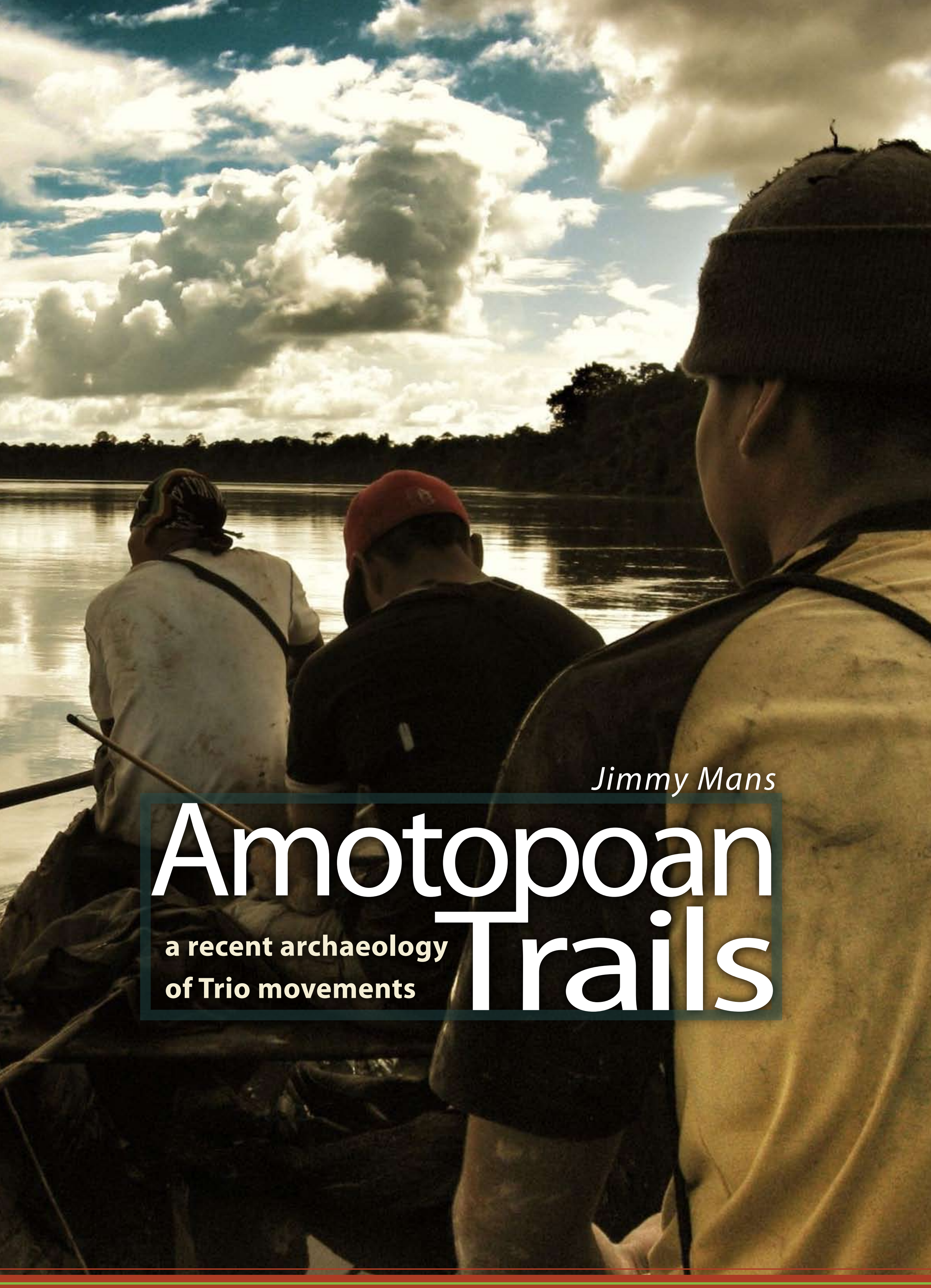

Jimmy Mans

Amotopoan Trails

a recent archaeology of Trio movements

Mededelingen van het Rijksmuseum voor Volkenkunde, Leiden

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Sidestone Press

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Chapter 1

Introduction

Amotopoan Trails examines the movements of individuals and objects in the contemporary (2001-2008) Trio village of Amotopo (Suriname). It will present a conceptual perspective in order to increase our comprehension of archaeological movements on a micro-level. This thesis will also shed light on a century of Trio movements (1907-2008), the archaeological framework of which is explicitly negotiated towards anticipating a comparison with a preceding, yet unknown, local historical archaeology.

In order to explain the abovementioned conceptual research objective this Introduction will begin with a brief historical survey (1.1). In it I will demonstrate how the breaking down of the resolution of the chrono-cultural framework within the discipline of archaeology had its repercussions for the various levels of interpretation concerning human mobility. Whereas the initial, large macro-scale population migrations were postulated from scarce archaeological data, we are now dealing with high resolution data signifying micro-scale movements of both individuals and their objects. This increased visibility of the micro-level requires fresh, conceptual food for thought which this thesis aims to provide.

The methodological considerations which led to the adoption of a specific approach to facilitate the abovementioned conceptual investigations will be discussed in 1.2. Moreover, this section will explain why and how I arrived at the micro-level concepts of movement. The formulated concepts have subsequently served as interactive analogies in order to construct a century of recent archaeological history. In short, besides serving as a study to aid archaeological research of the broader region in an analogical way, it should also be perceived as research in its own right which has been 'restrictively' documented to connect to a preceding, as yet unknown archaeology in the best possible manner.

The deliverables and conclusions of the present study will be introduced in 1.3. I will argue that the archaeological mobility of a certain archaeological site should be seen as the sum of all the individual material movements of a certain site. This implies that we will venture behind the veil of group mobility to discuss and track its individual moving constituents. In this respect no distinction is made between human beings and objects. From an archaeological perspective both categories are to be considered as *immobilia* once brought to the archaeological site under investigation. Further conceptual parameters for archaeological movements have been constructed on this primary basis. A brief survey of the contents of the Chapters 2-6 is presented in the final section (1.4).

1.1 From migration and mobility to archaeological movements

When looking into the histories of the anthropological and archaeological disciplines,[1] it seems that each and every deconstruction of existing cultural entities into smaller ones, be it either geographical or temporal, has been followed by the construction of theoretical constructs in an attempt to explain the newly arisen and heterogeneous composition. After many such deconstructions, some form of human movement has been cited in order to deal with the newly emerged complexity. This Introduction will commence with a brief historical survey of the archaeological discipline and then arrive at the research objective of this thesis.

The anthropological and archaeological theories developed during the past 200 years have gradually deconstructed the global human world into a myriad of distinct dynamic cultures. Let us begin with the reigning biblical and evolutionary perspective concerning population movements. The early monogenist perspective reasoned that all human beings were divided into three socio-evolutionary cultures, namely 'savages', 'barbarians' and the 'civilised', and that they could only go back to Adam and Eve. These three cultures, therefore, ultimately all had to evolve from the biblical cradle of the Near East (Greene 1959:221-2; Harris 1968:54-5). This axiomatic perspective sparked the task for early anthropologists and archaeologists to present an explanation for the various trajectories out of the Near East (Barnard 2000:23-5; Harris 1968:83; Trigger 2006:114). The concept of population migration served to explain the global situation at the time of coexisting 'civilizations', 'barbarians' and 'savages'.

However, early German anthropologists, and not much later the Boasian Americanist anthropologists too,[2] started deconstructing the two 'non-civilised' cultures ('barbarians' and 'savages') into geographically distinct cultures, based on their specific material characteristics (Trigger 1980:28; Zimmerman 2001:206). Once these first layers of fresh cultural paint had coloured the global canvas the renegotiated, synchronic situation left these early anthropologists once again to explain the newly created cultural areas. In order to make sense of the observed similarities between the various cultural areas these scholars postulated a distinction between

1 Adams *et al.* 1978 and Hakenbeck 2008 have served as fruitful starting points for this brief historical survey, albeit adapted to an Americanist and South American perspective.

2 Franz Boas imported many insights derived from German ethnology into early Americanist anthropology (see Boas 1887; Stocking 1974, 1996; Liss 1996; Barnard 2000:55).

macro-geographical cultural cores of independent inventions on the one hand, and the flow of cultural traits hereof into passive peripheries on the other hand (Goldenweiser 1925:19-22; Steward 1929:43; Kluckhohn 1936:159; Zimmerman 2001: 212-4; Harris 1968:260; Barnard 2000:55; Trigger 2006:278-9). As to the Caribbean and Amazonian region such an initial survey was composed by the socio-cultural anthropologist Julian Steward (1902-1972). Interconnecting the fragmented spectrum of earliest ethnographies and archaeologies, he presented his study on South American cultures.[3] Steward postulated the dissemination of certain cultural traits from the Andean cradle towards the circum-Caribbean area and from there to the tropical lowlands. In each of these macro-movements, people had lost more cultural attributes, gradually devolving from an empire to marginal tribes and nomadic groups (Steward 1949:768-72; Steward & Faron 1959:449-55).[4]

Americanist archaeologists had meanwhile relied heavily on such anthropological core-periphery concepts in order to obtain a diachronic grip, lacking appropriate temporal methodological handles themselves (Willey & Sabloff 1974:55-6; Barnard 2000:56; Lyman & O'Brien 2006:224-6). The direct-historical approach, for instance, was not initially adopted for hermeneutic purposes, but to obtain a fixed datum for unknown archaeological sites through their connection with historically known ones (Willey & Sabloff 1974:108-9; Lyman & O'Brien 2006:103; Steward 1942:337). In the early days of European archaeology, in a similar vein, the argument of human movement (in the form of both migration and diffusion) explained the spread of cultural traits from the innovative cradle of the Near East to Western Europe, but also provided temporal handles to cross-date archaeological periods of the European periphery on the basis of Near Eastern historical chronologies (Renfrew 1973:36-7).

In the Americas, where such written chronologies had not yet been discovered, the relative dating methods of seriation and stratigraphy across the Americas gradually came to provide the main handles for deconstructing the deep, homogenous past. Based on these methodologies, the initial anthropological distinction in centres of inventions and those

3 Steward borrowed the fourfold division of South American societies into Andean highland cultures, circum-Caribbean cultures, tropical forest cultures and marginal cultures from Cooper (Cooper 1941 in Steward 1946:4; Cooper 1942:7-14,17; compare Wissler 1917:229-44, see also Silverman 2008:7).

4 Interestingly a similar situation of increased resolution has recently triggered the movement perspective in Amazonian historical ecology. This view opines that the seemingly green blanket of 'primordial' forests has obscured the actual heterogenous anthropogenic nature of the botanical landscape for a long time. After ecologists and archaeologists have historized various localities and their continuities, Alexiades now pleads for (a) an academic departure from this often implicit focus on spatial stasis and (b) the reconstruction of the anthropogenic landscape in tandem with the Amazonian histories of people in movement (Alexiades 2009:1-3).

of passive followers could now be further explored in the temporal dimension too (Freed & Freed 1983:815-6; Barnard 2000:56; Lyman & O'Brien 2006:241). Americanist archaeology set off on its own course in a more independent manner starting from their socio-cultural colleagues (Steward 1942:339; Steward & Setzler 1938:4-7). As to Amazonia and the Caribbean, this implied that Steward's theories regarding the indigenous history of South America could be further deconstructed by archaeologists. Donald Lathrap (1927-1990), for instance, suggested a much earlier and more complex Amazonian development based on the archaeological finds and historical sources, and refuted Steward's perspective of the Amazonian periphery (Lathrap 1970:46-7,112). The Caribbean archaeologist Irving Rouse (1913-2006) doubted the Amazonian periphery hypothesis too. Moreover, he pointed at the lack of archaeological evidence for the Andean diffusion into the Circum-Caribbean area (Rouse 1953:196).

