rather from a European point of view. Regional ceremonies (e.g. commemoration of alliances, celebration of deceased village leaders, ancestor worship and perhaps calendrical ceremonies) are possibly materialized archaeologically at stonehenges, ball games and ring-ditched sites.

At the moment, cemeteries are principally identified with regard to the LCA along the Atlantic coast of the Guianas whereas ceremonies at village level are more difficult to detect. The latter are possibly reflected by means of ceramic depositions, fragments of stools/tablets and statuettes, suggesting the presence of shamanic and/or village leaders' power. In addition to these artefacts, we come across ceramic modelling and complex painted designs in which mythic animals (e.g. jaguars, anacondas, birds (vultures, fishermen, woodpeckers), caymans) as

370 Although we have very little archaeological evidence regarding circular villages, i.e. a southern Amazonian concept (Wüst and Barreto 1999; Heckenberger 2005), in the Guianas, there is also little evidence concerning communal huts or central buildings. The latter concept is inspired on historic and ethnographic documentation (Bos 1973). Currently, central ring villages and plazas are often encountered in southern Amazonia (Wüst and Barreto 1999). In the Guianas the concept of a "men's house," or central public building (Kali'na, *tapoui*; Wayana, *tukusipan*), are more frequently found. The utility of the multiscalar approach (both temporal and spatial) as an important aspect of regional and network analyses has become quite popular among North American archaeologists. They range from Braudel's (1972) tripartite divisions of social time into individual events, conjunctures, and the *longue durée* (Knapp 1992), to the concepts of "time perspectivism" (Bailey 1983, 2007; Holdaway and Wandsnider (2008) and "big histories" (Robb and Pauketat 2013). See Brightman (2007) on Amerindian leadership in the Guianas.

well as possibly cosmographic and status symbols play important roles. These elements and artefacts provide information on how political power is executed in the Guianas. This differs from western ideas on chiefdoms or authority guided by means of control, submission and the coercion of people. Power is guided by means of the control of ancestral, cosmographic knowledge embedded in oral tradition or myth which eventually guides communal life and politics.

Modern Amerindian settlements are thought to be self-sufficient in techno-economic terms (Kloos 1971; Rivière 2000). Duin (2009:42–43, 2012), however, proposes for the Guianas the following theoretical framework for Amerindian villages: (a) a more complex or inter-village organisation based on ritual economy, as defined by Wells and Davis-Salazar (2007), (b) social ranking, as defined by Goldman (2004:44) and (c) symbolic capital, as defined by Bourdieu (1990:112–121). No doubt, this hypothesis is possible with regard to pre-Columbian society when considering the LCA archaeological database. However, a step beyond everyday economic activities (e.g. fishing, agriculture, pottery production) is currently perhaps far-fetched. Even if political centralisation, divine chiefs, mound building, and status ascription is present, then pottery, lithic material, possible house forms, starch grains, earthworks, dark earths and religious symbols are the only tangible proof available.

Thus, when browsing the studied sites, the relevant literature and the early historic sources, we may indeed propose a certain level of complexity as to the LCA in French Guiana expressing itself modestly when compared to other regions, notably the Lower Orinoco and Amazon Rivers (Rostain 2010a:189).

Wishing to recognize chiefdoms in the pre-Columbian Guianas, we must not only adapt Roosevelt's (1993) propositions with regard to a more complex society located in the area of the mouth of the Amazon, but also Heckenberger's southern Amazonian model extrapolated to the Atlantic Guianas. I would now like to propose a number of socio-political traits concerning pre-Columbian societies in coastal French Guiana:

(a) Large archaeological sites are found in French Guiana. However, the actual size of a village at a given moment in time is still difficult to determine. It is hypothesized here that: (i) archaeological sites on sand ridges shift across them in time, (ii) they may thus contain the remnants of earlier sites, as seen at CSL, (iii) the principal functions of the studied sites are: habitation villages (PK 11), satellite or activity (seasonal) villages (CPP), and funerary sites (AM 41) and (iv) the majority of the sites studied here were occupied longer than two or three centuries leaving behind large quantities of material and features, suggesting either a large population or just a small number of families residing here over a long period, which is presumably the case.

(b) At present, any direct archaeological proof as to village unification and the presence of paramount chiefs is absent. Central buildings perhaps reflecting a ranked society drawn on historic and ethnographic analogies have not been found yet. Further extensive and large-scale excavations are needed to draw such conclusions on site level. However, aerial or satellite imaging has not revealed very large villages or extensive earthworks or geoglyphs as in the Brazilian State of Acre (Saunaluoma 2012) or Bolivia (Lombardo and Prümers 2010;

Prümers 2014), although recent LIDAR images in eastern French Guiana have shown more variation in ring-ditched sites (Laurent Delacroix (ONF), personal communication, 2014).

The presence of raised fields and habitation mounds in the Central Guianas, notably Suriname and French Guiana have been known for decades (Boomert 1976, 1978; Versteeg 1985; Rostain 1991). Although there is momentarily no archaeological evidence as to habitation mounds in the coastal plain of French Guiana, the LCA *chenier* villages are associated with the raised fields in these plains (Rostain 2008a, 2010b; McKey et al. 2010). In my opinion, further research is needed not only to confirm the proposed idea of shifting villages (Meggers 2011:155), but also to obtain more radiocarbon datings as to the raised field complexes to check contemporaneity as well as their alleged significant fertility over higher (Pleistocene or Precambrian) grounds. Notably the extensive "organised" tapestries of small heaps and the canals or "roads" in the coastal savannah of French Guiana deserve more attention since they may actually represent 'a natural organised landscape' (Renard et al. 2010; McKey et al. 2014:93).[371] Thus, high culture or hierarchical social organization is not proven as to the coastal area and currently merely a hypothesis to be tested. If these raised fields were indeed developed in order to produce a surplus for redistribution in a village network controlled by a paramount chief, is still to be seen.

Furthermore, if ring-ditched sites were fortified villages of (paramount) chiefs, as among the Tupinamba of southeastern Brazil, has not been demonstrated yet (Petitjean Roget 1991). Further fieldwork is required in order to comprehend the function of these ring-ditched sites in French Guiana.. Radiocarbon dates have indicated that their implantation in the Guianas began at the end of the first millennium BC, proving a long tradition of these man-made sites, even predating the man-made mounds of the western Suriname coastal plains and possibly of Marajó.

(c) There is no evidence whatsoever concerning warfare or expansionism at the sites studied here despite the fact that the early historic accounts report relentlessly on the warfare going on in this area and Amazonia in general (Santos-Granero 2009b). This warfare was not simply about the Western concept of obtaining a cheap labour force or of destroying the other. It is rather concerned with 'the social

371 Today, the Kali'na of eastern Venezuela apply a certain ditching system. Its origins remain unknown: 'The [ditching] system has been adopted by local criollo farmers; however, there is no evidence for it elsewhere in tropical South America, now or in the past. The Karinya ditched fields are one more example of man's ingenuity for utilizing marginal habitats for food production when and where the need arises' (Denevan and Schwerin 1978:59). This also suggests that this Karinya system may have colonial origins. According to the hypothesis of P. Grenand (1981:25), the modern Palikur no longer utilise raised fields, but apparently did so until the end of the 19th century: 'Pour compenser l'usure des terres, il semble qu'ils avaient mis au point des techniques de cultures sur buttes tout d'abord considérables, bien que l'on manque encore de preuves archéologiques solides, puis, à mesure que l'ethnie et ses voisines s'amenuisaient, réduites des mottes circulaires (*imukwi hipatip*) de 80 cm de diamètre sur 30 à 40 cm de haut, ou mieux à des billons (*iinukwi kiawilnir*) de 2 m de long sur 50 cm de large. Mottes ou billons étaient entourés d'une dépression assurant l'irrigation. Cette mise en façon du sol était réservée au manioc amer et secondairement aux ignames (*Dioscoreu trifida*). De telles techniques supposaient évidemment une mise en culture de plusieurs anées. En l'absence d'observations précises au cours des XVIIIe et XIXe siècles, il est impossible d'apprécier diachroniquement les différentes phases d'appauvrissement de ces techniques agricoles. En 1925, Curt Nimuendajú (1926) trouve déjà plus que des abattis comparables à ceux des populations de terre ferme. Cependant, le simple fait que les Palikur actuels aient pu nous décrire, me sommairement cette agriculture ancienne, nous laisse supposer qu'elle survivait encore à la fin du siècle dernier.'

reproduction of people through the other,' as the anthropologist Fausto (2000) put it. From this point of view, cemeteries (e.g. AM 41) or organised burials at habitation sites (e.g. LPB, CPP) may furnish evidence of ancestor worship and hereditary lineages. The pillaging of cemeteries (e.g. Pointe Morne, CPP pit F 157?) or the depletion of caves in order to obtain long bones and other sacred powerful objects may support a warfare hypothesis, but remains momentarily a case of wishful thinking.

(d) Aesthetic ceramic and lithic artefacts display craftsmanship within an archaeological context, notably by means of lavishly decorated and high quality ceramics as well as artistically shaped lithic objects: stone axes, shell beads, greenstone pendants and ceramic figurines. Unfortunately, featherwork, basketry, wooden banks, war clubs and other status/ceremonial objects made of perishable materials were not found in an archaeological context, but must certainly have been part of a wide trade network in the Guianas, stretching from the Amazon River and the Atlantic Ocean and from the mouth of the Amazon River to the Lesser Antilles (Boomert 1987). Alas, only a small number of objects are known as to archaeological contexts whereas the majority consists of individual finds dredged from river beds to be found in private collections (Migeon 2010:733, Fig. 6).

However, anthropomorphic urns, statuettes and so-called stools or tablets constitute significant ceremonial items, but these objects are relatively rare finds at the sites excavated in the French Guiana coastal zone. Each excavation only yielded a small number of fragments, such as a leg fragment from PK 11, a stone bowl from CPP, incised stools from Saint-Agathe, the muiraquitã from Saut-Saillat, a polychrome rim fragment with a modelled human face from Bigiston (Late Aristé?), a polychrome painted vessel from the Suriname River (Rostain 2009:49, Fig. 3.8) and the deposition F 278 with highly decorated ceramics at Crique Sparouine. Craftsmanship is obvious, but rare. It is not necessarily part of a specific craft specialisation of a certain group (Rostain 2006), but rather a means of exchange among many groups, as suggested with regard to historic Venezuelan Guiana:

> *Surpluses, being modest, were not the result of a specialized production by ethnic groups, nor did they obey a territorial division determined by the presence or absence of raw materials. Some of the surplus items that could have become significant exchange "markers" (for instance fish, curare, quiripá) never were produced exclusively by a single group, nor was their circulation due to a lack of knowledge on the part of the receptor societies about how to manufacture them. We believe that this restricted exchange was in reality a deliberate cultural strategy developed by Orinoco polities to induce interaction between ethnic or local groups.* (Arvelo-Jiménez and Biord 1994:57)

(e) Recurring symbols possibly referring to status, ethnicity, religion, animals, cosmos, myth, etc. can be found on decorated ceramics. The interpretation of these symbols remains difficult, but certainly provides another dimension to material culture studies, notably activities (Pfaffenberger 2001). Ceramic iconography is somehow less employed or developed in the western Guianas than, for example, at the mouth of Amazon, presumably due to the large quantities of highly decorated

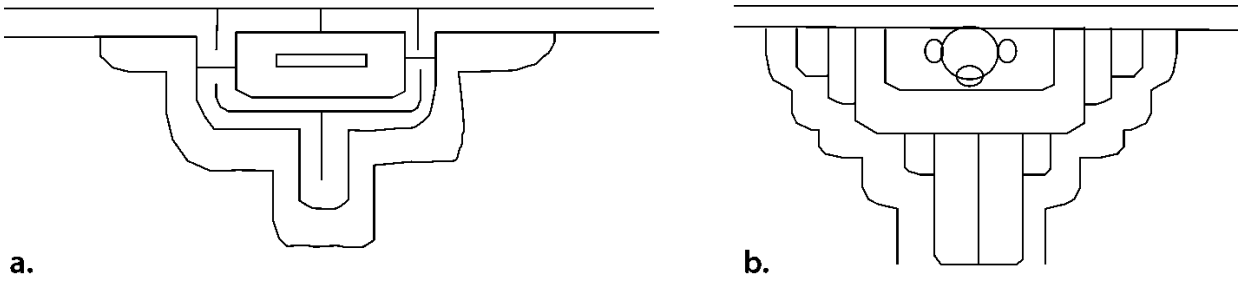

Figure 12.3. (a) A detail of a polychrome painted Marajoará tanga sharing a stylistic affinity with Tupi polychrome designs (after Schaan 2007:86, Fig. 3e) vs. (b) a detail of EC 73 incised toric pot from Crique Sparouine

ceramic materials in the latter area, notably anthropomorphic urns (Palmatary 1950; Magalis 1975; Roosevelt 1991; Schaan 1996, 2001; Guapindaia 2001; Nimuendajú 2004; Barreto 2008).