With the advent of radiocarbon dating, the latest and most revolutionary temporal deconstruction could be initiated into the archaeology of the Caribbean and Amazonia. The temporal dimension, once again, became revolutionarily deconstructed into smaller periods in time. Its discovery brought about significant consequences with regard to the concept of human movement in archaeology. The main consequence for the focus of the present thesis is that the higher resolution of time introduced a more in-depth insight into the paces and rhythms of human movements underlying the initial large 'arrows' on the continental maps. Invasive and event-like population migrations postulated during the pre-carbon dating period increasingly came to be renegotiated into gradual and complex social processes of movements of small groups of people (Clark 1966:172; Trigger 2006:382-4; Hakenbeck 2008:16-21; Curet 2005:61; Hofman *et al.* 2007; 2011). At present, radiocarbon dating has replaced the relative dating to become the new chronological backbone of archaeology in the region. It creates an archaeological framework for the region with an absolute resolution of *c.* 100 to 200 years.

In recent decades, Caribbean archaeology has yet again adopted new technologies and approaches in order to increase the archaeological resolution. These technologies such as DNA, stable isotope and geochemical analyses create the possibility to provenance (a) specific individuals by means of their skeletal remains and (b) objects by means of their chemical characteristics (e.g. Booden *et al.* 2008; Hofman *et al.* 2008; Isendoorn *et al.* 2008; Knippenberg & Zijlstra 2008; Laffoon & de Vos 2011; Rodriguez Ramos 2011). Besides these technological developments, archaeologists have increasingly ventured beyond the necessary 'phone-booth' excavations in refuse deposits, by thoroughly exploring and excavating an, as large as possible, horizontal extent of the site (e.g. Versteeg & Schinkel 1992; Hoogland & Hofman 1993; Samson 2010). By visualizing the full extent of an archaeological site, the quest has increasingly moved towards extricating the intra-site palimpsests and explaining its ultimate static and treacherously synchronic-seeming outcome.

Based on both these latest methodological innovations (Lightfoot 2008:3-4; Hackenbeck 2008:19-21) and the increased attention for the processes and practices of the intra-site, the discipline has been brought closer to the specific actions and movements of individuals. In archaeological theory, a shift has been suggested: from applying 'human movement' as the explanation for diachronic change in cultural assemblages towards a focus on the very act of 'human movement' itself (Adams *et al.*1978:523; Anthony 1990:908-9, 1997:29-30; Burmeister 2000:539; Lightfoot 2008:3-6). The technological innovations in archaeology can facilitate a mobility perspective 'from the ground up' (Hakenbeck 2008:20). Although the concepts of 'migration', 'mobility' and 'movement' have recently been re-evaluated (Wendrich & Barnard 2008:1-10; Lightfoot 2008:1-2), our existing archaeological interpretation and associations concerning these concepts still revolve around 'groups' of people. As has previously occurred with the advent of archaeological technologies (for instance, stratigraphy, seriation and radiocarbon dating) the current technological shift in scale and resolution of the archaeological data now also requires other interpretative 'anchors'. The archaeological pool of interpretative associations concerning individual movements on a micro level now seems understudied and awaits renegotiation. In my thesis I will provide a perspective that will contribute to the conceptualisation of the micro-level of movements of people and goods in the archaeology of the Caribbean-Amazonian region.

1.2 A counter-chronological approach with interactive analogies

> *"According to [Max] Black, an interaction metaphor, and the analogy it expresses, cut both ways. A metaphor of this sort is not simply an asymmetrical comparison in which the one side is held fixed, while the other is said to be 'like' the first in some more or less specified way. Instead, the meanings of the two terms of the metaphor interact, generating a new meaning, with the potential to shed new light on the referents of both terms."* Levine 2009:596 referring to Black 1962:38-47

Before addressing my research objective, several assumptions have to be mentioned in order to explain the adopted approach and direction. Firstly, I will now explain why this study was conducted in the present and why it is not only to be seen as a conceptual study aimed at explaining a different archaeological past, but also as an archaeology of its own recent period.

Secondly, I will reveal my subsequent adoption of a counter-chronological direction and how the mechanism of the interactive analogy has been utilized to construct a century of Trio movements. Thus, a conceptual and an archaeological specific study are combined in a single approach.

This research was conducted in the present since I consider archaeological interpretations to be based on two elements: (a) the analogical departure of every interpretation and (b) the constraints posed to these analogies by the archaeological data. The first of these two elements is based on the assumption that analogical projections start from a setting where material actions can be perceived directly. Although I agree with contextual archaeologists that material culture is meaningfully constituted (Hodder 1992:12), I do not believe we can actually 'read' these meanings solely through a careful analysis of its static material context. Instead, I adhere to the assumption that meanings and significances are ascribed to the material world by *perceiving it in action*.[5] We need the action to make sense of it. Therefore, analogy is understood here as information extracted from this arena of action (our own experience and from reported knowledge) which is subsequently transported to the archaeological data (Wylie 2002:165, van Reybrouck 2000:5; David & Kramer 2001:1; Verhoeven 2005:253). Reasoning further from this assumption, I argue that archaeologists who wish to reconceptualise their theories, also need to perceive material in action in order to restructure its significance.

The second element of archaeological interpretations is formed by the constraints posed by the archaeological data on these analogies. Some archaeologists who hold onto the uniformitarian principle refute ethnographic and historical analogies, because of their distortion of the unique past (e.g. Freeman 1968:262-5; Wobst 1978:303; see Cameron 1993:43); indeed, both ethnographic and historical parallels are capable of tyrannizing the past. The meanings and significances of matter associated in the present cannot be simply transported to the past in order to imbue the archaeological data with similar significance. This transportation of knowledge (analogy) needs to be confronted with the evidential constraints (Wylie 2002:194) that the archaeological data poses. The contrast emerging from the analogical projections and the constraining archaeological data results in a past that is different and unlike the analogical projections. Therefore, the definition of analogy utilised in the present thesis not only includes the associations or comparisons of similarities between entities, but also their emerging differences (see also Wylie 1982:383,393-394; Ravn 2011:721).

5 In the early 20th century Henri Bergson and George Mead postulated that meaning was not to be found in statics (objects), but was created in the perception of movement and action (Bergson 2004 [1912]:86-118; Mead 1982:120). In recent decades, scholars have come to re-embrace this idea (e.g. Lakoff & Johnson 1999:16-7; Ingold 2000:166-7;2011:13-4).

One example of such an archaeological analogy originates from Amazonia. Since Julian Steward and others had ethnographically formulated the Tropical Forest Culture in the mid-20th century, it has been dubbed the standard model (Viveiros de Castro 1996:180). Since then, it has since been explicitly and implicitly applied by archaeologists in order to interpret both Amazonian and Caribbean pasts. The Tropical Forest Culture can be roughly identified as slash-and-burn manioc cultivators inhabiting autonomous small villages counting between 20 and 50 inhabitants. These villagers are characterised by a high rate of residential mobility, which is mainly determined by the limits which the surrounding rainforest poses. This knowledge, that has often been transported to bring about an archaeological interpretation of Amazonian and Caribbean pasts, is the first analogical part of the archaeological interpretation.

The second part, however, focuses on the emerging differences between the present and the archaeological past. In recent decades the increase of archaeological evidence has been able to convince a majority of archaeologists that larger populations must have existed in the Amazonian past. The encountered archaeology did not resemble the material remains of the Tropical Forest Cultures. This persuasion started with Lathrap's reference to early historical sources in which large Amerindian populations in the Amazon region are mentioned (Lathrap 1970:46-7). The fact that this area did have enough potential to sustain large populations, also in the deep past, was later backed up by early radiocarbon dates resulting from large archaeological sites (Roosevelt *et al.* 1991; Roosevelt 1999:19-28; Isbell 2008:1147).[6]

It is in part due to a recent increase in deforestation that many geoglyphs and large habitation sites have been discovered which appear to be associated with either large patches of *terra preta* or raised fields (Petersen *et al.* 2001:100-103; Rostain 2008a; 2008b:284-298; see also Erickson 2008). When combined, these discoveries further strengthen the hypothesis that, in several regions in Amazonia, larger populations than those of the ethnographic Tropical Forest Culture could have existed up to the proto-colonial Amazonian past. Next to this direct evidence, indirect evidence has been sought, too, in order to show that the Tropical Forest Culture image in itself should be considered a post-1492 development (e.g. Denevan 1992:158-161, but see also Rival 2002:viii).

Instead of downplaying the application of these ethnographic analogies I argue that they have been essential for arriving at a significant unique archaeological past (see also Skibo 2009:39; Ravn 2011:719; cf. Jansen

6 This development led to a hypothesised continental core-periphery reversal as mentioned in the section 1.1.

& Pérez Jiménez 2011:210).[7] The contrast between the archaeological data and the ethnographic analogies has not only created a different past, which is unlike the present but, at the same time, it has also pronounced a *different* present. To refer to the philosopher Max Black (1909-1988), this analogy has 'cut both ways' (Levine 2009:596; Black 1962:38-47). The contemporary analogy does not merely 'subsidise' the archaeological period. Instead the analogy has brought both time periods into focus equally (*sensu* Black 1962:25-63) creating new questions for both. The knowledge extracted from both periods is equal in terms of validity, drawbacks and importance (see also Garrow & Yarrow 2010).

Although knowledge of the present and the archaeological past are equally valid, this does not imply that they can equally be accessed in terms of interpretation. An asymmetry of perception leads the direction of the analogy, from a situation with a greater degree of access to the perception of 'action' towards a situation where no perception of such action is possible. This implies that, although past and present are equally valid, the justification for the knowledge of the archaeological past is more strongly dependent on inter-subjective agreement for the adoption of plausible explanations, than the one for an interpretation of a similar event in the present, the potential replicative observations of which seems not to necessitate such an agreement (*sensu* Kosso 2001:78). This difference in jus-

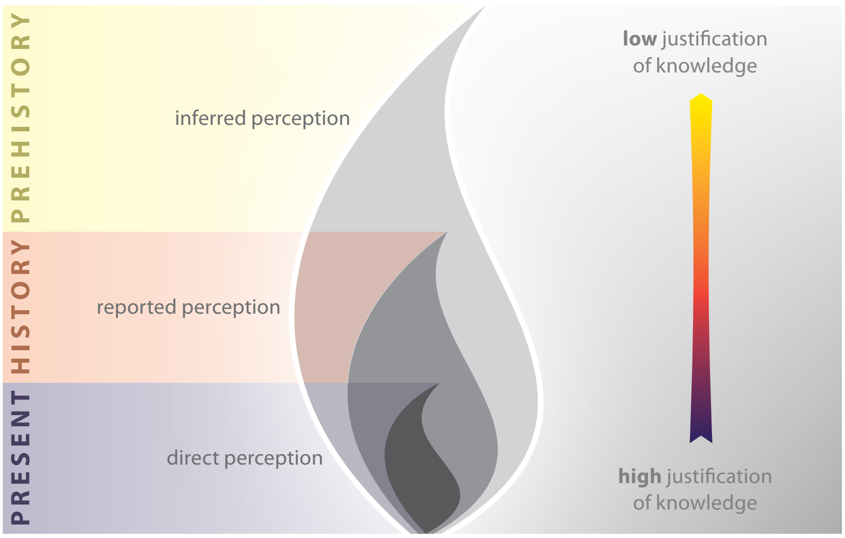

Fig. 1.1: The perception of action and its justification from present to past.

7 For an example of another developing analogy I refer to recent discussions on Pacific-European analogies on themes such as the 'Big Man' model, the discussion of which also seems to be relevant to the Caribbean and Amazonia (Spriggs 2008; Roscoe 2009; Ravn 2011).

tification mainly depends on the type of knowledge which is (a) directly observed by the researcher (high justification), (b) perceived through the reported experience of another (moderate justification), or (c) has to be inferred (low justification). Although these types of knowledge coexist in the present, they are divided into ethnography, history and archaeology respectively (see Fig 1.1). The assumption adopted here is that the direction of the analogy is therefore inevitably counter-chronological.