Here we may point out the scraped spirals of Crique Sparouine (cf. Fig. 6.21) and the white-on-red vessels found at CPP (cf. Fig. 9.13). The former is perhaps a seated person or animal (cayman?) whereas the latter may represent a stylistic snake or anaconda. It contains striking similarities with LCA polychrome-painted ware from Amapá and Marajó and the Upper Amazon River (Weber 1975:103, Fig. 103). The fourfold partition painted at the base of CPP EC 154 is a geometric element that also recurs on incised Koriabo toric pots. These pots usually have four ribbed body parts and an incised triangular design furnished with a small plastic appliqué head (cf. Figs. 12.3b and 6.18a). Interestingly, we see striking stylistic similarities as to decoration motifs between Tupi and Marajoará ceramic complexes according Tamanaha (2012) and Schaan (2007:85), drawing from Brochado (1984:333) and Noelli (1998:654), which are also possibly present in Koriabo ware, as the present author proposes in Figure 12.3.[372] Tupi speaking groups are known to inhabit the Lower Amazon since the 17th century (Métraux 1927, 1948) of which the Mercioux or Teko, inhabited French Guiana during the 17th century (P. Grenand 2006:113–114). Further research on this matter is certainly required in order to confirm a LCA Tupi presence in French Guiana, potentially coexisting with Koriabo. Linguistic research demonstrated and intimate link between the Tupian and Cariban languages of lowland Amazonia (de Goeje 1909:1–2; Rodrigues 1985:393–397).

In order to complete this survey of the possible existence of chiefdoms in the Guianas, Rostain (2008:279) suggests a population decline after AD 1300, comprising the fall of the coastal (Arauquinoid) chiefdoms of which the original Thémire is a final offspring.[373] According to Schaan (2004:145), this specific date is associated with the decline of the Marajoará complex (Phase IV) between AD 1100 and 1300. However, 'this period has not been adequately documented' and 'this "decline" is not yet completely understood':

> *The possible multiplication of smaller sites located far from the regional centers and without much investment in ceremonial activities can be seen as indicating reduced concern with social differentiation and decrease of regional integration. New ceramic styles and ceramic technology are timidly introduced in this period, which may reflect the loss of religious and political hegemony and, at the same*

372 Historic links between the mouth of the Amazon and/or northeastern Brazil and the Antilles have been demonstrated by means of comparative linguistic research (Hoff 1995:53, note 14). It may nevertheless be 'the product of the French ethnography' (Whitehead 1995a:93, note 4).

373 If the Little Ice Age played a role here is presently under debate (Dull et al. 2010).

> *time, more autonomy for local villages. It should be noticed that this period is equated with the emergence of complex societies in the lower and central Amazon, which were part of a supra-regional prestige goods economy.* (Schaan 2004:145)

From this point of view, we may finally want to point out the emergence of Koriabo in the Guianas. It refers to a supra-regional distribution of Koriabo ceramics which can again be associated with the wide distribution of *muiraquitãs* and stools, stretching between the Lesser Antilles and the mouth of the Amazon River. Further research is required in order to establish if the Koriabo emergence in the Guianas is related to the Lower Amazonian area where Koriabo sites have been found more recently (Saldanha and Cabral 2012), expanding this culture in northern Amazonia.[374] In sum, the Amerindians whom the first Europeans came across in the Guianas shared numerous cultural traits as the pan-Guiana Koriabo archaeological complex suggests. On the other hand, these Amerindians also represented various ethnic and linguistic groups, inhabiting territories in a close and fluid relationship as became more evident during the subsequent Historic Age.

12.5 The Historic Age

The Guianas were discovered towards the end of the 15th century. Situated between the Portuguese and Spanish realms, this part of South America was left unsettled during the 16th century. The Iberian powers had expressed more interest in eastern Brazil, Mexico and Peru, respectively. The islands of Margarita and later Trinidad were the most eastern outposts of the Spanish American empire, thereby leaving the region between the mouths of the Orinoco and Amazon Rivers as a buffer area with regard to the Portuguese colony of Brazil. This turned the Guianas into a "No-man's land" stretching from northeastern Brazil towards the mouth of the Orinoco River which was called 'Intermediate area' (Vidal de la Blache 1902:61). Towards the end of the 16th century, the Spanish were loosing control due to continuous privateering by notably English and French ships. At the turn of the 16th and 17th century this left many regions unguarded, enabling European merchants to barter with the indigenous population.

At this pivotal moment small coastal trade reached its peak with the regular passage of Dutch, English and French ships. At the same time, settlement projects were established as to produce cash crops, i.e. tobacco, annatto and sugar, around the middle of the 17th century. This European intrusion in the Guianas and the demographic collapse it caused, not only adversely affected the native populations throughout the region, but also upset the time-honoured social, economic and warfare relationships which linked these Amerindian groups (Butt Colson 1973; Latrap 1973; Gallois 2005). This led to the creation and reinforcement of new ethnic frontiers as an adaptive response to the occurring changes (Whitehead 1993; Collomb and Dupuy 2009). From this moment on, the history and the territorial inscription of these peoples settled on the Guiana coast thus became inseparable from European colonial expansion.

374 Interestingly, the AD 1300 date is also traceable at the Lower Orinoco with regard to the latest Camoruco phase as well as in the Lesser Antilles where the Suazan Troumassoid is now clearly present.

In the following section, an Amerindian point of view is provided as to the European-Amerindian relationships during the late 16th and early 17th century through early documents –briefly presented in Section 10.2– in order to address the impact of the colonial encounter on Amerindian society and the way in which they dealt with it, notably with regard to the following discussion on the introduction of iron tools and changing material culture in general.

12.5.1 The Colonial Encounter[375]

The first confrontation

Despite the fact that Francisco de Orellana had almost circumvoyaged the Guianas in 1542, only a small number of Spanish documents report on this region, i.e. the eastern border of their official possessions. Spanish intelligence concerning the Guianas, and especially the allied *Aruaca* nation, is to be obtained by means of the writings of Figueroa (*c.*1520) and Rodrigo de Navarrete (*c.*1570).[376] Not having visited this area in person, they acquired Amerindian information on its population from *Aruaca* residing on or visiting Trinidad or Margarita. They reported a polarized image of friends (*guatiao*) and enemies (*caribe*) to the Spanish Crown. As to the Lower Orinoco River, the Spanish considered the eastern and western Guianas vast supply areas of victuals and slaves to be exploited in combined Spanish/*Aruaca* raids.

According to one of Navarrete's informants, the *Aruaca* inhabited the rivers of *Bermeji* (Berbice), *Curetuy* (Courantyne), *Dumaruni* (Demerara), *Desguixo* (Essequibo), *Baorome* (Pomeroon) and *Moraca* (Moruca), i.e. the western Guianas, which were previously inhabited by the *Caribes*.[377] At first they lived in peace, but eventually began to fight each other as is evidenced by means of the seasonal warfare including large raiding parties in order to procure slaves, marked by means of cutting their hair short.[378] English explorers (e.g. John Burgh, Jacob Whiddon, Robert Dudley, Walter Ralegh) arrived towards the end of the 16th century. [379]

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375 I am indebted to Gérard Collomb for reading this section that represented a draft of our paper entitled: *"Beyond the Falls": Amerindian stance towards new encounters along the Guiana coast (1595-1627)*, presented at the session "Beyond the Village" organized by Renzo S. Duin during the 54th International Congress of Americanists (15-20 July 2012 in Vienna). It also served as the Introduction of our publication *Entre deux mondes* on the early encounters between Amerindians and Europeans in French Guiana (Collomb and van den Bel 2014:7–25).

376 Neil Whitehead has translated the writings of Figueroa and Navarrete into English; see his publication on Antillean ethnohistory entitled *Of Cannibals and Kings* (2011b).

377 An anonymous Spanish map of *c.*1560 (Schuller 1916) mentions Guiana rivers in the native tongue, i.e. Rios Cureti, Beruesica, Magnay, Mirari, Capaname, Duce, Baruma, Moruca, Guaynj, Guayanepe, Barimea, which Ralegh copied for his map, see Harlow (1925) or Whitehead (1997:105, Fig. 8) for this map. The Spanish map indicates, following Navarrete's interpreter, that Aruacas resided along the coast and Caribes in the interior. It also reports that *cacique* Yayua and several Spanish tried to reach the Amazon by ascending the Essequibo River in 1553.

378 According to Nicolás de Cardona [1613], the Callinago of Grenada kept captured Christians as slaves, named *cacona* who were subsequently fed and lodged. He also mentioned that the ears of two captured Negroes were cut off and their noses pierced (de Cardona 1989:26).

379 The prelude of Ralegh's arrival in the Orinoco is most certainly inspired by the Spanish quest for El Dorado. It was either transmitted by de Gamboa during the 1580s and/or by the captured letters written by Domingo de Vera y Ibarguën or by George Popham, Ralegh's personal privateer. Lorimer (1977) suggests that Ralegh may have visited Trinidad in 1587.

They were thus confronted with an indigenous population trying to establish a confederation in order to fight the allied forces of the *Aruaca* and Spanish.[380]

It may be evident that the socio-political situation of pre-Columbian times, albeit infused with warfare between distinct nations, had been altered due to the impetus of other influentual players, notably the Spanish, but also the English, French and Dutch, usurped by regional indigenous politics to whom the leaders had to adapt eventually. Ralegh (1596:5–6) even suggests that this new political situation had changed the status of the Amerindian Lords, or *caciqui*. They 'are called in their own language *Acarewana*' equal to the European naval term of *Capitaynes*, revealing a possible adoption of the Amerindian elite to European status.[381]

The second confrontation

Arriving at Trinidad, Ralegh instantly took San José de Oruña and as well as its commander Antonio de Berrio. His Virginian experiences and the information acquired from de Berrio caused Ralegh to quickly understand that the key to success to locate *El Dorado* was to have the local Amerindian elite on his side. However, he also bore in mind that the Spanish were too strong to be conquered – due to his dreadful defeat at Cumaná. Moreover, he had better look for other ways to get to El Dorado and not sail up the Orinoco River and its affluent the *Caroli* River in order to reach the lake named *Parimé*. Once back in England, he sent for *A Second Voyage to Guiana* under the command of Lawrence Keymis. In the company of William Downe, Keymis searched the entire Guiana coast not only for possible Spanish settlements, but also to obtain intelligence on other rivers that may lead to El Dorado. This voyage, taking *c.*6 months, was followed by a third voyage under the command of Thomas Masham accompanied by Leonard Berry. It served the same interests as Keymis's second voyage, but this time the Courantyne River was carefully explored.[382]

On April 20 1597, they encountered the *John of London* under the command of John Leigh (John Ley) with whom they teamed up in order to explore the upper reaches of this river. It would join the *Desekebe* River 'within a dayes journey of the lake called *Perima*, whereupon *Manoa* is supposed to stand' (Masham 1890:190). Next to English merchants such as John Ley, several Dutch merchants, lured by the writings of Ralegh about mines, began to appear along the Guiana coast (Cabeliau 1862 [1599]; Netscher 1888:32).[383] However, instead of investing in the construction of expensive (gold) mines in the hostile regions of the Lower

380 'The sea coast is nowhere populous, for they have much wasted themselves, in mutuall warres. But now in all parts so farre as Orenoque, they live in league and peace' (Keymis 1596:Gr).

381 See also the relation of Francis Sparrey (1625:1247): 'The chiefest of the Indians, I meane the Kings and Lords of the Lands in times past, named themselves Acarewanas, but now Captaines.'

382 William Downe or Dolwe was also present during this third voyage (Masham 1890:186) up the Oyapock, Counamama and Courantyne Rivers because Downe had already been there! William Downe is controversial and considered either a *cretin* or a good entrepreneur. At any rate, he embodies the characteristic individual adventurer of his era in the Americas. It is notable that his ship was "lost" at sea from the very start just as with others including Maarten Willemsz who accompanied Ooms and Cabeliau (1862:154). Sarah Tyacke (1980:75) suggests that Downe had made an "Indian Carde" of his voyage selling it directly after his arrival in England, according to a letter by Hariot to Cecil (Lorimer 2006:lxxxv).

383 The Dutch trafficking salt from Punta de Araia into Spanish territory relied on English intelligence when calling on ports for barter along the Guiana Coast, i.e. Johan Meysinge of London (Cabeliau 1862:155).

Orinoco, private Dutch merchant companies started to install trading posts in and near Amerindian villages, frequently situated on the lower reaches of rivers in order to procure local goods in exchange for European ware (Hulsman 2010).[384] At the start of the 17th century, multiple Dutch companies traded with the Amerindian population of the Guianas and the Lower Amazon. They acted on a regular basis as can be witnessed on Hessel Gerritsz' map of *Guaiana*, published by Johannes de Laet (1625:452–453).

As for the Dutch, English assistance along the Guianas was also accounted for the French voyage to the *Wiapoco* and *Caliana* Rivers, as recorded by Jean Mocquet. In 1604, this expedition, under the command of Daniel de la Touche de la Ravardière, set sail towards the Guiana coast in order to check for goods to be procured among the local Amerindians. Remarkably, a large part of this crew and even the captain were Englishmen (Mocquet 1617:148). The Amerindian guide had once belonged to 'milord *Ralle[gh]*' who was 'the son of a King from the Island of Trinidad' (ibid., p. 97).[385]

Since the first Spanish attempts, Cayenne Island and the Kourou and Oyapock Rivers were landmarked as the most important ports of call for trade with the Amerindians. The mouths of these rivers were easily recognisable along the coast of the Guianas thanks to the large table mountains descending directly into the Atlantic Ocean. Especially the Oyapock River was soon targeted as a relevant river for European implantation considering the known, but failing colonies of the Leigh brothers [1604-1606], Robert Harcourt [1608-1613], Jan Pietersz [1615], Lourens Lourensz [1618-1626], Jesse de Forest [1624-1625] and Jan van Rijen [1627]. Their accounts not only allow us to establish a list of the numerous groups dwelling on this river, but also to reconstruct one of the earliest episodes in post-Columbian ethnohistory concerning the first stance and changing politics towards any European influence and the arrival of the first European settlers and fleeing Amerindian groups of the Oyapock River (Collomb and van den Bel 2014) (cf. Appendix 2).[386]

As William Downe had sailed ahead of Keymis during the second voyage to find only empty houses at Mount Caripo (known today as Montagne Bruyère), Masham did not encounter any local people either when sailing up the Oyapock River until the first waterfalls (known today as Saut Maripa) because he too had been preceded by another sailor, probably John Ley. Finally, Keymis met the fugitive Yao captain named *Wareo* at *Cawo* (Kaw) whereas Masham met the Carib Captain named *Ritimo* at *Chiana* (Cayenne). Having met Keymis, the Yao, who had fled from the Moruga River, feared they were Spanish whereas the Caribs asked Masham to join forces in order to attack the Spanish on the Orinoco River. Although Keymis did not meet anyone on the Oyapock, it is possible he acquired

384 The "reluctant go-between" John Ley apparently also had a trading post on the Oyapock River prior to the foundation of the Leigh colony. He died during Charles's stay on the Oyapock (Leigh 1625:1255).

385 Keymis (1596:F4r) reports earlier French visits to Guiana. They may be related to the French colony at Maranhão, Brazil.

386 It must be remembered that, for this early period, the Oyapock River is presumably the best documented river on the eastern Guiana coast. Moreover, these accounts only reflect a very small part of the many (now and again unknown) colonisation attempts by possible trading companies and individuals on this river.

this information from Downe who told him he sailed up the Wiapoco until the first falls when they eventually met near the Orinoco delta (Keymis 1596:D4v).[387]

The Yao were apparently firmly established on the Kaw and Oyapock Rivers at the start of the 17th century. According to John Ley: 'The nation of Iyaos, have two Rivers, Caow and Wayapowpa, the Captaines of Iyayes, at Caow are Anakayo and Mawkeyin And the Capitaine of them, At Wayapowpa is Ayarow who is brother to them' (in Lorimer 2006:326). He does not mention any other nations on this river such as suggested by Keymis and, later on, by Leigh. It appears that the Yao had promoted themselves to be the one nation with whom the English had to trade on this part of the Guiana coast. Ley does not mention any other people on this river, who may have arrived some time later, nor does he report the presence of any (autochthonous) local groups with the exceptioin of the *Morowonow* of the *Arowcoa* (Urucauá) the affluent of the Oyapock River in its mouth, facing Mount Caripo.

After these English coastal surveys, their publications and subsequent translations in other languages, a large number of English, Dutch and French entrepreneurs frequented the Guiana coast in order to trade with the Amerindians, notably Dutch private companies such as the *Compagnie op Guiane en de Wiapoco* (Hulsman 2009:61, 2010). These trading posts housed a small number of factors who lived among the Amerindians and built strong-houses in order to secure the import and export of merchandise. The local population sustained the Europeans because they exchanged European objects with them, especially iron tools, in exchange for Amerindian wares merchandise and victuals. Frequently, perhaps every six months or once a year, the European companies sent a ship to the trading post in order to bring back the traded goods and to deliver another stock of barter goods.

In around 1610, various companies traded along the Guiana coast as well as the along the Lower Amazon River. This implied a fairly large number of European ships calling on the trading posts as described in the published journals written by Jean Mocquet (1617:80), Charles Leigh (1625:1254), John Wilson (1625:1262, 1264), Robert Harcourt (1625:1277)[388] and Unton Fischer (in Harcourt 1928:181). According to Wilson, the Dutch factors were very well equipped for their tasks, a pitiful contrast with their own failing colony, according to John Wilson of Wansteed:

> *Neither had we any store of commodities to trade up in the Maine, as the two Hollanders hath which are there, and were left there at our comming from thence by John Sims, Master of a Ship called the Hope of Amsterdam, of the burthen of one hundred tuns Fraughted by the Merchants of Amsterdam, and by their Charter partie was bound to lye in the River of Wiapoco, and of Caliane six moneths time.* (Wilson 1625:1264)

These trading posts entirely depended on their relationship with the Amerindians, not only for their work, but also for their lives. Intimate relationships occurred between members of the indigenous population and inhabitants of the

387 The absence of Amerindian nations on the Oyapock River is illustrated by the mere presence of *Charibes* on the right bank of the *Wiapogo* River as mapped on the 1599 *Nieuwe Caerte van het wonderbaer ende goudrijcke landt Guiana* by Jodocus Hondius making use of the information on Ralegh's voyages to Guiana.

388 *'Mr Henry Houenaer*, a Dutch-man, who in the yeere of our Lord 1610 performed a voiage to *Guiana*, to the places where our Company was seated, and now abideth in Thames-streete, neere unto Cole-harbour.'

trading posts as illustrated by means of the post scriptum of Lourens Lourensz stay among the *Aricouros*, explaining that the wife of an Amerindian captain gave birth to a daughter fathered by a Dutchman (Wassenaer 1627: 64v).[389] It is also evident that when the local population was discontent with the presence of a certain colony or individual, an untimely death would most certainly be the case.

After the observations of Keymis (or Downe) and Ley on the Oyapock River, the French set foot on this land as reported by Jean Mocquet, but they only refer to the *Caripous* of Yapoco.[390] Mocquet further states that the King of Yapoco is a certain A*nacaioury* engaged in warfare with the Caribs of Cayenne, their eternal enemies (Mocquet 1617:81).[391] Although other Europeans do not mention Caripous, *Anacaioury* is met by other Europeans. He is an emblematic personality of the Oyapock River and chief of a larger geographical area, as esteemed by Robert Harcourt:

> *Beyond the Country of Morrownia to the Southward bordering the River of Arwy, is the Province of Norrak; the people thereof are Charibes, and enemies both to the Morrowinnes, the inhabitants of Morrownia, and to the Wiapocoories; who are also under the subjection of Anaky-u-ry, the Principall and greatest Lord, or Cassique of all the Yaios in those Provinces, bordering upon the Sea betwixt the Amazones, South-eastward, and Dessequebe North-westward.* (Harcourt 1625:1271)

It is most interesting to investigate how this fugitive *Anacaioury* and foreign warleader acquired such an influential position on the Oyapock, in so little time.[392]

The Yao connection

Six weeks after the French sojourn of five days at the Wiapogo, Charles Leigh arrived at the same river to found his colony. He stated that:

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389 The present author provided a first English translation of Lourens Lourensz' journal (van den Bel 2009c).

390 According to F. Grenand and P. Grenand (1987:10), *Caripous* is considered 'a new bourgeon for the old word Charib-Karipuna.' Whitehead (in Ralegh 1997:62) states that the term *caripou* is 'a garbled attempt to render "Palicour" since the substitution of 'p' for 'b' and 'r' for 'l' is common in European transcriptions of native American languages' and that the Caripou described by Mocquet are actually the Yao described in the English documents. It must also be added here that Mocquet (1617:133) remarks 'qu'il y en a de plusieurs sortes, et celle des Caripous est aucunement différente de celle des Caribes, et ont assez de peine à s'entendre, encore qu'ils ne saient pas fort éloignés les uns des autres,' suggesting that the *Caripous* and *Charibe* language are not the same. However, if the Caripou are the alleged Yao, as various authors suggest, these Amerindians must have been able to understand each other better, as the Yao language is presumed to be of Cariban stock (Taylor 1977). This argument favours an interpretation of *Caripou* as Amerindian idiom for social or political status instead of a group name. The answer is perhaps given *c*.60 years later by Father Antoine Biet (1664:371). He identifies the Palicours as those who 'Monsieur Mocquet calls *Caribous*.' A list of Yao words can be found in de Johannes de Laet's *Novus Orbis* (1633:642–643).

391 Interestingly, the dominating *Charib* presence on Cayenne Island may be fairly recent as Keymis signals *Shebaios* upon *Gowateri* (Keymis 1596:B4r), whereas Thomas Masham, the following year, only met with Caribs at *Wias* and *Chiana* (Masham 1890:186).

392 Harcourt's outline of the socio-political indigenous organisation of the Lower Oyapock and adjacent areas probably includes the framework advanced by Ralegh and reflects European feudal hierarchy. In anthropology, however, this reflection has a mimetic and symbiotic character of cultural convergence, according to Whitehead (1997:34).

> *The Indians which doe inhabit this River are about one thousand five hundred men, women, and children, and they are of three Nations, viz. Yaioas, Arwarkas, and Sapayoas, which beeing chased from other Rivers, by the Caribes have combined themselves together in this place for their better defence, and are now at deadly warres with the Caribes.* (Leigh 1625:1253)

His observations represent relevant ethnographic data as it was acquired during a relatively long stay among the Amerindians on this and adjacent rivers. This is confirmed by a fellow colonist named John Wilson of Wansteed and by means of the information given by Robert Harcourt and Jesse de Forest during the first quarter of the 17th century. Whereas the passage of Keymis and Downe revealed that the (fled) Amerindians feared the Spanish, it is believed that the subsequent encounters did not reveal any fear, but rather a positive attitude towards the English, Dutch and French, considering them highly valued partners in the war against the Spanish. For the Amerindians on the Oyapock River another, perhaps more significant, war was waged against other indigenous groups, eternal enemies or even disobedient groups to which iron guns were advantageous as certified by means of the contents in the above-mentioned journals. It is suggested here that the Yao presented themselves as absolute partners of the English, leaning on their early contacts with Ralegh and their role as guides, hereby controlling the flux of European and Amerindian goods in the Oyapock Basin. Condoning the installation and local production of tobacco, annatto and cotton, the Yao also accounted for sufficient quantities of valuable wood species and victuals which the Yao or their allies from "above the falls," provided. A similar construction can be proposed for the *Charibes* of Cayenne representing the premier trading partner for the European nations in this part of the Guianas. In this manner, these two Amerindian powers created a mutual trading ground or *zone franche* in which they controlled the import and export of trade goods and secured its defence.[393]

Hence, it can be opined that the deadlock war between Cayenne and the Oyapock reflected an elite-war for prestige as to who will eventually possess all trading privileges with the Europeans. The Yao dominance is well illustrated by means of the arrival of a French ship from Saint Malo causing John Wilson to marvel at 'strange Indians' now coming down the river for that occasion:

> *The same day the Hollander departed, which was the one and twentieth of May [1605], came unto us a French ship of Saint Mallors, who dealt very kindly with us, wherefore wee did suffer him to trade with the Indians, who did remayne there some two moneths, unto whom many strange Indians did bring their commodities.* (Wilson 1625:1262)

Wilson reported this French-Amerindian encounter, suggesting these "strangers" did not resemble the Amerindians he often saw during his two-year stay at the mouth of the Oyapock River. It is therefore possible that these other Amerindians represent a privileged trading partner of the French. In addition, it stresses that the access to European goods was of great importance as to many Amerindian groups, including Amerindians from the interior.

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393 By applying this term, we wish to insist on the economic aspects creating such a zone. Other terms, such as the *Tribal Zone* (Ferguson and Whitehead 1992) or the *Contact Zone* (Pratt 1992), stress the socio-political, cultural and geographical aspects, respectively.

"Beyond the falls"

Despite of some archaeological evidence, the interior of the Guianas remains *terra incognita* when compared to the coastal zone, as it has been the case at the start of the 17th century too. Nevertheless, several observations have shed light on the complex processes linking the native societies, embedded in large socio-political, cultural spaces throughout the coastal Guianas and riverine Amazonia. In this regard, it is worth to pay attention to the social and commercial networks, which operated at a much larger scale than the space in which the local groups can be placed. The above-mentioned Amerindian groups and many others were part of a larger network, in which alliances, warfare, and trade were opportunities for periodical socio-political and economic meetings between the various groups. These relations were based on ties forged between trade partners, i.e. *pawana* or *banaré*, sometimes separated by means of great distances and articulated along trade routes throughout the interior of the Guianas, from the Orinoco and the Rio Negro to the Amazon Rivers and the Atlantic coast (Butt-Colson 1973, 1985; Lathrap 1973; Whitehead 1988, 1992; Dreyfus 1992; Dupuy 2008).