The counter-chronological direction of analogies explains the observed trade deficit between anthropology and archaeology (Garrow & Yarrow 2010; Yarrow 2010). Although archaeology requires ethnography and history in order to obtain the analogies of the direct observations of material in action, anthropologists on the other hand do not need to cope with the low justification of archaeological knowledge for their research. Archaeology in this respect should be seen as a discipline *beyond* ethnography and history. For a long time, ethnographers and archaeologists shared an interest in situated material culture. Anthropology gradually came to deviate from an explicit material focus during the mid-20th century. Much later the single site focus was lost too (see Marcus 1995; Hamilakis & Anagnostopoulos 2010:75-6). Next, these scholars concentrated more and more on un-situated cultural perceptions and group behaviour. Not surprisingly, archaeologists increasingly began to investigate the present themselves during the mid-20th century.

Archaeological research of the present has moved from an initial focus on the construction of analogies for the sole enhancement of understanding the archaeological past, towards a myriad of research perspectives in recent decades. These perspectives have moved away from this 'means to an end' approach towards perceiving the archaeology of the present as a study in its own right (e.g. Buchli & Lucas 2001:4; Meskell 2005:82; see also McAtackney *et al.* 2007). A large number of these recent research perspectives are now converging with socio-cultural anthropological approaches which have witnessed a material turn (e.g. Geismar & Horst 2004:5; Hicks & Beaudry 2010:1). These studies either focus on abstract un-situated dynamics of the material world (see also Hamilakis & Anagnostopoulos 2010:74-6) or on the perceptions of the archaeological past and how the past is socially constituted. In the present study I wish to add a perspective to this corpus which adopts a counter-chronological approach in order to construct a century of archaeological history in which interactive analogies come to play a central role. My research will deal with a recent archaeological period in its own right which primarily aims to connect to a preceding yet unknown period (see Fig. 1.2). The formulated archaeological concepts applied in the construction of the archaeological history of this period will also have value with regard to the archaeology of the broader Amazonian and Caribbean region.

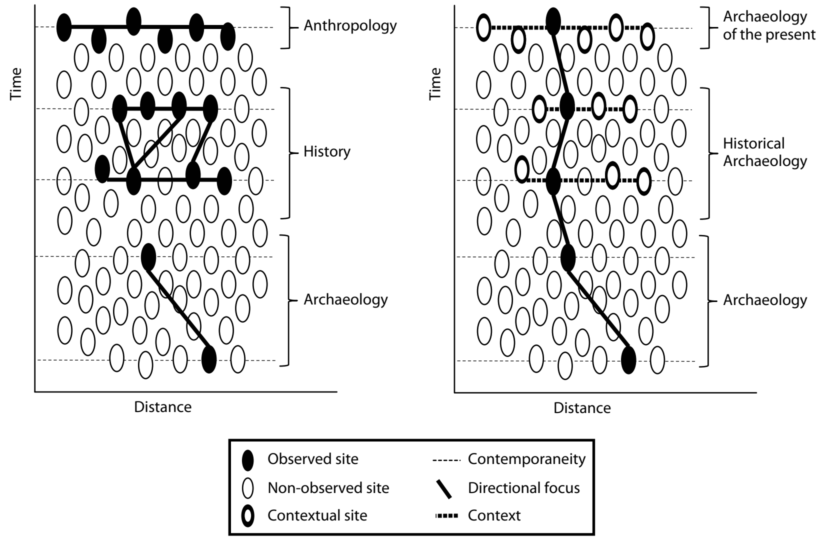

Fig. 1.2: Sketch of differing spatial and temporal disciplinary foci (L) and of proposed archaeological orientation in recent periods (R).

1.3 From the concept of mobility to a century of Trio movements

Taking the research objective and the methodological considerations on board, this thesis aims at delivering the following results: (a) to renegotiate the present group mobility perspective in archaeology by further deconstructing it into various conceptual spheres of human and object movements. These interpretative handles will help conceptualise the micro-level of mobility and migration in Amazonian and Caribbean archaeology, (b) to apply these movement concepts as interactive analogies to shed light on a centennial process of archaeological movements and (c) a final result of my research will produce a specific archaeology of recent times in the Surinamese basin of the Corentyne River creating a fruitful starting point in order to ultimately enhance the comprehension of the post-1492 archaeology of that particular basin.

This study will begin by focussing on the present-day Trio village of Amotopo. Here the movement and action of humans, animals and goods can be perceived, as well as how their interaction takes shape and becomes shaped by the newly constructed material matrix. My research is situated by means of adopting archaeological parameters. The choice for a single-site perspective originated from the awareness that an often suggested contemporaneity of sites (a synchronic multi-site perspective) is not an observable archaeological reality in the prehistoric Caribbean and Amazonia.[8] Due to the present-day calibration margins of radiocarbon dating (rarely with a higher resolution than a period of 100 years), contemporaneity between sites can only be assumed or inferred. By documenting a single village along archaeological parameters, an anchor in time is created enabling future comparisons with earlier archaeological sites that pre-date oral and written histories.

Within the boundaries of an archaeological site we can start to reason towards a movement terminology. We set off very basically by establishing that beings and objects present at a certain archaeological site must once have moved to this specific place. On this notice, our new archaeological parameters come to play. For example, individual *x*, ultimately buried at archaeological site Z, moved from a certain region to this archaeological site. Although this individual most probably did visit other places in his or her life, his/her archaeological trajectory (the 'arrow') runs from region *x* (where he or she was born and raised) to the archaeological site where his/her skeletal remains were excavated. In a similar vein, the trajectory of a certain species of fish that can only be caught in a certain season in a certain habitat, will ultimately lead to the refuse deposit in archaeological site Z. The same goes for durable objects. Though a ceramic sherd might have its raw material origin in clay quarry *y*, its final deposition is at the archaeological site Z. All trajectories ultimately lead to the archaeological site under investigation, but at the same time these trajectories also form the key to comprehending the movements of their carriers. The archaeological mobility of the site in the present thesis is therefore approached as the sum of all movements and trajectories (see also Wagner 1986:21; Ingold 2009:36-7; see also Lightfoot 2008:20; Sheller 2011:5).

With these archaeological parameters in mind I initiated the present research in 2007. That same year, in Paramaribo, I met Atinio Panekke, the son of the captain of the Trio village Amotopo, after having been introduced to him by the linguist Dr. Eithne Carlin. Atinio and his father were willing to 'adopt' me into their village. I accompanied them on the Corentyne River (visiting the Trio villages of Sandlanding, Wanapan and Lucie along the way) to finally reach Amotopo. Here I spent six weeks during the rainy season of 2007. During that time I started to map the village of Amotopo. After returning to Amotopo in 2008 for another three months I continued to map the remaining part of the village and started documenting the differences when compared with my research of 2007. During this fieldwork I observed the movements of the inhabitants and

8 One could potentially make an exception for archaeological sites connected through paths or causeways, e.g. see Heckenberger 2005.

their objects in and out of the village, but also interviewed the Amotopoans on the trajectories of their objects in the village as well as their own movements in the past.

Moreover, I recorded the Amotopoan movements out of the village by means of a GPS device, while participating in hunting and fishing trips and visits to gardens. The goal of this was to track the objects entering the village via own procurement (fish, game, crops and firewood). In addition, I also tracked objects that entered the village due to exchange with people from other villages, as well as those leaving the village. These movements I was able to observe directly. In this way the village flux could be determined for certain types of objects. In correspondence to the abovementioned asymmetry of perception, I subsequently focused on the reported movements of the Amotopoans and their objects. In semi-structured interviews the Amotopoans were questioned as to the sequence in which the structures in the village had been built from the year it had been founded up to 2008. The Amotopoans also informed me how they had accumulated the items belonging to their house inventories: when they had received certain objects, where the exchange had taken place, and from whom they had received them.

Speaking of movement instead of mobility therefore not only facilitates the discussion on the movement of people, but also the movement of objects (cf. Sheller 2011:5). In the discipline of archaeology both movements must be considered as inextricably linked. To accentuate the mobility perspective, the material village was envisioned as comprising matter that was moving, referred to here as *mobilia*. *Mobilia* can simply be defined as all matter that human beings bring to a site. Humans themselves are the most important *mobilia*, since they introduce material into a site. The other *mobilia* move between between places because the humans transport them. Not all move in a similar way, and they can be divided into various categories. For instance, the movement of roof supports (for the construction of a house) shows a different trajectory than that of a metal pan. The trajectories of different classes of *mobilia* therefore attest to various spheres of human movement.[9]

In archaeology, on the other hand, there is no longer any movement; the site and its components can all be considered *immobilia*.[10] Of interest therefore is the focus on the transition of *mobilia* into *immobilia*, to magnify the process of how elements (such as bodies and objects) come

9 Here the term 'sphere' is preferred above 'dimension' in order to refer explicitly to the material correlate of human mobility (cf. Kelly 1992:43-4; Curet 2005:60-1; Politis 2007:24-5), and is more specifically understood to be a measurable space delineated by human material influence.

10 Needless to say, the terms *mobilia* and *immobilia* are not new and have been used by many European archaeologists to refer to a group of portable artefacts and the built environment respectively.

to a standstill while others remain perpetuated in their movement towards other places. This process is referred to here as village flux. The following questions now rise. How do various spheres of *mobilia* and *immobilia* attest to the trajectories of people and objects? How do people and objects move to other villages and how do others in turn enter the village? How does the creation of *immobilia* in a certain village, the rendering immobile of matter, in turn determine trajectories of other *mobilia*? Can this be linked to the movement of individuals? And how does this play out beyond the level of a single village, let us say over the course of a century?

Subsequently, the movement concepts resulting from the study in the village of Amotopo are counter-chronologically ‘rooted’. This perspective will move our concepts of human and object movements towards another time scale: the effects of change in human movement and the material spheres concerning the same group of people (the Amotopoans and their direct ancestors) over the period of a century (1907-2008). The information on Trio movements in the Surinamese basin of the Corentyne River is not continuously distributed over this period. A decision was made to focus on three separate and smaller periods within this century. The same questions and concepts for the village of Amotopo were also applied for these other two periods. By adopting a counter-chronological approach due respect was paid to the asymmetry of perception. This implied that the most recent period was placed in an interactive analogy with the preceding period. The latter in turn was contrasted in an interactive analogy by the earliest period. The ultimate result of this counter-chronological approach is to overcome the discreteness of the three sequences. The differences they together express, by means of the interactive analogies, were finally interpolated in order to arrive at a continuous century of Trio movements.

1.4 Brief structure of the thesis

In Chapter 2, a short introduction to the social and the biophysical context of the area of study is provided. Here the Eastern-Guianese ethnography, geology, hydrology and ecology will be discussed as to the extent of Trio movements over the period of a century (1907-2008). Chapter 3 documents a detailed archaeology of the present-day village of Amotopo. Here the *immobilia* are emphasised in order to provide us with the static dimension to which archaeologists are accustomed. The structural features that have already left lasting traces in the soil and in the young history of the village are dealt with. In this chapter, archaeological features and correlations that clarify spatial relations are discussed which will show its merits in future comparisons with preceding archaeological periods.

In Chapter 4, the dimensions of *mobilia* are discussed. The trajectories of both people and objects are placed in concert with each other. The *mobilia* are divided into different categories based on their relationships to certain archaeological spheres of movement, namely subsistence *mobilia*, exchange *mobilia* and residential *mobilia*. In Chapter 5 the Amotopoan village is diachronically compared with various villages over the period of a century through the application of interactive analogies. Based on analogical comparisons a history of material change can be distilled. The results will be discussed in the final Chapter. Moreover, the proposed aims and questions posed in this Introduction will be answered.