The European goods that arrived in large quantities on the coast were exchanged for local goods by Amerindian middlemen or brokers who traded them within these extensive networks. It is sufficient to note that Wilson (1625:1262) awes at the fact that the Amerindians of the Lower Oyapock River were aware of the future arrival of European ships as three Dutch ships, according to Amerindian intelligence, had sailed up the Amazon River, hereby revealing a possible land route between these river basins.[394] One can also recall Father Cristóbal de Acuña's well-known observation on the presence of iron arms and tools among the various groups on the Rio Branco River. They informed him they traded with other groups living near the sea, who had bartered these items with Dutch merchants residing in the Essequibo delta (Acuña 1641:30v–31r).[395] Another example of land routes is given by the Irishman Bernard O'Brian (Mathews 1970:92) who carried out a crossing of the Guiana interior accompanied by Amerindians (Aruã?) from the Lower Amazon in 1625, by ascending the Rio Parú (tentatively) and descending the Suriname River towards the ocean.

Such networks remained active until at least the late 19th century as Richard Schomburgk (1922) and Roth (1924) witnessed in Guyana. The products of certain groups, apparently specialized in certain trading objects, such as trained dogs for hunting, cassava graters, ceramics and other manufactured products, circulated within these networks. Moreover, valuable trade assets (e.g. small greenstone sculpted objects produced in Guyana or the Lower Amazon River) (de Goeje 1932; Boomert 1987; Lima da Silva 2010) and gold ornaments from the interior of Guyana or Andean foothills, reached the Guiana coast through these networks (Roth 1924; Whitehead 1990).[396] Celebrations accompanied

394 It may be added here that the high frequency of these trading vessels along the Guiana coast suggests they were 'touring' the Guianas in order to supply the trading posts and pick up the goods.

395 This can be seen as the first evidence of a native commercial route joining the Essequibo and deeper Guiana, utilizing the "Pirara portage" in the Rupununi area (Edmundson 1904:10–13).

396 Everard im Thurn observed: 'To interchange their manufacture the Indians make long journeys. The Wapianas, visit the countries of the Tarumas and the Woyowais, carrying with them canoes, cotton hammocks, an now very frequently knives, beads, and other European goods; and, leaving their canoes and other merchandise, they walk back, carrying with them a supply of cassava-graters, and leading hunting dogs-all which things they have received in exchange for the things which they took. […]. In this way, travellers with goods and with news constantly pass from district to district' (Im Thurn 1883:273).

these exchanges during long-distance and sometimes and on occasion lengthy visits. They were transformed or modified as a result of contact with the arrival of European goods and especially by means of the shifting of the most important trade centres now situated upon the coast, where new goods were arriving.

Although archaeological research in these remote areas is scarce, large quantities of European trade goods were neither found in the coastal area or the interior. However, an important indication of their whereabouts can be found in the sole context in which they often occur: Amerindian (urn) burials. The deceased are buried in anthropomorphic urns as known from the Late Aristé, Mazagão, Maracá and Aruã ceramic complexes, attributed to the LCA and Contact Period as European trade items were found inside these urns (Goeldi 1900; P. Hilbert 1957; Meggers and Evans 1957; Petitjean Roget 1995; Guapindaia 2001; Nimuendajú 2004). These objects consist primarily of glass beads whereas iron tools are rare. It is difficult to imagine that from the end of the 16th century on literally tons of European barter goods (e.g. glass beads, jew-trumps, bells, fish hooks, axes, hatchets, knives, needles, pins, mirrors, nails) were dispatched and distributed in the Guianas of which only a handful has been retrieved by means of archaeological research. It is to be presumed that the majority hereof were traded into the interior. Not much trade material has been found in the early regions of contact where considerable archaeological research is carried out, such as on Cayenne Island.[397] The fact that these items were found in a burial context suggests they were sufficiently important to be presented to the dead. Following Amerindian burial practices, this may reveal political hierarchy and/or social stratification, as the first historic documents on the eastern Guianas and Lower Amazon River confirm. The Europeans goods were thus esteemed of similar value as local goods, i.e. spleen stones (*muiraquitãs*), crescent shaped golden plates (*caracolis*), strings of shell beads (*quiripá*) and integrated in the local funerary practices and trade system. Apparently, they also served as gifts, money, status symbols and heirlooms among the groups of the Guianas (cf. Section 11.4.2.1).

In sum, the vastness of this early colonial trading network is thus evidenced by means of the geographical distribution of similar important indigenous objects as well as by specific decoration techniques and vessel shapes attributed to Koriabo pottery (Boomert 1987, 2004; Rostain 1994a; van den Bel 2010a; Cabral 2011). The latter ceramic ware is found between the mouths of the Orinoco and Amazon Rivers as well as in the Guiana Highlands and the Tumuc Humac Mountains, displaying a very large distribution of these goods within this enormous area. However, further research is required in order to locate a possible original heartland or to discern regional production centres, which apparently shared interregional production codes.

"A kinde of people without heads"

Beyond the falls refers to the *terra incognita* that lies behind the first major falls of numerous important Guiana rivers. Here its interior is obscured and somehow protected by its vastness inhabited by strange people as recorded by early voyagers,

397 The other way around it may be evident that little is left of the large quantities of tobacco and annatto balls, valuable wood as well as golden objects and spleen stones shipped to the other side of the Atlantic Ocean. Only a small number (personal) trade objects are as yet to be found in European museums.

such as John Ley: 'Esparicur: A kinde of people without heads, haveinge their Eies nose and mouth in their breastes […].'[398] Unton Fisher, Robert Harcourt's cousin, was sent by the latter to explore the upper reaches of the *Marawinni* River and find a way towards the city of Manoa. He is guided by the Parawagoto chief named Maperitaka from Wia Wia, a mixed Yao and Parawagoto village located on the left bank of the Lower Maroni River (Harcourt 1928:118–119). Although Fisher travelled *c*.40 leagues up this river, we may assume the information Fisher gathered in his journal is mainly drawn from Maperitaka's knowledge of this region –knowing that Maperitaka was a Parawagoto, also representing recent intruders on the Guiana coast. It reveals an influential Amerindian image of the population of this river both from a Parawagoto and "coastal" point of view.

Captain Maperitaka presented a clear vision of the infrastructure of this region and political status of the populations, recalling all the names of the rivers, villages, Amerindian groups and their headmen to be found along this river and the adjacent areas. This sheer abundance of ethnographic data reflects Maperitaka's world vision while Fisher is constantly occupied with his mission, focussing on the possible sources of gold and precious stones. In his journal, however, Fisher does not mention any "strange Indians" when visiting this river. Harcourt interpreted Fisher's report and stated:

> *He [Fisher] understood by relation of the Indians of Taupuramune, and also or Areminta, that six daies iourney beyond Moreshego, there are divers mighty Nations of Indians, having holes through their eares, cheekes, nostrils, and nether lippes, which were called Craweanna, Pawmeeanna, Quikeanna, Peewattere, Arameeso, Acawreanno, Acooreo, Tareepeeanna, Corecorickado, Peeauncado, Cocoanno, Itsura, and Waremisso: and were of strength and stature farre exceeding other Indians, having Bowes, and Arrowes foure times as bigge: what the Indians also report of the greatnesse of their eares, I forbeare to mention, untill by experience we shall discover the truth thereof.* (Harcourt 1928:120)

During his voyage on the Maroni, Fisher was probably informed directly by Maperitaka. He did not rely on possible hearsay or personal interpretations (as did Ley and Harcourt for example) when discussing the population of the interior:

> *… there is a Nation of Charibes having great eares of an extraordinarie bignesse, hard to bee beleeved, whom hee called Marashewaccas: amongst these people (as Comarian reporteth) there is an Idoll of stone, which they worship as their God; they have placed it a house made of purpose for the greater honour of it, which they keepe very deane and handsome. This Idole is fashioned like a man sitting upon his heeles, holding open his knees, and resting his elbowes upon them, holding up his hands with the palmes forwards, looking upwards, and gaping with his mouth wide open. The meaning of this proportion he could not declare,*

398 'There eares somewhat towards their showlders; they are stronge of bodie and make warr with their Enimies stouttlie, but otherwise are tractable and familiar people; my Indian affirmeth still that when he was a boie, They of Wyapoga brought one of them from the Highe Countrie: And he dwelt with him in one howse, almost fower yeres And then the Esparicur died. He had Armes hands, legs, feete, with the rest of His bodie well shaped and handsome, his Condicions good and pleasant He wold singe often both by daie and night. Sleepe verie little: He fed onlie uppon Tobacco, and did drinck thereof but his feadinge was verie spareinge, and used to drink seldom, as yt seemed because he had not such Provision as he Lyed by in his owne Countrie. He ware a Chaine of spleene stones which he fastened uppon a little knob which stood above his face and showlders.' (Ley in Lorimer 2006:323). Apparently the *Wyapoga* Indians targeted the *Esparicur* for slaves as were the *Mayé* for Aricouros on the Cassiporé River targeted the 'Headless Nation' (Whitehead 2009:299).

although he had beene many times amongst them, and hath often seene it. What other Nations were beyond these he did not know, having never travelled so farre, but he sayth, they be Charibes, and also enemies unto them. It seemeth there bee many Nations of those great eared people: for in the River of Marrawini, I heard also the like, who dwell farre up towards the high Land, as hereafter you shall heare, and I suppose, by the trending of the Rivers of Wiapoco, and Marrawini, are all one people. (Harcourt 1625:1277–1278)[399]

As mentioned before, European descriptions of Amerindian people were strongly predefined by means of ideas dating back to Antiquity (Pagden 1986). Ironically the more fantastic, or imaginative, parts of their descriptions are undeniably Amerindian and apparently (too) difficult to understand for Europeans, as Whitehead pointed out (1997:42). The Europeans reflected their society to Amerindian society for the largest part because native politics and economics were also concerned with similar issues, but structured according to a proper philosophy or cosmology. In this case, the Amazons, the People With A Face In Their Stomach, the People with Dog Heads, Cannibals, Manoa and the Gilded One did (and still do) exist in Amerindian oral tradition. They are part and parcel of their world vision, but require further anthropological analysis in order to be understood by Europeans. Certain Amerindian groups of the interior (see Harcourt's citation) are "extinct" by now, but nevertheless exist as historically incorporated and/or conquered clans for the present-day Amerindian population of the Tumuc Humac Highlands (Frikel 1957; Rivière 1963, 1984; Carlin and Boven 2002; Duin 2009) and other regions populated nowadays by Amerindians in the Guianas.

Conclusion

Although fearing and fleeing the Spanish, the arrival of other Europeans did not frighten the Amerindian population of the Guianas. On the contrary, they profited while establishing relationships with them in order to gain direct access to European goods or ware otherwise obtained through barter with the Aruacas or the Spanish. Moreover, alliances were established, often by means of exchanging children or guides, in order to wage war with the Spanish or their allies as well as with their longtime foes in regional (pre-colonial?) politics. The fleeing Yao who settled along the Oyapock River (and other rivers) presented themselves as the absolute European trade partners. Subsequently, they supervised the steady flow of goods within the free zone, controlling the interior by means of presenting themselves as middlemen.

Towards the end of the 1620s, this form of trade was abandoned on the Oyapock after skirmishes between inhabitants of trading posts and Amerindians had taken place (van Rijen 1924 [1627]; de Laet 1932 ii:16–18) and apparently had the Yao "disappear" around the second half of the 17th century (Lefebvre de la Barre 1666:16). This social pressure was presumably caused by the European demand to strive at more permanent and larger settlements hereby intruding more aggressively into Amerindian territory and creating a less controllable situation for the ruling Amerindian group. The English and Dutch traders who fled the

399 Stone idols are extremely rare in Guiana archaeology. Nevertheless anthropomorphic figurines and urns representing a human figure in a seated position are fairly common in Amazonia and express power in both rulership and shamanism (McEwan 2001).

Portuguese attacks on the Lower Amazon River settled in other regions, leaving the Oyapock aside (Williamson 1923; Lorimer 1989, 1993). Cayenne Island however remained a major goal with regard to Dutch and French settlements (Colenbrander 1911:190–202; Ternaux-Compans 1848:38–39). Nonetheless colonies such as Berbice (van Pere family), Suriname (Rowse, Marshall), Sinnamary and Counamama (Chantail, Hautepine) provided new, permanent and more successful colonies on this part of the coast. This was again based on trade with the Amerindians in which the *Arawaccas* and *Charibes* played again important political and economical roles. Towards the second half of the 1630s, the Dutch had swept the Caribbean free from Spanish ships. This also permitted the Europeans to settle the Lesser Antilles more permanently (Lorimer 1989:101). A long stretch of coast, situated roughly between Cayenne Island and the Greater Antilles, was now not only to be explored further, but also to be exploited by the Europeans. At the start of the second half of the 17th century, they introduced larger, permanent settlements. A sugar economy based on African slaves started to develop in the European colonies, generating Amerindian warfare due to the loss of their land which they had hitherto controlled so well.

12.5.2 The introduction and use of iron tools[400]

Introduction

As observed not only seen with regard to PK 11 and CPP, but also with other regions along the Atlantic coast (Perry 2001; McKey et al. 2010; Iriarte et al. 2010; Iriarte and Dickau 2012; Oliver 2014) and in the Caribbean (Righter et al. 2002; Bonzani and Oyuela-Caycedo 2006; Harris 2006; Lane et al. 2008; Mickleburgh and Pagán Jiménez 2012; Figueredo 2012; Rostain 2013), maize is omnipresent in black soot on LCA ceramic bowls, in fissures of ceramic bowls, griddles and grinding tools. The importance of maize for pre-Columbian populations, notably during the pre-contact period, is emphasised by Roosevelt (1980, 1997) and Perry (2002a, 2004, 2005) for the Lower Orinoco River as well as by Iriarte et al. (2012) for the early Historic Age in French Guiana.