Chapter 2

Introducing the Trio and their environment

I will briefly describe the social and biophysical context of the present case study in this Chapter. As mentioned in the Introduction, the empirical part of my research (Chapters 3 and 4) will focus mainly on a specific Trio village (Amotopo). Chapter 5 will deal with a century of Trio movements in the Surinamese Corentyne basin. The provided social and biophysical data will facilitate contextualization with regard to the subsequent Chapters.

In the first section of this Chapter (2.1), I will introduce the geographical setting of the Trio and the social landscape in which they live. A survey of the various Trio groups and agglomerations in both Suriname and Brazil will be provided. Moreover, the reasons and assumptions for choosing the Trio village of Amotopo, and later the wider Corentyne basin, as a case study for my contemporary archaeological research will be explained.

A presentation of the biophysical context of this specific Trio area is initiated in 2.2. The emphasis will lie on the variety within the 'interior' which is normally perceived as one homogenous 'pristine' rainforest. In this section the above-mentioned presentation is launched 'from the ground up' by briefly discussing the landforms and geology of the area which will be referred to in the ensuing Chapters.

I will move the focus from the land perspective to 'the land of water' in 2.3. Over the century the rivers have gained in importance as to the Trio and their movements. The hydrology of the Corentyne basin will be contextualised. Water, however, not only flows through the rivers, it also falls from the sky. The seasons in this region, which are divided into either 'wet' or 'dry' and have a large impact on the annual rhythms of Trio life. A number of climatological aspects will also be discussed.

The fourth section (2.4), contains a sketch of the vegetation varieties which grow on the land and water inhabited by the Trio.[11] Based on the few botanical studies conducted in the interior, an attempt is made to present a number of vegetation types and gradients for the Corentyne basin.

The final section (2.5) consists of a brief summary of the Trio region.

11 The local fauna, which is of great importance to the Trio, will be introduced in Chapter 4.

2.1 Regions inhabited by the present-day Trio

The Trio form an indigenous conglomerate of subgroups that are unified as a single group who speak the Trio language (see Fig. 2.1). This language belongs to the Cariban language family (Carlin 2004:7). In all things national and international, this group is referred to as 'Trio' This term covers the Trio inhabiting the Republic of Suriname and the '*Tiriyó*' who live in

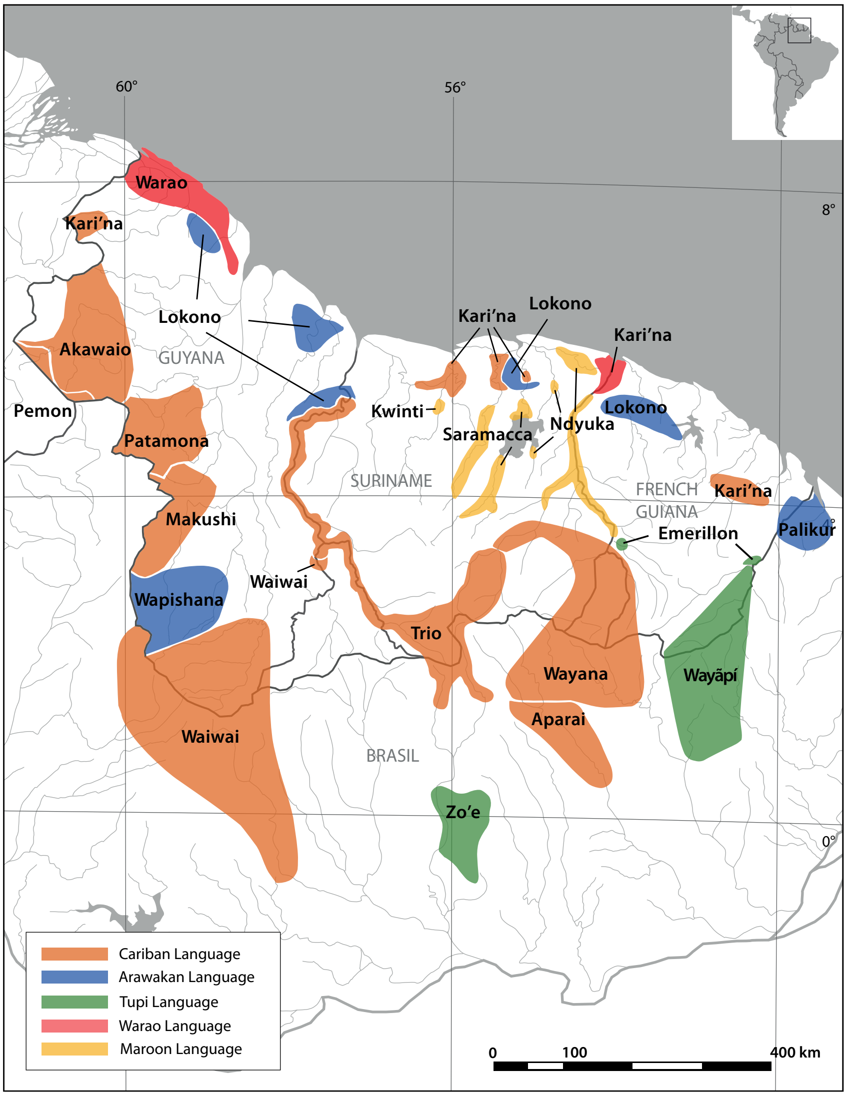

Fig. 2.1: Sketch of the ethno-linguistic group of the Trio and their neighbours. (adapted from SIL maps for Suriname, Guyana and Guyane, ACT maps and ISA for the locations of Parques Terra Indigénas).

the Federative Republic of Brazil.[12] When dwelling on Trio land, the Trio refer to themselves as '*Tarëno*', which literally translates as '*the people here*' (Carlin 2004:1). In 2007, the Trio villages of Suriname and Brazil counted *c.* 2.761 inhabitants.[13]

2.1.1 Trio agglomerations and groups

The central research theme of this thesis being the movements of the Trio, we can already split this Trio 'blob' on the map into several smaller parts which helps to locate the specific context of the empirical study (see Figs. 2.1 and 2.2). This division is established on the basis of the time it takes to travel from one village to another. Some villages lie in closer proximity to each other than others. In several cases they form clusters between which social connectivity is closer. Peter Rivière adopted this travel-time distribution of villages from Lodewijk Schmidt who was the first to describe the location of multiple Trio villages during the early 1940s.

Back then, the system was set up on the basis of the number of days one had to march to get from one village to another.[14] The largest entity was that of the 'group'. Between the three groups known at that time you had to march between 3 and 4 days to travel from a village in the one group to the closest village in the other group. Within such a group, a distinction could be made between certain clusters of villages which Rivière referred to as 'agglomerations'. Villages within the same agglomeration should be

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12 For the sake of clarity I henceforth refer to the Surinamese Trio and the Brazilian Trio by means of the term 'Trio'. The Trio group as a whole transcends the political boundaries of Suriname and Brazil. However, the political boundaries have created two different spheres of influences which have affected both the Surinamese and the Brazilian Trio in a different manner. Therefore, the term 'Surinamese Trio' is applied when referring explicitly to the Trio in Suriname and the term 'Brazilian Trio' when referring specifically to the Trio in the Pará state of Brazil.

13 Over the past decade scholars have provided differing demographic numbers for the Trio living in Suriname and Brazil. The majority of these numbers implicitly refer to a definition of 'Trio' as people inhabiting a predominantly Trio-speaking village. The total number of Trio provided in the text is combined in the following way. The last count of the number of 1,492 Surinamese Trio' in 2007 is provided by Heemskerk and Delvoye. It excludes the Trio living in the village Palumeu and in the capital Paramaribo (Heemskerk & Delvoye 2007:4). Adding Carlin's count of 150 Trio in the village of Palumeu (Carlin 2004:4) to this number, we arrive at an estimate of 1,642 Surinamese Trio (The Trio in Paramaribo are excluded because almost all of them are visitors who had travelled from other places of residence). Because the Brazilian side also arrives at an estimation for the year 2007, a prognosis is calculated on the basis of a count of 939 inhabitants of Tiriyó villages in 2003. Applying Grupioni's calculated positive demographic growth rate of 4.5% (Grupioni 2005) we can present a prognosis for 2007 of *c.* 1,119 inhabitants. Combining the Surinamese and Brazilian data we can assume that there are 2,761 inhabitants in Trio villages anno 2007. Needless to say, this total is much higher than the actual number of native Trio speakers living in these villages. In 2004, Carlin estimated their number to amount to *c.* 2,000 for both Suriname and Brazil.

14 At that time the majority of the villages were not located along the larger rivers, but on the banks of the small creeks away from the larger rivers (Rivière 1969:37, see also Chapter 5).

able to be reached within a 1-day march. The travelling distance between agglomerations was at the most a 2-day march (Rivière 1969:37).

Once the Trio had adopted dugout canoe technology in *c.*1950 (Rivière 1969:50), followed by the outboard engine (cf. van Stipriaan 2011:37-9), the forms of travel has increased. Nowadays it is perhaps more fitting to speak of the number of days it takes to travel with a canoe than it does to travel by foot. However, in some instances you still need to walk part of the distance to get from one river to another, or to get around a cataract. Apart from these two modes of travel, a third mode became more and more important: travel by plane. Nevertheless, despite its increasing importance, it does not seem to serve as a reference when discussing the distance from one village to another. With this concept of 'days travelled' we can still classify the distribution of the Trio settlements today despite the changed technology which has led to an increase in absolute distances.

Presently, the Trio villages, as in the time of Schmidt, appear to be distributed over three groups separated from each other by more than 2 days of travel by boat. These groups are: (a) the Eastern Trio Group, (b) the recently established Western Trio Group and (c) the large Southern Trio Group found in both Suriname and Brazil. Since all present-day villages are built near the main rivers, I plotted the agglomerations as elongated shapes following the rivers, roughly visualising the Trio landscape (see Fig. 2.2). Due to this orientation, the agglomerations are also named after the

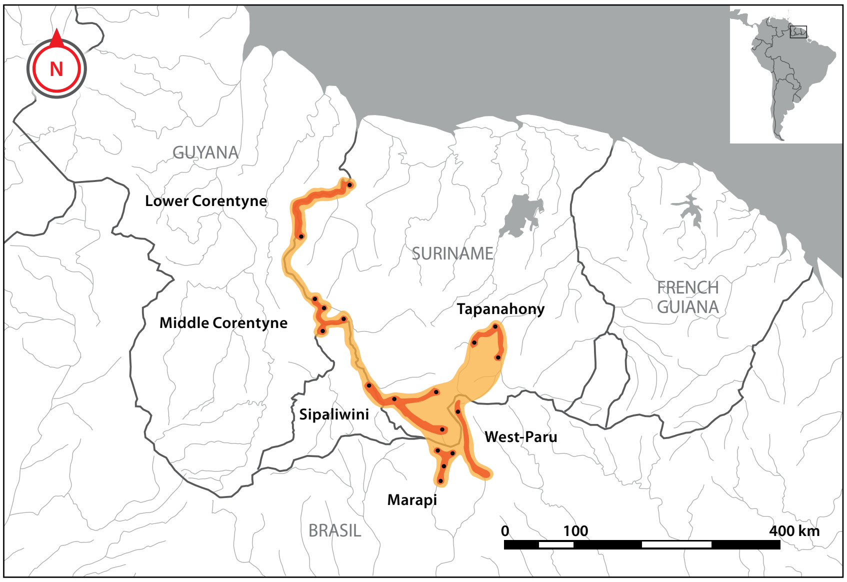

Fig. 2.2: The six Trio agglomerations. (The agglomerations are shown in dark grey and the connecting corridors in light grey. Map adapted from The Times Atlas, ACT 2000, Grupioni 2002 and Carlin 2009).

tributaries or rivers along which they are geographically positioned. Four such agglomerations are located in Suriname and two in the state of Pará in Brazil.