Interestingly, the quasi-absence of manioc and the omnipresence of maize starch in the fissures of griddles nowadays unmistakenly related to the production of cassava or manioc cakes, is striking. It draws attention to the application of griddles in pre-Columbian and notably during historic times, as pointed out in the renowned 'cautionary' note by Warren DeBoer (1975). Fortunately, the historic period provides numerous descriptions of the preparation and consumption of manioc and maize. This enables us to trace the consumption of these products through time, as witnessed during the 17th century by Mauricio de Heriarte (1964:44) on the Lower Tapajos River: 'que sam de grandes milharadas, e ser osen sustento, que nam uzam tanto et mandioca para farinha como os mais nações.'[401]

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400 A Portuguese version of this section has been published in *Revista Amazônica* (van den Bel 2015).

401 As we shall see, maize (*Zea mays*) is written and referred to in numerous ways and notably by its Spanish (e.g. *mil, milho, millet*), but also as Indian or Turkish wheat (*Triticum vulgare*). In the Carib language, we come across terms for maize: *aoüaβi* (Biet 1664:421), *aüossy* (Boyer du Petit-Puy 1654:396), *aoussi* (Brûletout de Préfontaine 1763:79) and *awasi* (Ahlbrinck 1931:125). Interestingly, the historic and modern Tupian word for maize is very similar. See also note 376.

Nowadays, products made of bitter manioc tubers such as cassava, tapioca, *cashiri* (C.) and *couac* (F.), or *farinha* (Br.), represent the starchy food basis for a large part of the inhabitants of the Guianas (e.g. Amerindians, Marroons and, to a lesser extent, the Creole population). These tubers are grown in slash-and-burn fields or gardens which are abandoned after between three to five years (P. Grenand 1979; Balée 1989, 1992; Arroyo-Kalin 2012). This contemporary or early 20th century image of semi-permanent (independent) Amerindian villages consuming manioc is widely distributed in the Guianas (Gillin 1936, 1948; Kloos 1971; Rivière 1969, 1984). It represents also an image projected into the past by researchers as far as ancient pre-Columbian times, as if nothing has changed ever since (Heckenberger et al. 2001). However, this contemporary image is believed to be the result of the many changes at various levels in the Amerindian society during colonial times (cf. Chapters 10-11). For example, the introduction of the iron axe is thought to have changed the horticulture of the Amerindian society profoundly, even suggesting that 'shifting cultivation, as an ancient practice in Amazonia, seems to be a myth' (Denevan 1992:161). In this light, it is explored here that the present consumption of manioc is the result of a historic adaptive process in the course of which the coastal population of the eastern Guianas favoured manioc over maize during historic times. Moreover, it is hypothesized that the modern, wooden rectangular shaped grater boards, inserted with small stone chips, are Amerindians copies of the European metal (copper) graters sheets. The latter sheets were nailed on wooden boards and traded during the 17th century. They represent another factor, in addition to metal axes, abandonment of raised field agriculture and population decline in proto and early historic times (Iriarte et al. 2012, Fig. 3), contributing to the present-day image of a predominantly manioc based subsistence economy.

The archaeological perspective

Domesticated maize has been identified as to two LCA sites on Cayenne Island whereas manioc is almost entirely absent from our samples (only a single starch grain!) (cf. Sections 8.7 and 9.7). Although manioc tubers may simply not have been prepared nor consumed at both sites, the absence of manioc starch in our samples can also be related to the sampled tools, i.e. ceramic griddles, variedly shaped and used milling stones, ceramic cooking and drinking containers, apparently not used for manioc-derived products. In addition, the process of obtaining manioc pulp as we know it today which the earliest chroniclers of the Guianas describe so well, aims to extract the poison from the tuber by means of separating the poisonous juice from the pounded pulp, hence obtaining a starch-poor half-product. This implies there is less chance of coming across starch granules in this pulp and its food derivatives. It is also known that damaged manioc starches (heated or pounded) are more difficult to identify (Chandler-Ezell et al. 2006) as pointed out in the starch analysis of the studied sites. Even if the manioc starches have been missed during this research, it is still fascinating to observe how maize was "lost" during the historic period. The reason for this is that it was almost or no longer consumed in large quantities by the late historic and modern population of coastal French Guiana according to recent historic sources and early ethnography.

However, the latter ethnographic documents represented the source for the interpretation of small stone flakes as grater board flakes. Under influence of New Archaeology, Jeffery B. Walker (1980) suggested about three decades ago that microliths, or stone chips, were inserted into wooden boards by the pre-Columbian population of Saint Kitts, representing grater boards. The interpretation of archaeological microliths as grater teeth, based on ethnographic analogy, is the topic of debate during the last two decades (Barse 1989, 2008; Perry 2001, 2002a, 2000b, 2004). The introduction of innovative microscopic techniques (e.g. SEM, starch and phytolith analysis) made it possible to gain further insights into lithic tools hitherto difficult to assess. Use-wear analysis has proven to be an important means to determine the function of a certain tool by means of experimentally testing the relationship between types of lithic tools and movement. However, grating teeth or chips, perhaps because they are so small, as yet receive little attention in Amazonia with only few exceptions (Crock and Bartone 1998; Nieuwenhuis 2002; Perry 2005; Knippenberg 2012). This research is also struggling because the majority of the supposed grater chips are made of quartz material and difficult to analyse with the naked eye (Mourre 1996:213–214, 2004; van Gijn 2014). Any use-wear analysis often results in traces 'similar in form to those used for the scraping of relatively soft materials (e.g. animal hides) in experimental studies' (Perry 2005:419).[402]

Another technique involving the determination of tool function is the analysis of starch grains Linda Perry (2001) carried out with regard to small flakes. She extracted starch grains attached to small flakes from the Pozo Azul site situated on the Upper Orinoco River which William Barse (2008) excavated. In agreement with the latter, it is highly speculative to attribute the presence of starch granules retrieved from unwashed flakes to the activity of grating on grating boards. Perry's conclusions should at least be verified by means of numerous other samples, preferably those with tar attached to it. For example, when drawing on ethnographic analogies, this tar served to fix the teeth in the boards among the Macusi of Guyana (Farabee 1924:20–21) and should provide a better context to extract starches.[403] As Harris pointed out, Perry's 'results do not falsify the assumption that ceramic graters armed with microliths were used in prehistoric times to process bitter manioc, but they do reveal that these artefacts have been used to process a wider variety of starch-yielding plants, including maize, and that archaeological evidence of them should no longer be uncritically regarded as a proxy indicator of manioc cultivation' (Harris 2006:s68). This is also the conclusion of Debert and Sheriff (2007:1895–1899) who analysed the so-called '*raspaditas*' from the Santa Isabel site in Nicaragua, represented by means of small 'pointy' flakes.

402 Whether small flakes have been inserted into boards applied when grating food has been tested for example by André Prous by creating a grater board (Prous et al. 2010:213–214).

403 The Macusi grater board was made 'by driving small sharp stones of porphyry into a soft board' (Farabee 1924:20). Farabee remarks: 'An enterprising Taruma trader living among the Wapishanas married a Waiwai gril who is a good grater maker and through her industry he supplies a large market' (ibid., p. 21). See Roth (1924:278–280) for a description of the fabrication of a Taruma grater board (by a Waiwai girl?). Notably Barse (2008) and Perry (2005) do not correctly refer to Roth's publication, as is the case for Farabee in Barse's reply to Perry.

Figure 12.4. Women on Hispaniola making dough (left) in order to prepare flatbread (centre) and tamales (right) (after Benzoni 1857:84).

The historic perspective

As mentioned above, the ongoing debate about grater boards originates from ethnographic analogies. But first let's have a look at historical documents, notably those concerning the 16th and 17th century regarding the Guianas and the Antilles in order to identify grater boards applying the "direct historical approach" (cf. Section 10.5). When reading those early documents one notes that the majority of the Amerindians do not use rectangular wooden grater boards inserted with stone chips or covered with a perforated metal sheet as mentioned in the ethnographic documents (Schomburgk [1840-1844] 1922:30; Brett 1868:30, note 1; Crevaux 1883:119; Im Thurn 1883: 260; Wallace 1889:336; Coudreau 1893:435; Penard e Penard 1907i:109; Farabee 1918:21, 1924:20; Gillin 1936, Plate 7b; Delawarde 1966:524). In fact, the earliest voyagers rather state that manioc tubers are rubbed or pounded on a stone (Masham 1890:194; Leigh 1906:313–314; Mocquet 1617:82; Harcourt 1906:378–379) as Roth pointed out (1924:277) (cf. Appendix 5).

It can be noticed that the descriptions of manioc processing in those early documents are often rather lengthy and detailed. In additin to the fact they were apparently intrigued by means of this sophisticated method to extract deadly poison, it also shows an interest in manioc in general and notably in cassava (C., *arepa)*. Maize or Guinea weed,[404] on the other hand, receives little attention (Anonymous 1996, f. 13v; Masham 1890:189; Leigh 1906:310; Mocquet 1617:90; de la Mousse in Collomb 2006:221) for this seed crop is grown and consumed in

404 See note 373.

16th century southern Europe (Anghera 1912; Dubreuil et al. 2006:281).[405] For the chroniclers, manioc processing was often related to the production of cassava and eventually the preparation of manioc beer. Robert Harcourt (1906:378–379) compared cassava to oat cakes esteeming the latter to be consumed by poor farmers in isolated rural areas, such as Peake and Staffordshire in England, whereas beer was considered a more noble product of which manioc beer could be kept the longest in very large jars for *c.*10 days (cf. Appendix 5d). Other edible (starch) products did not attract much of the voyagers' attention. This can be related to their (cultural) culinary backgrounds and to economic interests. One was familiar with maize as in maize soup or stew (Biet 1664:377; Stedman I 1796:407–408),[406] as flat bread, or *tortillas* (Herlein 1718:143), or even as *tamales* (Hartsinck 1770:25) as is beautifully illustrated by Guillaume Coppier in his *Histoire et voyage des Indes occidentales* among the *Callinago* or Island Caribs (Fig. 12.4):

> *Ils ont encor[e] du Maïs, ou Miio, que nous appellons icy bled de Turquie, qu'ils pilent bien fort dans des roches, ou pierres creuses, espece de mortiers; lequel pilé, ils le roulent en forme de saucisses, & l'enveloppent dans des feüilles de Balliris, qu'ils font en apres cuire dan de l'eau boüillante, ce par apres servant de pain, qui (Dieu graces) substante tres-bien.* (Coppier 1645:79)[407]

A historic approach

As mentioned, the goal of the early voyages to Guiana was to trade with the Amerindians for local products. This merchandise would be resold in the Caribbean, the North American colonies, and in the homeland. Notably during the first half of the 17th century, before the implantation of large European colonies along the Guiana coast, these ships also required a sufficient amount of victuals in order to continue their privateering activities in the Caribbean. Therefore, they demanded from the Amerindian population large quantities of salted fish, fruit, smoked or salted meat (mostly sea cow) and many piles of cassava: all products

405 Pedro Martyr d'Anghera (1912 i:64) mentions on the population of Hispaniola: 'Another root which they eat they call *yucca*; and of this they make bread. They eat the ages either roasted or boiled, or made into bread. They cut the yucca, which is very juicy, into pieces, mashing and kneading it and then baking it in the form of cakes. It is a singular thing that they consider the juice of the yucca to be more poisonous than that of the aconite, and upon drinking it, death immediately follows. On the other hand, bread made from this paste is very appetising and wholesome: all the Spaniards have tried it. The islanders also easily make bread with a kind of millet, similar to that which exists plenteously amongst the Milanese and Andalusians. This millet is a little more than a palm in length, ending in a point, and is about the thickness of the upper part of a man's arm. The grains are about the form and size of peas. While they are growing, they are white, but become black when ripe. When ground they are whiter than snow. This kind of grain is called *maiz*.' Interestingly, Jospeh d'Acosta (1590:236) already stated by the end of the 16th century that the Amerindian population of the Greater Antilles had abandoned the consumption of maize: 'De las Islas de Barlovento que son Cuba, la Española, Iamayca, San Iuan no se que se usasse antiguame[nt]e el Mayz, oy dia usan mas la Yuca, y Caçavi, de que luego dire.'

406 Interestingly, the maize beverages are also called *avati* in Tupian (de Léry in Lestringuant 2008:247).

407 See also Father Breton on manioc wrapped in leaves (1665:429). The Dutch historian Jan Jacob Hartsinck (1770:25) discusses maize corn wrapped in palm leaves: 'De *Chica*, is een soort van Bier, gemaakt uit verscheide Graanen of Fruiten, maar gemeenlyk van Maïz of Turksche Tarw: na dat zy dit Graan hebben fyn gestooten, maaken hunne Vrouwen er Brood af, het welke zy in Palmite bladen bewinden, en dan in een Pot met Water laaten kooken.'

that would last during the next voyage.[408] Maize-derived products (e.g. the above-mentioned *tamales* and possibly *tortillas*) did not fall into this category. However, cassava certainly did as the Europeans purchased or traded large stocks of it.