The Southern Trio Group contains one Surinamese and two Brazilian agglomerations.[15] The Surinamese Trio agglomeration within this group is situated in the Sipaliwini. It consists of the villages of Kamani, Kwamalasamutu, Sipaliwini and Alalapadu II,[16] can be considered the most southern Surinamese Trio agglomeration and occupies the Sipaliwini tributary of the Corentyne River. The two agglomerations in Brazil have an east-west separation and are both located in an area that has recently been declared to be protected as *Parque Indígena Tumucumaque*. The first Brazilian Trio agglomeration which is positioned in the west of this park can be named the Marapi agglomeration. It includes the villages of Aiki, Kusare, Urunai and Jawa. To the northeast hereof lies the West-Paru agglomeration with the large village of Missão Tiriyó in the north.[17]

In the Eastern Trio Group we encounter the second Surinamese Trio agglomeration, the Tapanahony agglomeration. It consists of the villages (Përëru) Tëpu, Palumeu and Kasikasima. In Palumeu, the Trio and the Wayana live together. The youngest of the three groups, less than 20 years old, is the Western Trio Group. This group counts two agglomerations identified as the Middle Corentyne agglomeration and the Lower Corentyne agglomeration. The latter includes the villages of Wanapan and Sandlanding, that is situated next to Apura in the north. The Middle Corentyne agglomeration consists of the villages of Lucie, Amotopo, Casuela and Kuruni.

2.1.2 Amotopo and the Corentyne River as case study

The case study I chose is the Trio village of Amotopo, which is located in the mid-west of Suriname on the east bank of the Corentyne River. I feel it is important to render any assumptions transparent before continuing with the further introduction of the biophysical context (*sensu* David & Kramer 2000:77-9). This also applies to my reasons for choosing a spe-

15 With the exception of the Western Trio Group, where days of travel could actually be observed, the boundaries of the agglomerations of the two other groups were harder to determine. The agglomerations of the Southern Trio Group were ascribed according to their distribution along separate tributaries. Further research will need to determine whether the boundaries of these agglomerations are correct.

16 A distinction has been made here between two different occupations of the same village area (see Chapter 5). 'Alalapadu I' refers to the occupation during the 1960s and 'Alalapadu II' to the most recent occupation of this area which began several years ago in 1999 (Heemskerk & Delvoye 2007:32).

17 Grupioni has mentioned another Trio agglomeration or group living further west at the headwaters of the Citaré, a tributary of the East-Paru River (2002, 2005). However, details on the number of villages, their names and the exact locations are lacking.

cific case study as discussed in the Introduction (see 1.3). There are three reasons for my choice to conduct a study among the Trio people, and the Trio village of Amotopo.

The first reason is that links had already been established between the Trio and Leiden University thanks to a decade of research forwarded by the linguist dr. Eithne Carlin in Suriname. Once introduced by her to the Amotopoans, I gained their trust at a much quicker pace than having to do so by myself. The second reason relates to my assumption that the material culture of the Surinamese Trio and the environment they had created was predominantly shaped by the materials extracted from the surrounding forest. Initially my pre-fieldwork focus aimed at the relation between perishable and non-perishable material culture. Therefore, I regarded the Trio to rely on their direct environment as an important prerequisite. This certainly had to be the case for the small community of Amotopo. Members of the family belonging to this community had collaborated with dr. Carlin on her research on Trio grammar more than 10 years ago when they were still living in Kwamalasamutu. Not much later, they had moved northwest in order to found a new village called Amotopo.

A third reason for choosing the Trio was the assumption that their movements must surely be predominantly embedded in a social Amerindian framework. The Trio inhabiting the deep interior had no direct permanent contact with the people living along the coast until Operation Grasshopper commenced in the early 1960s (Rivière 1969:14). This operation involved constructing airstrips in the interior which would improve its accessibility as to future geological investigations (Butner 1961:6-9). It also brought the Trio into contact with missionaries who had utilised these airstrips with governmental permission (Rivière 1969:14-15). From that moment on, the Trio had come into more permanent contact with the people from the coast. However, since the Trio and the people living on the coast are nowadays only connected by means of either river or expensive air travel means that these lines of contact are of less influence when compared with more northerly Surinamese Amerindian villages that are connected by roads.

These second and third reasons for choosing to conduct a study among the Trio, on the one hand, and the community of Amotopo, on the other hand, originated from my initial research focus on 'perishable' artefacts. The fragments of material culture that archaeologists encounter during excavations is only a small part of the total inventory of a material culture. An estimated 80-90% of the material culture can be considered 'perishable' in the long term and will not be encountered by archaeologists (Drooker 2001:6; Boomert 2000:14). One should think of organic materials such as gourds, calabashes, pigments, wooden artefacts, plaited baskets, feather works, animal skins, and so on. Likewise, in Amotopo, I had expected to encounter a high number of perishable artefacts and had planned to investigate (a) the ratio between perishable and non-perishable material culture and (b) the production sequences of perishable artefacts.

Dr. Carlin kindly introduced me to Atinio Panekke in Paramaribo. Once he and his father, the captain of Amotopo, had granted permission to conduct research in their village, I was allowed to stay there for a period of 6 weeks. Having left Paramaribo, I accompanied the Amotopoans up the Corentyne River to their village. When visiting the first Trio village upriver (Sandlanding) I observed that the Amotopoans were given perishable artefacts such as plaited cassava squeezers and cassava sifters. When asked why they took these objects with them from this village, they informed me that they themselves did not have the knowledge to make such objects. After a long journey we arrived at the village of Amotopo. Instead of coming across quite a large quantity of perishable material culture consisting of materials extracted from the direct surrounding environment, I observed an abundance of metal pans and plastic cups, plates and pots (see Fig. 3.18). My naïve research expectations were shattered.

Initially I wished to visit other Trio villages, too, but had already promised the Amotopoans to conduct my study in their village. Moreover, a shortage of gasoline occurred in Amotopo preventing further travel to other villages. 'Forced' to stay in the village of Amotopo I started to map it in collaboration with Atinio Panekke. After merely focussing on the wooden 'perishable' structures, my work soon expanded into mapping the entire village. Having asked Atinio about any ancient Trio stories relating to the construction houses, he answered, 'We are not like that anymore, we are the new Indians.' Feeling confused by his remark at first, it became apparent I had to reorient my research focus. During my second fieldwork period, I deliberately chose to return to Amotopo, now with a map of this village in hand.

On this second fieldwork period I took a copy of Peter Rivière's *Marriage among the Trio* (1969) along with me. This anthropologist had conducted a kinship study in the Trio villages of Palumeu and Alalapadu during the early 1960s. He mentioned the names of the captains of Amotopo and of the nearby village of Lucie in his social inventory that deals with the villages of Alalapadu and Palumeu. The captains showed great interest in all the names Rivière provides. Needless to say, they were familiar with these names and intrigued, too, by the photographs Rivière had taken in their former villages. The Amotopoans expressed the wish to further investigate their social history.

Combining my archaeological interests with the interests of the Amotopoans, I decided to reorient my research from the planned focus on the relation between 'traditional' perishables and non-perishables to the focus on the movements of the Amotopoans. The reason being, first and foremost, to trace the movements of the Amotopoans and their objects in and out of their village, and secondly to trace their ancestral movements over a period of more than 100 years (1907-2008). This leads us to the headwaters of the Corentyne River. Thus I came to explore my initial confusion with Atinio's remark (on being the 'new Indians') in order to see how the Trio have changed over a century, from an archaeological perspective.

The village of Amotopo constitutes the heart of the empirical part of the present thesis. It is positioned in the Middle Corentyne agglomeration and the upper Surinamese Corentyne area where nowadays the Sipaliwini agglomeration is situated. In the following discussion on the biophysical setting, the Corentyne River will therefore take centre stage in the biophysical description.

2.2 Landforms of the Corentyne River

> *"The Guiana Shield could be described as a land of old rock, poor soils, much water, extensive forest and few people. These five attributes, perhaps better than any other, lay down a foundation for much of the geographic and historic variation that has shaped the shield, its forests and the way these have and will be conserved and used."* Hammond 2005:1

Let us begin with the biophysical context 'from the ground up'. As stated in the above quote, the Guiana shield mainly comprises of old rock and poor soils. For the purpose of the present thesis, we will focus on the eastern Guianas through which the Corentyne River flows. This river can roughly be said to transect three macro-landforms presently inhabited by the Trio. From north to south, these macro-landforms are the sediment basin, the Precambrian Rolling Hills and the Guiana uplands (see Fig. 2.3).

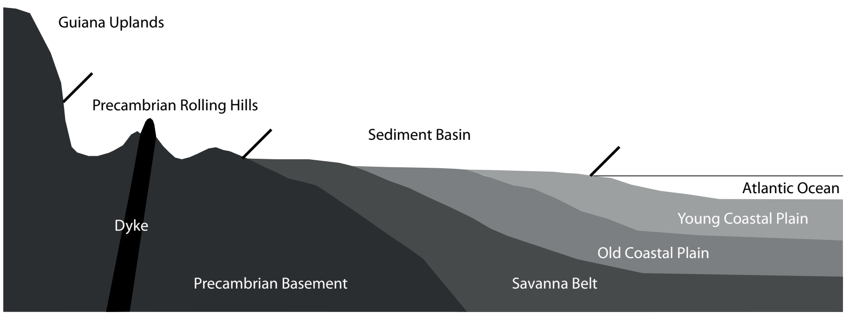

Fig. 2.3: Simplified north-south section of Guiana (adapted from Noordam 1993:15; Krook 1984).

2.2.1 Sediment Basin

We can observe the Precambrian shield *'from sufficient altitude as a weathered island surrounded by Tertiary and Quaternary sediments'* (Gibbs & Barron 1993:3).The accumulation of sediments in the northern part of the Guianas is referred to as the Guiana Sediment Basin (Groen 1998:130) or the geological Berbice Province (Gibbs & Barron 1993:16; Snelling 1995:123[18]). This sediment basin in turn can be divided into Holocene, Pleistocene and Pliocene sediments.[19]

Moving south from the Atlantic, we first encounter the Young Coastal Plains as deposited in the Holocene, forming the present-day Atlantic beaches. Behind these beaches the Old Coastal Plains surface as deposited during the Pleistocene (Noordam 1993:49). Together they are referred to by Hammond as the Recent Coastal Plains and can be found from between 10 m below and 10 m above sea level (Hammond 2005:44-5). These plains in turn overlie the Pliocene sediment of the Savanna Belt or Tertiary Sand Plains (or Zanderij Belt, a white sand formation) which surface between 10 m and 50 m above sea level and run parallel to the Coastal Plains (Noordam 1993:14-5; Hammond 2005:45). In short, this Guiana Sediment Basin was formed in the Tertiary and Quaternary and can be found up to 50 km inland (Hoffman 2009:50).

2.2.2 Precambrian Rolling Hills

Beyond these 50 km, between 50 m and 300 m above sea level, we encounter the much older Precambrian Rolling Hills (PRH) (Hammond 2005:45-6; Hoffman 2009:51). This typical landform represents an undulating granitoid landscape which was created 2 billion years ago. It is shaped by means of a process of synclinal folding and differential weathering resulting in the hills, ridges and valleys we observe today (Hammond 2005:45-6; see Fig. 2.4). This landform covers half of the Guiana shield and stretches from Eastern Colombia to the state of Amapá in Brazil.

In other parts of Suriname broad metamorphic belts of older age are exposed. The first is a low-to-medium grade metamorphic greenstone belt which runs from the west to the east along the Guianan coastline and

18 Here Snelling's correction of Gibbs & Barron's geological Berbice-Boa Vista province is preferred.

19 For the sake of comprehension I equate the similar concepts of Noordam's 'geographical zone' with Hammond's 'land form'. Noordam defines a 'geographical zone' as 'a typical combination of landscapes, soils and hydrological conditions' (Noordam 1993:13). Hammond defines a 'land form' as a sub-region that acquires significance by its topographical, geological-historical, hydrological and soil characteristics in which elevation, as a principal factor, binds these characteristics for the Precambrian (Hammond 2005: 44). It is not my goal here to exhaustively introduce the local geology. However, discussion on 'land forms' facilitates the introduction of several unique geological characteristics.

has an age of *c*. 2.18 - 2.13 billion years or Ga (Delor *et al.* 2003:213; Kroonenberg & de Roever 2010:14). The most northern Trio village (Sandlanding) is positioned on this greenstone belt albeit covered with tertiary and pleistocene sediments. A younger granitic suite (2.11 - 2.08 Ga) with a northwest-southeast orientation (Delor, *et al.* 2003:216) covers a huge part of the eastern interior of Suriname extending into the western and southern interior of French Guiana. The Eastern Trio Group seems to be entirely positioned on this suite.

Moving from the north to the east, we now return to the west of Suriname. The above-mentioned greenstone belt in the northern Suriname is, in turn, intersected by a younger high-grade metamorphic band which was formally referred to as the Central Guiana Granulite belt. This belt was once considered to extend from west Suriname towards southern Guyana and into Brazil. Due to fresh evidence it is now thought to divide them in two (Delor, *et al.* 2003:218; Kroonenberg & de Roever 2010:14; cf. de Vletter *et al.* 1998:34,38). The older part consists of the Falawatra Group (2.07 - 2.05 Ga). It has a southwest-northeast orientation and extends into the Bakhuis Horst in the northeast. The younger part, which some scholars now consider to be the new Central Guiana Granulite belt, is formed by the gneisses of the Surinamese Coeroeni Group in the southeast of the Corentyne basin and the Kanuku complex in Southern Guyana (2.05 - 1.81 Ga) (Delor, *et al.* 2003:218; Kroonenberg & de Roever 2010:14). The Trio living in the Middle Corentyne agglomeration are positioned on the north-eastern part of this new Central Guiana Granulite Belt.

These above-mentioned groups and belts are surrounded and covered by eroded low grade *'acid to intermediate metavolcanics'*, generally referred to as the Uatumã suite dated 2.01-1.96 billion Ga (Delor *et al.* 2003:218; cf. Kroonenberg & de Roever 2010:15). The Trio village of Wanapan in the lower Corentyne River, for instance, is positioned on this suite, as is the larger Trio village of Kwamalasamutu in the deep south. The final geological features to be mentioned here are the youngest smaller magmatic intrusions of the Precambrian rock. The dolerite dykes, as they are called, came into existence by intruding through the fissures of the older rock (see Fig. 2.3). They now appear on the geological map as elongated 'stripes'. These dykes are of various more recent times: 1.8 Ga for Avanavero sills and dykes and 1.5 Ga for Kayzer dolerites (Delor, *et al.* 2003:219-220; Kroonenberg & de Roever 2010:20-1). These dates also imply that weathering and erosion has had relatively less impact on them than it has had on the older geological matrix they have penetrated.

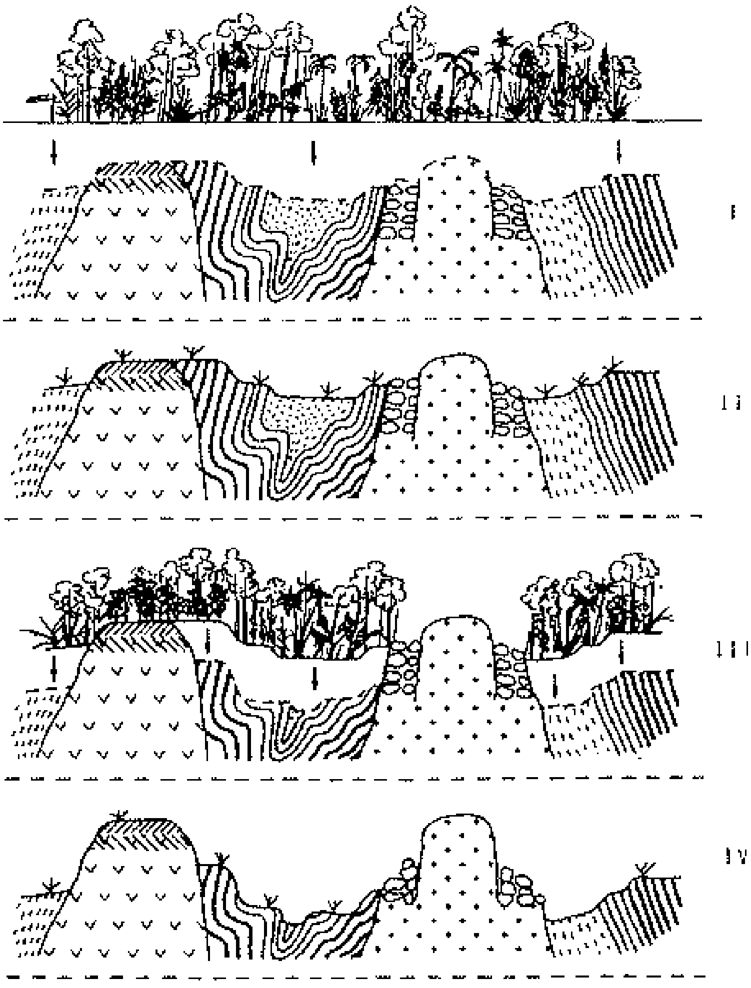

Fig. 2.4: The development of erosion and weathering of the undulating granitoid landscape (Kroonenberg & Melitz 1983:398), reprinted with permission of the first author.

2.2.3 Guiana Uplands

Higher than 300 m above sea level up to 1500 m we encounter the Guiana Uplands, which Hammond considers the second most important landform. Discussing the Guiana Shield as a whole, he juxtaposes the Guiana Uplands with the Guiana Highlands (1500 - 3000 m) which are only found in the Western Guiana Shield. In the Eastern Guiana Shield (between 300 m and 800 m above sea level), all hills and mountains are of a non-sedimentary origin. Due to localized differential weathering of the country rock granites, granulites and dolerites became exposed, taking on the appearance of isolated massifs and ridges (Hammond 2005:47). Above 800 m, Hammond continues, the variety of geological structures include granitic intrusives, granulitic horsts as seen at the Bakhuis and Wilhelmina Mountains (the higher elevations of the granulite belt) and ancient metamorphosed volcanics of the Uatumã suite. Most hills and mountains above 1500 m, all to be found in the Western Guiana Shield, are sedimentary in origin and comprise the tablelands also referred to as *tepuis* or *tafelbergs* (Hammond 2005:46). In Suriname there is only one *tepui* outlier. It is called the *'Tafelberg'* and has a relatively modest elevation of 1026 m.

The geological Tumuc-Humac complex is a belt of strongly sheared high grade rocks characterised by dome-shaped granite hills (also referred to as *inselbergs*). This complex houses a series of highland massifs that run perpendicular to the Central Guiana Granulite Belt (Gibbs & Barron 1993:44; Hammond 2005:38). The Acarai mountain chain (1009 m) divides the Amazon and the Guiana river basins in the southwest of Suriname and the south of Guyana (Roraima province). The Tumuc-Humac mountain chain (maximum elevation 701 m) does this in the south-east. This 120 km stretch forms the border dividing the mid-south of Suriname and southern French Guiana on the one side, and the state of Pará and Amapá in Brazil on the other. From the Tumuc-Humac Mountains towards the main Amazon River the landscape drops in elevation and is mainly shaped by the lower lying metamorphosed volcanics of the Uatumã suite and weathered granitoid rocks that Gibbs and Barron summarized together as the geological Uatumã-and-Roraima province (Gibbs & Barron 1993:17).

2.3 On hydrology and climate

In order to move our contextual discussion from the ground to the forest, we first need to discuss the local hydrology. The contemporary Trio live on the broad stretches of the rivers. Nowadays these rivers should be considered highways which determine a great deal of their everyday lives. 'Water' also determines their existence in terms of climate. The seasons, roughly divided between 'wet' and 'dry', dictate their annual rhythms. The subsequent discussion is mainly steered towards contextualizing the Trio on the Surinamese Corentyne basin.

2.3.1 Hydrological context of the Corentyne River

Suriname and Guyana together house a vast drainage area of the Corentyne River that forms their mutual boundary.[20] This river originates in the Acarai Mountains near the border with Brazil and in the Surinamese Central Highlands where it subsequently drains basins in both Guyana and Suriname together covering an area of 67.600 km² (Amatali 1993:45). The Corentyne River can be divided into an Upper, a Middle and a Lower part. When referring to the Upper Corentyne River, under which both the New River and the Kuruni tributaries are subsumed, the main reference in my thesis will concern the Kuruni and its tributaries, the Kutari and the Sipaliwini, or in other words the Surinamese Upper Corentyne River. A distinction between the Middle and the Lower parts of the river can be made on the basis of tidal influence which for the Corentyne River specifically reaches up to Cow Falls. These falls are situated *c.* 210 km inland, measured along the stretch of the river from the outfall (HRD 1969 in Amatali 1993:45; as the 'macaw' flies 125 km inland).

The other large river of Suriname to the east, the Maroni River[21], forms the boundary between Suriname and French Guiana. It drains a slightly larger area than the Corentyne River, namely 68.700 km² (Amatali 1993:49). Its western tributary, the Tapanahony, is home to the Eastern Trio Group. The main river west of the Corentyne River, which also reaches far into the interior, is the Essequibo. It is Guyana's largest river and has a much larger drainage area totalling 157.500 km², 25% (39.000 km²) of which lies on Venezuelan territory (Hammond 2005:136). The Essequibo, the Corentyne and the Maroni Rivers form the few larger river systems in northeastern South America that are not in direct contact with the Amazonian river system (see also ter Steege *et al.* 2000:33).

South of the Corentyne River, we encounter the basins of the Brazilian tributaries feeding the main Amazon River, the headwater of which are home to the Brazilian Trio of the Southern Trio Group. Directly south we encounter the Trombetas tributary which is as large as the Corentyne and Maroni drainage surfaces together, namely, 136.400 km². The Trombetas basin encompasses the confluence of three tributaries. Together they are

20 The Dutch term for the river is 'Corantijn'. Surinamese and Dutch scholars therefore refer to this river as the 'Corantijn' in publications written in English (e.g. Versteeg 2003). Dutch, English and Guyanese speaking scholars refer to the river as 'Corentyn' or 'Corentyne River' (e.g. Kloos 1971, Williams 2003) or the nowadays less fashionable 'Courentyne' or 'Courantyne River' (e.g. Rivière 1969; Hammond 2005). I have opted here for 'Corentyne' as the river is known internationally. The Trio are said to refer to the Corentyne with the names 'Kuritono' and 'Siipuu' (Boven 2001:13). The latter is said to refer to the New River (ACT 2000).

21 'Marowijne' is the Surinamese and Dutch name for the river that French and English speaking scholars call 'Maroni'. In several Amerindian languages the river is referred to as the 'Marowini' (pers. comm. Carlin 2011).

largely responsible for the drainage of the northern state of Pará: the eponymous Trombetas (the largest contributor) drains an area of 73.400 km^2, the Mapuera 26.500km^2 and the West-Paru 36.500 km^2. Moving towards the east from the Trombetas basin, we encounter two smaller basins, namely the basin of the East-Paru tributary with a drainage area of 44.250 km^2 and basin of the Jari tributary with a draining an area of 54.600 km^2 (Hammond 2005:136).

2.3.2 Trio land and its shifting climate boundaries

A northeasterly and southeasterly trade wind, referred to as the Inter-Tropical Convergence (ITC-zone), is mainly responsible for the climate in this region, resulting in rainfall seasonality. For Suriname it is usually described as follows.[22] The trade winds pass this region in the north twice a year resulting in: (a) a short season (early December to early February), (b) a long, rainy season (late April to mid-August), (c) a short season (early February to late April) and (d) a long, dry season (mid-August to early December). The Surinamese climate is therefore usually defined as humid-tropical (Af) in the Köppen scheme (Amatali 1993:32).