Thus, cassava was praised as long lasting bread. Maize was, however, reputed for its impressive crops as it could be harvested up to two or three times a year while a single ear of maize produced more than 1000 seeds (Harcourt 1906:379; Lefebvre de la Barre 1666:33–34) and thus an interesting commodity for European settlements. Nonetheless, the consumption and production of cassava eventually caught on, mainly among the English, Dutch and French visitors, as illustrated by the French colonists who settled Cayenne in 1652:

> *… il n'y a dans cette Isle aucune beste venimeuse, plusieurs bonnes racines s'y rencontrent, comme patattes, et manioque duquel l'on fait du pain que l'on appelle cassave en cette forte; L'on grege cette racine sans estre sechée, puis l'on met ce qui est gregé dans vn petit sac de grosse toille, que l'on presse, afin d'en faire sortir le ius, qui est du poison, et en suitte on met le marc par poignée sur vne platine de fer, de la grandeur de nos platines de cuivre à empeser sur du feu, et le pain se fait incontinent sans autre façon, ce pain semble d'abord choquer l'esprit de ceux qui n'en ont point mangé, mais ie puis assurer que ie l'aimerois mieux que le pain chalant de Paris. Il faut neuf mois entiers pour estre en maturité, et dans les Isles il faut vn an et quinze mois, mais pour toutes sortes de legumes, toutes racines, et tous autres fruits ils viennent en maturité trois fois l'année, et le bled de Turquie, autrement du mil, meurit en deux mois.* (Laon Sieur d'Aigremont 1654:109–110)

The above extract is highly interesting because it refers to the application of an iron plate to bake their flat bread, demonstrating the adaptation and integration of European artefacts in the alimentary processes among the Amerindians as early as in *c.*1640 (Hulsman 2009).[409]

The introduction of iron tools

The metal manioc grater as we know it today is a wooden plank attached to a large metal leaf in which hundreds of holes have been made by means of a sharp object (e.g. nail). The Dutch introduced this kind of graters during the 17th century (Hulsman 2009:185, 2011:188). The Dutch historian Hartsinck (1770:23)

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408 According to Father Ahlbrinck (1931:509), the ancient Kali'na extracted salt from the bark of the *wasei* (C.) or palmito tree (Euterpe sp.): 'In den ouden tijd leverde deze palm het zont. Stukken prasara [Sr. palmito], ter grootte van een mensch, werden op elkaar gestapeld en in brand gestoken. De asch deed men in mandjes. Men liet water door de mandjes loopen. Beneden ving men het water weer op. Dit opgevangen water liet men een tijd staan. 't Kreeg een bezinksel, het zout namelijk.'

409 In the Lesser Antilles, the Callinago also used an iron plate to bake their cassava: 'Pour les accomoder et réduire en pain qu nous appelons cassava, on les nettoie et gratte comme on fait les raves, puis on les râpe comme une muscade ou pain de sucre dessu une pièce de fer blanc percée de même que nos râpes, et cette râpure qui est blanche est mise dans un sac [tipiti], qu'on prese pour en faire sortir la liqueur semblable à du lait, qui est mortelle à qui en boirait. Pluis étant ainsi épurée de jus mortifière , on trouve la râpure subtile et déliée comme de la farine, qu'on met sur une platine de fer et non de cuivre avec du feu dessous pour la cuire, et en fait-on une galette de l'épaisseur de demi-doigt, laquelle étant à demi-cuire d'un côté, on la retourne de l'autre et puis on la met au soleil pour l'achever de cuire. Ce pain est de telle substance que bien facilement nos Français s'y accoutument' (Anonymous de Saint-Christophe [c.1640] 2013:124). Adriaan van Berkel also observed an iron baking plate among the Arawak living in the vicinity of the Dutch Berbice colony in *c.*1670 (van Berkel 1695:70). Remarkably, the Anonymous de Carpentras (2013:55) still observed ceramic griddles or toucqué.

Figure 12.5. A metal grater purchased by the present author in 2012 at Oiapoque, Brazil.

decribed them as follows: 'The graters used for that purpose are made of copper, fifteen to eighteen inches long, and ten to twelve inches wide, nailed to a plank of three and a half feet long and one feet wide in the middle'[410] (Fig. 11.5). In fact, *c.*120 years earlier, Father Antoine Biet observed the same metal graters among the Galibi of Cayenne:

> *Le pain se fait en cette sorte : l'on ratisse cette racine comme un fait un navet, on la rape avec une rapoire de fer ou de cuivre, que l'on appelle une greige dans le pais, après estre rappée on la met dans des sacs, que l'on met dans une presse pour en tirer le suc, on passe cette farine, l'on en prend dans un plat que l'on étend sur une platine de fer épaisse d'un doigt, que l'on met sur un petit feu, laquelle estante cuite d'un costé, on la tourne de l'autre, cela est incontinent cuit, une personne en peut faire cuire pour le moins soixante en un jour.* (Biet 1664:336)

The incorporation by the Amerindians of iron tools (e.g. axes, chisels, baking plates, knifes, needles, graters) related to horticulture and food production was rather swift. It is presumed that towards the second half of the 17th century all tools were replaced by means of iron equivalents, as the majority of the historic documents for the littoral population suggest. These new tools are believed to have altered the way of food production in a similar way with regard to the introduction of the iron axe. It may have even increased the production of cassava which the Europeans calling at the Guiana coast, ordering them in large quantities. They preferred cassava as the cakes resembled their oat cakes and were rather tasty when fresh. However, more importantly, they could be stored for a long time during their travels, thus locally creating a large demand of this manioc product. On the other hand, the Amerindians demanded iron novelties and commodities which were supplied by the Europeans who were again eager to do so to assure a large cassava production, thus somehow assuring the profit of their voyage.

In order to exploit these demands, the Europeans, and notably the Dutch, also manufactured iron replicas of Amerindian tools (e.g. axes, baking plates or griddles, chisels, hoes, graters) as the Dutch historian Lodewijk Hulsman explains (2009, 2011).[411] For example, if we take into account Leigh's observations (cf.

410 Cf. Appendix 5g. Concerning the Lesser Antilles, see also Jean-Baptiste du Tertre (1654:182) or Hyacinthe de Caen (2014:167).

411 An exemplary shipping list or 'cargasoen' for the Essequibo colony can be found in the proceedings of the WIC Zeeland Chamber dated 30 June 1642, revealing the presence of '50 lb thin, yellow [coloured] copper plates' (British Guiana Boundary Commission 1898:129–130).

Appendix 5b) that manioc tubers were pounded or grated on a stone by women 'in an earthen panne against certaine grates of stone' we acknowledge that these Amerindians did not use a wooden grater board as we know it today. It is presumed here that the Europeans (and notably the Dutch) exported and even designed the metal graters in order to fit the processing of manioc tubers. In this manner, the Dutch created an economic dependence in order to control the local market.

This hypothesis may also imply that they restricted in this manner the production of other crop foods, such as maize-derived products which were eventually becoming less popular among the coastal population. From this point of view, it can be opined that modern grater boards with iron nails are replicas or a local adaptation of the plate metal graters the Dutch exported during the 17th and 18th century. If this is the case, it can subsequently be suggested that wooden boards with stone-chip implements are down-the-line copies of metal graters, emphasizing an innovative development of grating instead of pounding (manioc) tubers during the Early Historic Age.

However, this conclusion does not necessarily imply that proto-historic Amerindians or pre-Columbians did not grate their food stuffs at all. They may also have inserted small flakes into grating sticks and/or ceramic platters as well as other grating devices. Grating and pounding did most certainly coexist and both activities have been applied in order to produce food. It is stressed here that the way of mashing tubers by means of pounding and/or grating may have changed in early historic times with the introduction of metal graters. Various 16th century descriptions of graters are available as to the Tupinamba of southeastern Brazil as presented by Jean de Léry (1587:132). They ressemble the much smaller European nutmeg grater to make their *farinha*: 'First, after having dried them [tubers] on a boucan fire, as I will describe elsewhere, or sometimes taking them wholly green, by grating them on small pointy stones, arranged and stuck on a piece of flat wood (just as we grate cheese and nutmeg), they reduce them in flower which is as white as snow.'[412] Concerning the Guianas, Hartsinck (1770:24) pointed out that before the colonization the Amerindians grated their cassava on pieces of wood called *samarie* inserted with small sharp stones (Appendix 5g).[413] Another example is taken from the *Callinago* of the Lesser Antilles in *c.*1620 which is made of gunflint flakes, also a European introduction:

> *Elles ratissent fort la racine avec un couteau ou coquille, qui est fort propre à cela à celle fin de la dépouiller de sa pelure, qui est quasi semblable et s'enlève comme celle d'un cerisier. Après ils la lavent fort et raclent sur un ais qu'ils nomment chimali, qui est environ quatre pieds de long et deux de large, au milieu duquel il y a environ un pied et demi de petits cailloux à fusil si bien enchâssés qu'il est difficile de les retirer, et là-dessus elles ratissent leur racine en cette posture. Elles dressent leur dit chimali et mettent le bout d'en bas dans un petit baquet, pour recueillir ce qui tombe de ratissé, et appuient l'estomac sur l'autre bout d'en haut*

412 'Premierement apres les avoir seicher au feu sur le boucan, tel que je le descriray ailleurs, ou bien quelques fois les prenans toutes vertes, à force de les raper sur certaines petites pierres pointues, fischees & arrengees sur une piece de bois plate (toute ainsi que nous raclons & ratissons les fromages & noix muscades) elle les reduisent en farine, laquelle est aussi blanche que neige.'

413 See also Quandt (1807:189) and Kappler (1854ii:41) who both noted that grater boards, or *simari*, were traded with the Macusi. At present, a grater is called *shumarli* in Makusi (Siravo 2009:16). Ahlbrinck (1931:423) suggests that *samariapo* is cedar wood (*Cedrela odorata*) in Kali'na.

en s'abaissant un peu, ratissant après avec les mains, et ce qui tombe dans le susdit baquet est comme de la pâte fort blanche à cause du suc qui est dans ladite racine qui est blanc comme lait. (Anonymous de Carpentras 2013:54)

Strikingly, the introduction of graters boards by the Europeans in Africa shows a similar pattern. Once the Portuguese had discovered and settled in Brazil, they shipped maize and manioc to their trading places in Africa where the local populations started to produce and consume these new products too (Jones 1959; Gaulme 2003). At first, the Africans just peeled and boiled the manioc tubers or dried them in the sun, as they probably had learnt from the Portuguese who had copied it from the Tupinamba, as the German Samuel Brun witnessed along the Slave Coast of western Africa in *c.*1620: 'Among them grow the tubers as big as the thickest part of the male leg, which they Casavy, pound them and dry them in the sun, becoming as white as the best flower' (Brun [1624] 1913:6).[414] After *c.*1650, however, metal graters had been introduced and the local population started to prepare pulp instead of boiled down tubers (ibid., pp. 62–63). On the island of San Thomé, for example, it is said that *mandihoka* (Br.) flower is obtained just as in Brazil (Dapper 1668b:77) whereas in the southern parts of Ethiopia a metal grater is used (Dapper 1668a:601–602). In sum, these African examples confirm a preparation of manioc tubers without graters, which also appears to be a European introduction, as in the Guianas.

The Amerindian oral tradition

The introduction of metal tools is remembered by the (coastal) Amerindian population of the Guianas. For example, the Palikur oral tradition tells us that the *Sauyune* or "People of the Otter," now an extinct tribe incorporated in the modern englobing Palikur nation (Passes 2004), introduced the metal grater to the Palikur (F. Grenand and P. Grenand 1987:34, 40). From this indigenous perspective, it is somehow striking to Europeans that Amerindians –thus not Europeans– introduced iron tools to (other) Amerindians. This can be explained by the way of reading and interpreting early documents dealing with the Oyapock River and the acceptance of a powerful Palikur oral tradition which goes back at least 400 years.

When doing so, it is thought that the *Sauyune* represent the historic Yao population who, at the start of the 17th century, had settled at the mouth of the Oyapock River (P. Grenand 2006:111). However, these Yao were refugees who had fled from the Island of Trinidad where they had been maltreated by the Spanish and their allies, the *Arawaccas* (Keymis 1890; Mocquet 1617; Leigh 1906). Under command of their (war) leader *Anacaioury*, the Yao left Trinidad to get hold of the Lower Oyapock River and position themselves as the middlemen for the Europeans and the surrounding autochthonous groups. According to Harcourt (1906:368), the latter were tributary to *Anacaioury* and shared a large network extending to the east and south. It is suggested here that, in addition to intrusion and warfare, *Anacaioury* occupied an important position. The reason for this is that he controlled the trade with the English and Dutch and thus, as a middleman, introduced iron tools to the Amerindians in the Oyapock region (see previous section).