As to the interior of Suriname further differentiation can be presented. The average rainfall above the Corentyne River is *c.* 2000 mm per annum and thus less than, for instance, rainfall in the northeast (Amatali 1993:33; Teunissen *et al.* 2003:vi). Teunissen *et al.* therefore speak of a different climate regarding the Trio area. In their view, this region (referring to the area of the Southern Trio Group), has a tropical wet and a dry climate (Aw) with only one rainy and one dry season. The rainy season starts in January and ends in July-August while the dry season covers the remaining months. Unfortunately, no reference is made as to how they arrived at this differing climate zone.

This differentiation can be further explored by adopting a somewhat wider regional perspective. Two independent research groups have recently published updated world maps with Köppen classifications. These results can be applied in order to visualize climate boundaries within the Trio region. One classification has been provided by a research team from Vienna (Kottek *et al.* 2006) and another by a Melbourne team (Peel *et al.* 2007). Kottek *et al.* applied data acquired between 1951 and 2000, whereas Peel *et al.* seem to have applied only recent data provided by national stations on a sub-grid level. The differences are: (a) Kottek *et al.* show a region with a humid-tropical climate zone (Af) in the north and a tropical monsoon climate in the south while (b) Peel *et al.* move this division further

22 This section starts with the climate assertions done for the Surinamese region only since the largest part of the Corentyne River discussed in the present thesis falls within Surinamese borders.

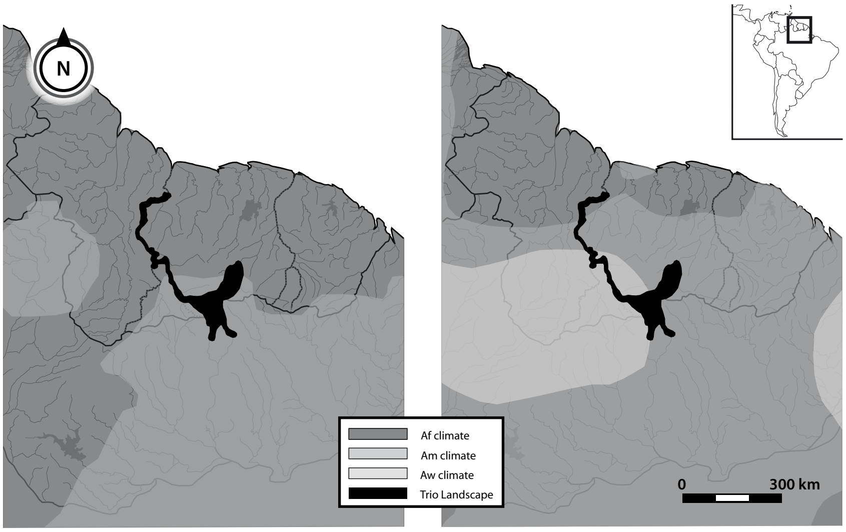

Fig. 2.5: Köppen-Geiger Climate Classification for the Eastern Guiana Shield (L: 1951-2000 Adapted from Kottek et al. 2006, R: 2007 adapted from Peel et al. 2007).

north, add a large Aw climate zone to the southwest and encapsulate the Middle Corentyne and the Sipaliwini agglomerations (see Fig 2.5; see also Hoffman 2009:49-50).

In order to envision any climate time depth for the Corentyne basin specifically, we must briefly revert to older raw data presented by three weather stations situated along the river (see Fig. 2.6; adapted from Nurmohamed 2008:67-8). The first weather station was located in Nieuw-Nickerie at the mouth of the river (Lower Corentyne). The data were collected here between 1960 and 1969. The second weather station was positioned in Kuruni (Middle Corentyne) where data were collected between 1971 and 1986. The third weather station was located at the river's headwaters in the village Sipaliwini where data were collected between 1971 and 1985 (Upper Corentyne). The early termination of data provision by the weather stations of the interior seems to have been due to turmoil caused by the civil war (1986-1992). The averaged results show that for the period 1971-1985 all three Corentyne weather stations indicated a zone with a Tropical Monsoon Climate (Am).[23]

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23 A Tropical Monsoon Climate classification is given to a climate that contains a driest month with less than 60 mm, but more than (100-[total annual precipitation [mm]/25}) (McKnight & Hess 2000:208). Nieuw-Nickerie had a driest month of 51 mm, which is higher than the annual equation, resulting in 30.08. Kuruni had a driest month, namely October, of 46 mm precipitation. This is higher than the annual equation and results in 18.68. Finally Sipaliwini, too, with a driest month of 46 mm is higher than its annual equation resulting in 19.64. It is therefore also to be defined as falling within the Köppen-Geiger classification of the Tropical Monsoon Climate.

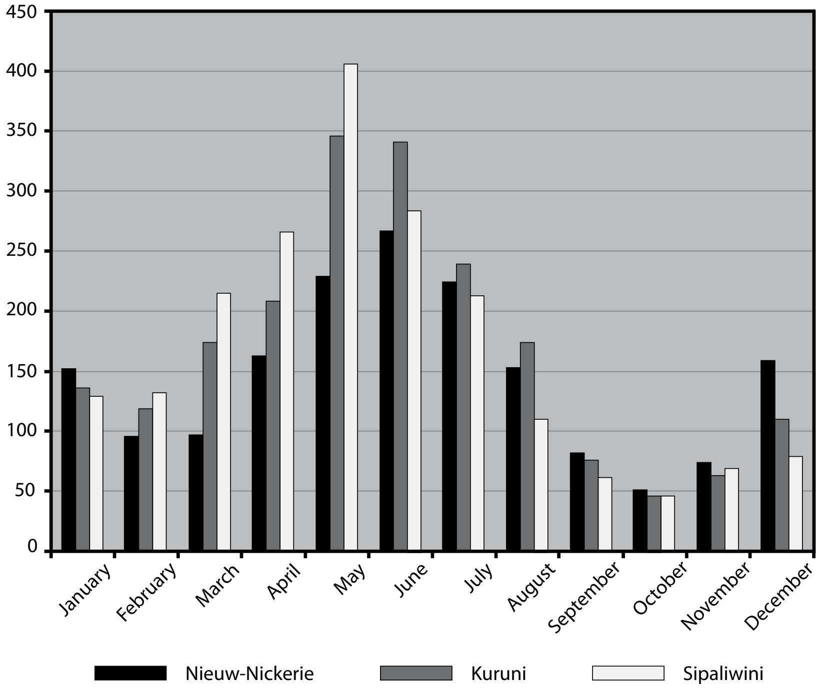

Fig. 2.6: Weather station's annual averages on the Corentyne (data adapted from Nurmohamed 2008: 67-8).

In sum, Peel *et al.* provide us with the most recent data confirming Teunissen *et al.*'s aforementioned climate ascription for the Trio area (see also Hoffman 2009:49-50). It seems to show that, over the past 20 years, the Am climate has expanded to the north in Suriname and the Aw climate zone has entered the country into the southwest. This could explain my observations in the field.[24]

2.4 Forests of the Guiana peneplain

After discussing the earth and water, it is now time to deal with the vegetation. As stated earlier, the forests have long been deemed internally consistent by presuming they all constituted a single 'pristine' rainforest. There is a consensus nowadays among scholars to move away from this notion of the homogenous primordial rainforest (e.g. Balée 1994; Erickson 2008; Alexiades 2009). This section attempts to show the diversity of the rainforest for this region as far as the literature on botany permits. The

24 Reasoning from the old rainfall seasonality scheme, I had hoped to experience the short dry period and the long rainy season. Nevertheless both my fieldwork periods took place during one and the same rainy season.

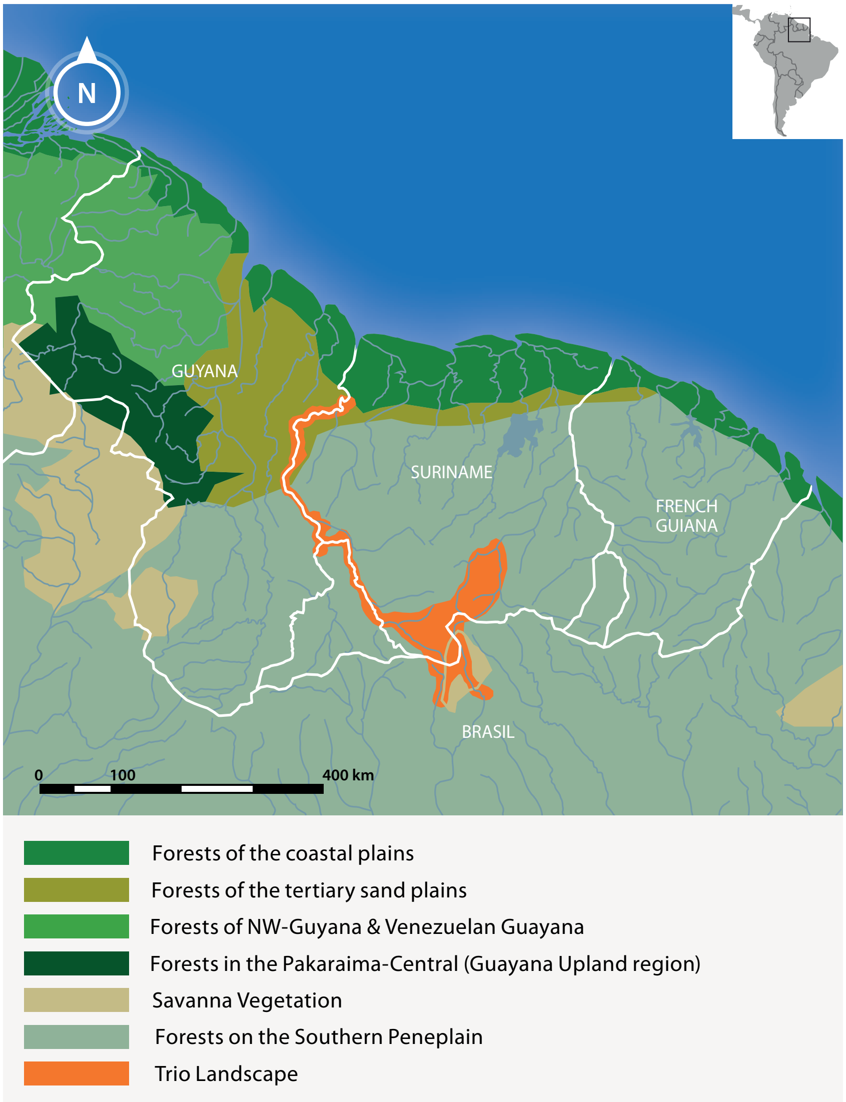

Fig. 2.7: Map of the major forest and savanna regions in the Guianas (adapted from ter Steege & Zondervan 2000:39).

vegetation types covering the abovementioned landforms of the Guianas have been described by ter Steege and Zondervan. They provide a helpful division of the Guiana forests into several major regions (see Fig. 2.7; ter Steege & Zondervan 2000:38-54).

The contemporary Trio area presently overlaps three of these major forest regions to which the non-forest region of the Sipaliwini savanna can be added. Since the emergence of the Western Trio Group, the Trio who have moved furthest north (see Fig. 2.2) have recently entered two new forest regions. The northern Trio agglomeration of the lower Corentyne River now finds itself surrounded by forests of the tertiary sand plains (the village of Wanapan) and the forests of the coastal plains (the village of Sandlanding).[25] Since the focus of my thesis is mainly on the contemporary Trio agglomeration of the middle Corentyne River and the former area of its inhabitants located further south, I have chosen to limit the present context to the most relevant major forest region, i.e. the Guiana peneplain. For more information on the vegetation of the Sipaliwini savanna the reader is referred to the works of Oldenburger and Norde (Oldenburger *et al.* 1973; Norde *et al.* [1975] 2009).