414 'Bey ihnen wachsen Wurtzeln so grosz, alsz eines Mannsbein am dicksten, welche wurtzen sie Casavy nennen, stampffen dieselbig, und dörren sie an der Sonnen, werden so weisz als das beste Mal.'

Paulo Noriño, a former spiritual leader of the Palikur, once told the present author that the ancient Palikur utilised ceramic graters (*tymah* or teeth) in order to produce manioc pulp (van den Bel 1995:80).[415] Nimuendajú confirmed this information (1926:47). He found fragments of discarded ceramic manioc graters at various abandoned Palikur sites: 'Another product of Palikur Pottery [are] the flat, grooved platters, in which one grated the Mandioca, which is found today only in fragments at the former dwelling places and cemeteries of these tribes and has been replaced by the rectangular grating board in which irons nails have been inserted.'[416] The Brazilian archaeologist Peter Paul Hilbert (1957:10–14, 18–24) found similar objects during excavations at a cave site near Vila Velha, situated on the left bank of the Cassiporé River in the present-day State of Amapá. He opined (ibid., p. 15, Fig. 5; ibid., p. 33) that these objects were 'alguidaros rasos em forma de ralo' and attributed them to the (Late) Aristé ceramic complex (cf. Section 12.2.2). Remarkably, similar objects called *ralladores* (Sp.) are also known from the Mojos region in Bolivia (Nordenskiöld 1913; Walker 2011:124). Further starch analysis is required in order to confirm both the ethnographic and archaeological graters. This may possibly illustrate that other types of graters were utilised among the coastal Guiana population.

A regional adaptation

It is evident that manioc did not replace maize as we do not have sufficient archaeological data to support such a hypothesis, but it certainly lost ground and possibly (cultural) importance during the course of the Historic Age. Despite this development, maize beverages were consumed among the Kali'na of Suriname at the start of the 20th century:

> *Awasi ai-curu = Beverage made of corn. When the corn has dried out well in the sun, the boys and girls are gathered to pound down the maize kernels in 8 wooden mortars. The pounded corn is thrown then in a boat (…). A calabash of "chewn" maize is also added as kamira (see this word) [fermentation]. The boat is filled up with water and subsequently covered [with leaves]. After one night standing, the beverage is drained. The samaku in which one captures the beverage during sifting is again covered. After another night of fermentation, the beverage is ready.* (Ahlbrink 1931:125)[417]

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415 Note the same linguistic root in the Palikur *tymah* and the Cariban *chimali* is mentioned in the Anonymous de Carpentras (2013:54) as cited above. A similar word is recorded by Breton (1665:156). The latter also gives a description of a wooden grater inserted with small stones: 'Grager veut autant dire, que moudre par deça : les moulins des sauvages sont des planches garnies de petites pierres pointuës, qui y sont enchassées, (parmy nous sont des rapes posees sur une planche, ou appliquées autour d'une rouë) apres le souper toutes femmes ratissent leur racines de magnoc, qui sont seullement necessaires pour le iour suivant (…) qu'elles lavent, gragent & reduisent en farine sur la rape…' (Breton 1665:139).

416 'Ein andres Produkt der Palikur-Töpferei, [sind] die flache, geriffelte Schüssel, in der man die Mandioca rieb, findet heute nur noch in Bruchstücken auf den alten Wohnplätzen und Friedhöfen dieses Stammes und ist durch ein rechteckiges Reibbrett mit eingesetzten eisernen Topfsplittern ersetzt worden.' Cf. Appendix 5k.

417 *'Awasi ai-curu* = Drank uit mais getrokken. Wanneer de mais goed uitgedroogd is in de zon, roept men de jongens en meisjes bijeen om in een 8-tal houten vijzels de maiskorrels fijn te stampen. De fijngestampte mais werpt men vervolgens in de boot (…). Een kalabas "gekauwde" mais gaat er eveneens in als *kamira* (zie dit woord) [fermentation]. De boot wordt van water voorzien, vervolgens zorgvuldig toegedekt. Na een nacht gestaan te hebben wordt de drank gezeefd. De samaku, waarin men bij het zeven den drank opvangt, wordt wederom toegedekt. Na nog een nacht te hebben gestaan is de drank klaar.' See also Farabee (1924:20).

The (slow) abandonment of maize in favour of manioc reflects the changes or adaptation to another socio-political situation in which identity and ethnogenesis plays an important role (Wilk 1999; Garth 2013). The apparent recent introduction of *couac* (Fr.) or *farinha* (Br.) in French Guiana is therefore believed emblematic.[418] The Amerindians and Portuguese from the Lower Amazon River introduced *couac* to French Guiana towards the end of the 17th century (Barrère 1743:55).[419] Indeed, this manioc product reinforced the production and demand of manioc derived products, but it also diminished the daily importance of cassava, which now became restricted to beer fermentation and, in a lesser extent, the pepper pot (C., *kasilipo*). On the other hand, *couac* rapidly obtained an important role (identity) in the daily dishes of the Creole, Maroon and Amerindian population.

The Colonial Encounter in the eastern Guianas no doubt provoked changes as to the Amerindian modes of agriculture and tending (Balée 2006; Denevan 2001, 2006). This can not only be related to the economic demand of Europeans for specific types of alimentation but also to the subsequent introduction of iron tools. The (coastal) Amerindians adapted their local production to the European demand of certain consumable goods, notably those made of manioc (cassava) and, to a much lesser extent, consumables consisting of maize.

In addition to these technological advantages of iron tools, the cultivation of maize is (slowly) abandoned due to the reorganisation of the early historic Amerindian socio-political situation from the second half of the 16th century on. The Spanish and their *Aruac* allies demanded victuals and slaves. The same applies later to the North Europeans and their Yao allies when they contested the existing Amerindian alliances together. Now many tribes fled from the "dangerous" colonial regions to settle elsewhere along the coast or to travel up the rivers and take refuge. Continuous warfare, slave raids, but also religious missions (S., *reducciones*) from the second half of the 17th century on, caused numerous groups to abandon their sedentary life style associated with maize agriculture and to adopt a nomadic or a far less sedentary life for which the cultivation of manioc is much more appropriate. A successful maize crop highly depends on human care (e.g. tending, irrigation, protection against animals and insects) whereas manioc needs far less to no attention at all. Aided by means of iron axes when creating small gardens, the Amerindians developed a more nomadic life style, retreating from further European contact into the deep forest, but now facing confrontations with the Amerindian population of the interior.

In addition to adapting to a more nomadic life style, a subsequent issue must be taken into consideration when discussing the consumption of maize in relation to feasting. Consuming maize is often related to (specific) ceremonial activities which may have been abandoned during later historic times as is illustrated for example by the Xavante of Brazil: 'An interesting aspect of Xavante use of maize is that this, perhaps the most completely domesticated of all crops, was the primary food during periods of aggregation when its symbolic role was to reinforce the solidarity of the community through ceremonial redistribution. In contrast, tubers which are found in wild, domesticated, and semi-domesticated forms, were their staple during periods of nomadism' (Flowers 1994:254).

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418 *Couac* or *farinha* is a manioc based product, historically a common staple food among the Tupi population of eastern Coastal Brazil (de Léry in Lestringuant 2008:238).

419 It has to be added here that the Kali'na continued to produce cassava and only recently "switched" to couac (Gérard Collomb, personal communication, 2014).

The missionaries oppressed ceremonial life and feasting by means of deculturation. The indigenous traditions diminished towards the end of 18th century due to a population decline as a result of diseases, the interdiction of shamanism and the appointment of village captains by the missionaries in Venezuela, Brazil, and the Guianas (Whitehead 1988, 1993; Collomb and Tiouka 2000; Collomb 2011; Santos-Granero 2011).[420] Notably cassava beer drinking combined with ceremonies represent the social agent of Amerindian society (Dietler and Hayden 2001; Erickson 2006) or 'le ciment de la vie collective' according to the French anthropologist Pierre Grenand (1980:61). However, more generally, it can be said that changes in the socio-political systems, hierarchy, trading networks, when caused by the above-mentioned factors, reduced the large scale (inter-regional) feasts and food consumption to a smaller village or even to family level. These changes asked for fresh identities, thus creating a firm base for ethnogenesis in the Guianas as we know it today (Whitehead 1996; Dietler 1996; Hastorf 2006; Collomb and Dupuy 2009).

In sum, this historic approach regarding the link between archaeological and present-day ethnographic data shows that maize as a staple product has slowly been loosing terrain due to various factors, such as the European demand for cassava, the convenience of iron graters, the general dependence on iron tools, a decreasing demography, the adaption to a more nomadic life style of smaller groups becoming more mobile to which, eventually, the production of manioc is better adapted than that of maize.

12.5.3 Final remarks

This analysis of the early records demonstrates that archaeological research must be aware of rapid adaptation, socio-political fluidity and multiethnicity all present in one specific region, but also of the extensive trade networks maintained by various populations. It is not the possession of, but the access to certain goods that represents the greatest prestige (power) for Amerindian captains. During the 16th century, the Spanish colonies in the Caribbean depended largely on Amerindian labour and provisions, therefore creating allies and enemies in order to serve this purpose. The Guianas were exploited by their alliances with the *Aruacas*. In turn, the latter installed a new socio-political balance in the region which was not only again subjected to further alliance, but also to resistance. It is presumed that the mechanisms of adaptation (e.g. warfare, encroachment, alliance) to this type of change were entirely based on an Amerindian (pre-Columbian) framework.

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420 Despite many Jesuit missions, the Amerindians still continued to live without Christianity, according to the manuscript of La Croix in the late 18th century, expressing a slightly romantic image of this pitiful population: 'A l'égard de la religion, ils n'en ont aucune, leur âme est enveloppée du voile de l'idolâtrie la plus bornée. Les tentatives qui ont été faites sur ces peuples sauvages par un nombre infini de Jésuites missionnaires, pour tâcher de leur insinuer des sentiments chrétiens ont été vaines et infructueuses jusqu'à présent. Les Indiens les plus susceptibles de comprendre ce qu'on leur objectait à propos du christianisme ne purent jamais se décider à adopter des maximes qui exigeaient d'eux le sacrifice de leurs passions et souvent même de leurs besoins, le pardon des injures, l'amour pour leurs ennemis, et qui leur étaient proposées par des hommes avides de leurs biens, plus occupés à les asservir, à les immoler à leur avarice, qu'à les éclairer et les convertir. D'ailleurs leur attachement pour un genre de vie facile, qui répond à leur indolence, leurs goûts et surtout leur peu d'intelligence et de pénétration, offrent encore des obstacles aussi considérables pour les convaincre des vérités de notre religion. Comme ils ne réfléchissent point et que leur indolence les rend peu susceptibles d'admiration, leur cœur et leur esprit indifférents et tranquilles jouissent des merveilles qu'offre le spectacle de la nature sans émotion, sans y donner même aucune attention' (Marcel 1904:142–143).

However, it is only after the permanent presence of Europeans (colonies) in combination with the production of sugar (occupation of land) in *c*.AD 1650 that these mechanisms started to fade to be gradually replaced by means of a diminished, dispersed, and dependent population in the coastal area as well as more remote and nomadic population of the interior, as Kloos pointed out (1971:262).

Let us look into these stages of evolution in Amerindian society during colonial times, as Kloos suggested, namely: (a) villages as part of political alliances, (b) isolated villages and (c) villages as part of a national state, as a guideline for the site of Eva 2. Can these stages be identified for the material culture of the latter site? The analysis proposed in Section 11.8 illustrates that the ceramic assemblage of Eva 2 (to be ascribed to the 17th and 18th century) includes changes, notably the diminishing of decoration modes (e.g. incision, polychrome painting). In addition the ceramic repertoire is not only simplified and partially replaced by means of European equivalents, but also imitates European vessel shapes. Eventually, an entirely innovative repertoire of tourist ware is added to the latter, responding to the growing tourist market of the 19th century. Next to these stages of socio-political development, it appears that material culture is homogenized in the Guianas, as pointed out with regard to the ceramic production (Collomb 2003; Coutet and Losier 2014). Notably the omnipresence of *kwepi* as a temper among the Guiana Amerindians during colonial times confirms this process, as Kay Scaramelli remarked regarding the Orinoco River (Scaramelli 2006:268): 'Caraipe temper replaced cauixí, sherd and sand temper throughout the region, and pottery seems to have lost its role as a distinctive marker of ethnicity in the Republican period.'

Thus, after an era of warfare, diseases and dispersion a kind of deculturation was created along the Guiana littoral (Santos-Granero 2011). The subsequent ethnogenesis among the Palikur and Kali'na in French Guiana is reflected by means of a new social order. It is expressed, notably among the Palikur, in explicit decoration modes, referring to the various (new) clans (P. Hilbert 1957:34; van den Bel 1995, 2009b; Passes 2004). The Kali'na, on the other hand, favoured a more abundant mode of decoration, based on natural elements (Wack 1988; Hagen 1991; Cornette 1992; Vredenbregt 2002).

Fortunately, we can observe that the ceramic production of the Kali'na as well as of the Palikur, while acknowledging the loss of this tradition among the Arawak (Abbenhuis 1940:64), is still present and alive today. These pragmatic populations found a way to adapt to colonisation by means of incorporating innovative elements, such as vessel shapes, developing a parallel market with the colonisers. The more recent revival of the tourist production has developed a style of its own. In my view, it is quite easy to distinguish the current products of Palikur, Kali'na and Wayana potters. However, the domestic use of ceramics has clearly lost ground. At present it has been completely replaced by means of iron equivalents, with the exception of festivities, i.e. cashiri jars and small drinking bowls often painted red. They represent objects which have travelled through time.

12.6 Research questions answered

The present study is an ambitious work and aims to provide an update of the state of affairs in the archaeology of French Guiana as well as to fill the hiatus of the earlier periods, notably the Late Archaic and Early Ceramic Age what is showcased in Table 12.1. The results of this multidisciplinary archaeological research presented in the previous chapters (cf. Chapters 4-9 and 11) certainly provided input concerning the development of settlement patterns, subsistence economies, funerary practices and sociopolitical organization along the French Guiana littoral from the Late Archaic to modern times between Cayenne Island and the Maroni River. A synthesis of the pre-Columbian population that once inhabited this coastal region and reflections on pre-Columbian aspects of Amerindian society as well as historic and modern Amerindian communities has been provided in the previous sections of Chapter 12. This final section attempts to answer the research questions raised in Chapter 1. As you can see, the answers to these questions are sometimes both yes and no.

(1a) Which kind of (material) cultural change does the analysis of the ceramic and lithic assemblages as well as of excavated settlement patterns reveal?

The answer to this question is threefold:

i. A general development in ceramic manufacturing can be suggested from the Early Ceramic Age (Phase A) to the present. The earliest pottery in French Guiana was found at Eva 2 and CSL (cf. Chapters 4-5). It is represented by means of small and large spheric bowls with a heavy pounded quartz temper. Any decoration was not recorded. However, the paste and the use of small pointed bases are similar to those of other early ceramic wares, such as Kauri Kreek. After a time gap, we observe high-quality ware in the Maroni Basin towards the end of the first millennium BC at CSL (Early Ceramic Age Phase B). This hard, thin sand-tempered ware highlights hyperboloid bowls and bell shaped vessels. If decorated, the smaller vessels have red and white-on-red painting whereas the larger ones include cross-hatching and *piquétage*. Another ECA ware was found at CPP (cf. Chapter 9). It is also hard and sand-tempered, featuring open bowls with notches and composite restricted examples with (vertical) incisions. Further research on the latter series is needed. The pottery of the LCA series is predominantly tempered with pounded potsherds. It can be subdivided according to regions and burial modes, revealing the following possible culture areas: (a) the Oyapock Basin, (b) on Cayenne Island, (c) Iracoubo and (d) Mana/Maroni. The latter two areas share a similar pottery tradition, often referred to as the Barbakoeba complex (cf. Chapters 5-9). The historic assemblage of Eva 2 suggests that: (a) the LCA tradition to the west of Kourou is affiliated to the dominant Koriabo complex and (b) the latter has developed specific traits that suggest an adaptation of the population to the events of the colonial encounter. Amerindian potters have started to produce imitations of European ware, but have also replaced their ceramic domestic ware with European equivalents. Eventually, their pottery production is aimed at a tourist market. They merely produce ceramic drinking bowls and *cashiri* vessels for specific ceremonies (cf. Chapter 11).

ii. Another development can be suggested with regard to the lithic technology from the Late Archaic to the present, too. The CSL site presumably presents us with the best example to demonstrate this (cf. Chapter 5). This site included three reduction modes associated to specific quartz varieties and related to three occupations. The earliest flakes, perhaps even blades, were found at CSL (Method 2). They can be ascribed to the (Early) Archaic way of life, whereas the bifacial reduction of small milky quartz pebbles (Mode 1) is associated to the Late Archaic and ECA (Phase A) occupation of this site (Eva 2 and PDM). Modes 2 and 3 are predominantly associated with the saccharin quartz varieties and reflect a much more opportunistic debitage, attributed to the ECA-B and LCA (Method 1).

iii. Concerning the settlement patterns, a general pattern of persistency prevails with regard to the Late Archaic, ECA and LCA (cf. Chapters 4-9). The studied sites, but also ring-ditch sites, provide radiocarbon sequences suggesting lengthy occupations ranging between *c*.200 and 500 years. However, the intensity of human occupation is now and again difficult to catch, but notably Phase 2b-c of CSL reveals material homogeneity for at least 400 years spreading across the site, whereas the Phase 1b occupation is probably much shorter and less important. Another type of occupation is attested for by means of the distribution of earth ovens at Eva 2. It is suggested that the earth ovens found here were used by the Amerindians who frequented this place in order to prepare whatever they had gathered or caught in the vicinity. The coastal sites, notably those situated on the sandy ridges (Holocene or Pleistocene), were occupied for a lengthy period too. However, it is suggested that these sites represent shifting villages were relocated on the ridges through time, eventually resulting in very large, stretched sites.

(1b) Can we recognize persistent elements such as pottery wares and styles, the use of specific lithic tools or the presence of certain features throughout various periods?

No, but we can recognize remarkable or characteristic elements referring to a certain period or even place, for instance: (a) the earth ovens of the (Late) Archaic Age (cf. Chapter 4), (b) the bifacial reduction mode of milky quartz pebbles (cf. Chapter 5), (c) the hyperboloid bowls (cf. Chapter 5), (d) the elongated burial pits on Cayenne Island (cf. Chapter 9) and (e) the red slipped drinking bowls (cf. Chapters 7, 9 and 11).

(2a) Is it possible to identify a pre-Columbian ceramic complex culturally related to a present-day Amerindian community?

No, there is no direct relationship as the process of ethnogenesis has reshaped the present ethnic groups (cf. Chapters 10-11). However, their historic ancestors (e.g. the Galibi) are most likely to be associated with the ceramics and site of Eva 2 (cf. Chapter 11).

(2b) Can we follow any ceramic development through post-Columbian times to the present?

Yes, vessel shapes, decoration modes and temper represent relevant traits (cf. Chapters 4-9 and 11). These elements change or adapt during the Colonial Encounter and represent important markers for this period, for instance: (a) *kwepi*

temper, (b) necked or shouldered pots (e.g. Koriabo toric pots) and (c) red slipped and/or notched bowls (cf. Fig. 12.2e).

(3a) Can we determine cultural affiliations with other areas by means of material culture alone and did these affiliations change through time?

Yes, certain elements such as (a) ceramic stools and/or tablets (anthropomorphic and spheric), (b) urns, (c) toric pots and (d) greenstone objects (e.g. *muiraquitãs*, greenstone polished tools) are shared by the LCA population of the Guianas, the Lower Amazon River and the Lesser Antiles. The Colonial Event provoked changes concerning the use of these objects among the Amerindian population, notably due to deculturation (e.g. population decline and amalgamation) and change in the socio-political balance of the Amerindian society (e.g. leadership, ceremonies).

(3b) To which extent does this imply a change in social networks within the wider region during colonial times?

Although current Amerindian groups maintain (long-distance) networks, the ratios are somewhat smaller and less intensive during colonial times due to a decrease in population and the deflation of Amerindian leadership. However, new trading partners and innovative objects have been added to these networks (e.g. iron tools, beads) whereas others have disappeared, emphasizing the fluidity of these networks (Chapters 11-12).

(3c) If so, to which degree can we speak of cultural continuity or discontinuity?

There is continuity as the foundations of these networks (e.g. the social relationships, importance of prestige) have not changed. Only the objects and individuals have changed. Moreover, the presence of red painted drinking bowls among the present-day Kali'na (C. *sapera*), utilised for consumption of *cahsiri* during numerous ceremonies, show clear affinities with the pre-Columbian ones (Chapters 7-9), insisting on the preservation of these objects and reflecting persistence, or continuity, of specific socio-cultural practices of Amerindian society. Perhaps in another form after the process of ethnogenesis but still incarnating larger Amerindian concepts (e.g. cosmovision, social organization, afterlife).

12.7 Conclusions

Stratigraphic archaeological research in French Guiana is barely 50 years old and has been conducted primarily in the coastal zone, stretching approximately between 5 and 50 kilometres from the Atlantic coast to the Precambrian Shield. This bias, mainly caused by means of modern infrastructure, has sketched an archaeological record concerning pre-Columbian French Guiana focussing on the Late Ceramic Age (AD 900-1500) of Cayenne Island as well as the western Holocene coastal plains. The present study contains the results of six archaeological investigations, conducted from a compliance archaeological perspective, in order to enhance our knowledge of the afore-mentioned coastal area. It not only presents us with fresh archaeological data on the (Late) Archaic and Early Ceramic Age, a hiatus that is now partially fill up, but also sheds new light on the Late Ceramic Age of this specific region concerning funerary rites, ceramic series and subsistence.

After dealing with research-related issues and a providing a brief introduction to the history of archaeology and geology of French Guiana and Suriname, the investigated sites are discussed in a chronological order. Firstly the preceramic

and the early ceramic occupation of Eva 2 are presented and analysed proving firsly the usage of Late Archaic polished tools, quartz *débitage* and earthovens of a site located on the border of the Pleistocene savannahs of Malmanoury between the Kourou and Sinnamary Rivers. Secondly, it reveals the processing of sweet potatoes and maize in as early as 2500 BC, which falls in with the Archaic Littoral Tradition of northern South America. Thirdly, the presence of incipient ceramics in *c.*2200 BC indicates a change in food processing, i.e., from steaming in earth ovens to boiling in ceramic recipients. This ensemble is defined as the Early Ceramic Age (Phase A) Balaté ceramic complex, contemporaneous with the Alaka Phase ceramics of north-western Guyana and the Mina Tradition in Pará, Brazil.

These incipient ceramics are also encountered during the first occupation phase of Chemin Saint-Louis (CSL). This multi-compound site, positioned on the Holocene terraces of the Maroni River, includes charcoal pits and possibly oval-shaped inhumation graves. The presence of maize and sweet potatoes as to these early ceramic containers is once again demonstrated. The second phase of Chemin Saint-Louis is attributed to another phase (Phase B) of the Early Ceramic Age, dated to the first half of the first millennium AD. It discloses unknown ceramic series as to the Lower Maroni Basin with characteristic hyperboloid bowls and bell-shaped vessels, dubbed the Saint-Louis ceramic complex. This occupation is also materialised by means of a thick, dark earth layer defined as the accumulation of cultural debris and colluviums during the second phase occupation of the site. Possible links with the Upper Maroni River and the Lower Amazon River are identified suggesting an extended pan-Amazonian development during Saladoid/Barrancoid times as previously thought. Another neighbouring site, called La Pointe de Balaté, shares its third phase with Chemin Saint-Louis (dated to the Late Ceramic Age) as well as its stylistic affinities with two other investigated Late Ceramic Age sites, e.g., Crique Sparouine located in the hinterland of the Maroni River and AM 41, a cemetery near Iracoubo. Although these ceramic assemblages display cultural ties with the Barbakoeba ceramic complex from eastern Suriname, they represent regional entities, revealing (a) the regional diversity of the latter complex and (b) the need for further, detailed study in order to improve the identification of this vast complex.

Oval-shaped pits with pottery depositions as well as single pottery depositions found at the investigated sites of the Maroni River have been interpreted as inhumations (primary or secondary burials) and secondary burials respectively. This stands in contrast with the cemetery of AM 41, situated on the edges of the Pleistocene sand ridges overlooking the Holocene plains. Here two concentrations of urns were excavated, disclosing various burial modes and possibly revealing an ancestor cult, indicated by means of "boxed" burials around which numerous urns were deposited. This model again differs from the results of the organised inhumation graves on Cayenne Island where rectangular pits filled with voluntarily deposited ceramic debris and vessels mark the presence of the deceased. In addition, the excavations at PK 11 and Cimetière paysager Poncel (CPP) provided fresh data allowing us to revise the existing ceramic series of Cayenne Island, or the Thémire ceramic complex. An original early phase (Early Thémire) and a redefining of the later phase, as to which Koriabo plays an important innovative role (Late Thémire), is hereby proposed. The origins of the early phase are questioned when referring to fresh data on the early ceramic occupation of Cayenne Island as evidenced by

means of the presence of *Ouanary encoché* which appears to be another original complex which must be detached from (Late) Aristé.

The excavations at Eva 2 yielded the most recent occupation of the proposed cultural sequence which has been attributed to the Historic Age and features two distinct occupations: (a) a 17th and 18th century occupation reveals the suite of undecorated Koriabo pottery as well as (b) a 19th century burial site with paired inhumation graves and one urn burial, presumably of a chief. A morphological comparison with examples of the recent Kali'na pottery tradition, housed in numerous European and regional museums, enabled us to define the historic ceramic complex of Malmanoury. This intermediate manifestation of the pre-Columbian and modern ceramic traditions is distinguishable because of the impact of the colonial event. However, they do share several attributes which have stood the test of colonial times not only by means of absorbing and recreating novelties but also by reinventing a cultural identity based on shared and different concepts (ethnogenesis) of which the red painted drinking bowl, still utilized among the present-day Kali'na during ceremonies, is an excellent marker of cultural continuity and resistance in its broadest sense.