The forest region of the Guiana peneplain can be found to the south of the sand forests and consists of forests found on the Precambrian shield and its transecting rivers (see 2.2). The term 'pristine' rainforest is frequently applied to this region. However, more diversity is found under this green blanket. In general, the forest region of the Guiana peneplain differentiates itself from the forests in the sediment basin to the north by a higher tree diversity (ter Steege & Zondervan 2000:51).[26] In addition, we find that an increasing gradient runs from the west of Suriname to the east, resulting in a higher tree diversity for the headwaters of the Maroni River compared to those of the Corentyne River (Stropp *et al.* 2009:50; van Andel *et al.* 2009:16). Due to the remote access of the forests of the Guiana peneplain, systematic botanical research on the Guyanese and Surinamese forests is sparse when compared with the coastal area, especially, it seems, for forests along the Corentyne River (ter Steege & Zondervan 2000:51; van Andel *et al.* 2009:8-9; Haripersaud 2009:18).[27] We will now focus on the forests of the Guiana peneplain up to 500 m above sea level which can be divided into the upland floodplain forests and the upland dry forests.[28]

25 This interesting phenomenon (i.e., a group of people moving into new forest environments), has to be set aside for further future research. For more information on the highly varied forest regions of the tertiary sand plains and the forests of the coastal plains, see ter Steege and Zondervan (2000:39-49).

26 Ter Steege and Hammond state that this difference in diversity between the major forest regions should not be ascribed to a latitudinal difference which is normally associated with the gradient more to the south from the tropics to moderate areas present between 60° and 20° Latitude (ter Steege & Hammond 2000:113).

27 The same applies to the Brazilian forests on the Guiana peneplain. In the north-western mountainous part of the Brazilian state Pará specifically ethnobotanical research has been conducted by Velozo, Doi and others (Velozo *et al.* 1975 and Doi *et al.* 1975 in ter Steege & Zondervan 2000). However, since more detailed studies of the lowland forests located to the south of this region are lacking, knowledge that does exist of these Brazilian forests seems predominantly Guyanese/Surinamese projection (see ter Steege & Zondervan 2000:53).

28 For more introductory information and references on the forests of the Guiana peneplain 500 m above sea level, see Teunissen *et al.* 2003:28-9; van Andel *et al.* 2009:15-6.

2.4.1 Upland floodplain forests

Starting with the Corentyne River again, we will firstly focus on the forests of her banks. Upland floodplain forests can be characterized as being either permanently flooded or seasonally flooded (Hoffman 2009:55). The former is in general characterized by swamp forests with a low degree of tree diversity. Hoffman confirms that the floodplain forests of the Guianas often do not correspond well with the Brazilian seasonally flooded 'varzéa' forests. The reason for this is that the rivers of the Guianas flowing north into the Atlantic are much smaller than that of the Amazon (Hoffman 2009:57 in reference to Pires & Prance 1985; Prance & Brown Jr. 1987).

Hoffman researched hectare plots both in central Suriname (near the Saramaccan village of Stonhuku) and in southern Suriname (near the Trio village of Kwamalasamutu). The main difference he came across between these two locations seems to be a higher density of smaller trees characterizing the floodplain forests of Southern Suriname of which *Inga* spp. (TR: *Karau* [Hoffman 2009:306]), *Quararibea guianensis* (T: *Paaraimë* [Hoffman 2009:309]) and *Sagotia racemosa* (T: *Akohka* [Hoffman 2009:314]) seem to be the most characteristic.[29] Hoffman describes that the seasonally flooded forests of the latter are characterized by tall, 40 m high trees, which are positioned on a flat slope and have a relatively open understory (cf. van Andel 2009:13-14). In further reference to his thesis (Hoffman 2009:57), it seems that species of the pea family (*Caesalpinioid Fabaceae*) dominate the southern flooded forests, in particular the species *Eperua falcata* (T: *Totopo* [Teunissen *et al.* 2003]). Other encountered flood-tolerant genera in the pea family include *Crudia* (T: *Wapa* [Hoffman 2009:305]) and *Elizabetha* (TR: *Kakaimë* [Hoffman 2009:316])**.** A large abundance of species from the palm family was found in the flooded forest, too, especially *Astrocaryum sciophilum* (T: *Murumuru* [Hoffman 2009:321]).

In addition, I can add some differences which the Amotopoans perceived as to the Corentyne River. In reference to graphs from Andel's fieldguide they remarked that the species of *Mauritia flexuosa* (T: *Koi*) and *Desmoncus polyacanthos* (T: *Jamalaimë*) can be found downstream. In reference to the graph of the species *Mora excelsa* (T: *Mora* [Hoffman 2009:54]), they mentioned that this species was present in high quantities in the area surrounding the Trio village of Wanapan and that its wood is utilised in Apura to carve canoes (cf. van Andel 2001:II:170-171). Moreover, they stated that *Murumuru* (L: *Astrocaryum sciophilum*) was not present in the vicinity of Amotopo.

29 All Trio plant names and their Latin references are taken from either Hoffman's thesis (Hoffman 2009), Teunissen *et al.* field report (Teunissen *et al.* 2003) or my own fieldwork in reference to van Andel's field guide (van Andel 2000).

2.4.2 Upland dry forests

In Suriname the forest type of the upland dry forests is referred to as 'lowland high dry land forest' (Teunissen *et al.* 2003:29), while in Guyana one refers to this type as 'mixed' forest (van Andel 2000:I:46-7; Hoffman 2009:55). In contrast to the Brazilian 'varzéa'-Guiana floodplain forest incongruence, this 'non-flooded' forest type of the inter-fluvial area, however, does seem to correspond with the Brazilian category of *terra firme* (Hoffman 2009:55 referring to Pires & Prance 1985; Prance & Brown Jr. 1987). The canopies of the dry forests grow up to 30-40 m high with some exceptions measuring up to 50 m (van Andel 2009:12; cf. Hoffman 2009:56, who states that canopies of the dry forest for his specific cases further south reach heights of 25-30 m).

In their Guyana case study, ter Steege & Hammond (2000; see also 2001) make a distinction between the species-poor forests in central Guyana and the species-rich forests in Southern Guyana. Non-flooded forests of central Guyana are associated with high average seed weight and rodent, gravity and water dispersal. These are characterised by a high presence of *Lecythidaceae* (a.o. *Bertholletia excelsa* or Brazil nut) and *Chrysobalanaceae* (ter Steege & Hammond 2000:113). Due to competition slow-growth genera, specifically adapted to low-light conditions, persist while lighter species are slowly muscled out. Ter Steege and Hammond believe this competition ultimately results in a superior adaptation of these slow-growing trees leading to their mono-dominance due to their self-replacing dispersal. In their view, these forests indicate a low disturbance rate. In addition, they mention the little evidence of pre-Columbian occupation as known from archaeology (ter Steege & Hammond 2000:114; cf. van Andel 2000:I:48).

In contrast, the forests of southern Guyana demonstrate a high species variety. The majority is in general characterized by small seeds that are associated with bird and primate dispersal. The genera of this region have a low wood density which is typical for pioneer vegetation. The increase in the variety of species from the non-flooded forests of the central area towards those of the south has also been corroborated for Suriname (Hoffman 2009:54-5). Ter Steege and Hammond go on to state that, in contrast to Central Guyana, the southern region was allegedly densely occupied by Amerindians during the pre-Columbian period (ter Steege & Hammond 2000:114 referring to Evans & Meggers 1960 and Dubelaar 1986). Albeit that, at first sight, this also might be a valid hypothesis for Suriname, further archaeological surveys into the uninhabited central area must take place before this correlation can be confirmed (see also 2.4.3).

In sum, the dry forests of the Guiana peneplain in Guyana and Suriname seem characterized by a north-south gradient. The dry forests in the central area, as described by ter Steege and Hammond, are characterized by the minimally disturbed slow-growing genera. These trees are characterized by large seeds, dense wood and self-replacing dispersal. The dry land forests further south represents a composition of a high variety of pioneering species characterized by bird and primate dispersal of small seeds and a low wood density (ter Steege & Hammond 2000).

2.4.3 Forest 'Islands'

Mono-dominance of certain species in smaller bounded areas may have various causes. An assumption that ter Steege and Hammond seem to question is the notion that there is only a single climax vegetation type in the dry forests and that all vegetation ultimately regenerates into the same climax vegetation at this latitude (ter Steege & Hammond 2000:101-2,113-4). Specific vegetation assemblies have come into existence as a result of their specific geographical position and the specific climate, but also by way of their specific historical contingencies. Examples ter Steege and Hammond present are: shifting cultivation, fires, floods, landslides and phytopathogen epidemics. One of these phenomena, or certain combinations thereof, can result in a specific situation in which certain species converge into a characteristic assemblage (ter Steege & Hammond 2000:101). I will now provide several examples of forest islands present in the dry forests.

A first specific forest type is formed as a reaction to a specific local geological feature, the dolerite dykes that penetrate the Precambrian shield (ter Steege & Zondervan 2000:48; see also 2.2). The lateritic soils, or leptosols on top of these dykes can vary in height and have a rocky, gravelly to clayey constitution. Due to this constitution the soils have a low water retention capacity which results in a low, shrubby forest. The trees found extensively on these soils in Guyana are the endemic *Vouacapoua macropetala* and in Suriname the *Vouacapouya Americana* (T: *Wakapu* [Hoffman 2009:325]).[30] Next to the specific shrubs and trees, the landslides along the ridges of the dykes also contribute to the formation of a second type of forest island. Liana forests have been reported to thrive on the landslides occuring on the steep slopes of the dykes (ter Steege & Zondervan 2000:49). Liana forests, however, are also described to emerge potentially as a result of long-lasting floods, storms or fires (Teunissen *et al.* 2003:34; van Andel 2009:14 in reference to ter Steege *et al.* 2007).

A third type of forest island is formed by large frequencies of Brasil nuts (L: *Bertholletia excelsa,* T: *Tuhka* [Hoffman 2009:109]). According to Teunissen *et al.* the forest islands of Suriname are exclusively found in the

30 In a recent study, reflecting on Central Guyana, Hammond *et al.* describe the remarkable association between the distribution of prehistoric archaeological sites on riverbank levees near exposed dolerite dykes (Hammond *et al.* 2007:158).

Corentyne basin (Teunissen *et al.* 2003:32). On the one hand, this forest island type would fit in the dry forests (previously described by ter Steege and Zondervan) in the least disturbed central area. On the other hand, this characteristic forest island seems to occur from north to south along the Corentyne River. They have been reported near one of its sources (near the Sipaliwini Savanna), near the Trio village of Alalapadu II, near the Trio villages of Kuruni and Casuela in the middle Corentyne area and down to the Kaburi creek near Apura (Teunissen *et al.* 2003:32-33, in reference to van Troon 1985). Some of these Brazil nut forests are known to have existed for centuries and, likewise, their widely appreciated nuts seems to have attracted the Trio and others probably over long periods of time (Chapter 4 and 5; see also de Jong 2007:67; Bubberman 1972:184; Barrington Brown 1877:348-351). Recently it has been suggested that these Brazil nut islands not only attract people. Indeed, the relative rapid spread of this slow-growing species might even have to be explained by a history of Amerindian movements (Shepard & Ramirez 2011; cf. Politis 2006).

The final type of forest island mentioned here is more directly associated with abandoned Amerindian villages and gardens. According to the archaeologist Versteeg, these former villages (some allegedly more than 1000 years old) seem to be permanently characterized by species such as bamboo (T: *Kwama*; L: *Guadua* sp. or *Bambusa vulgaris*), cedar (T: *Simajae*; L: *Cedrela odorata* [Hoffman 2009:309]), the red locus (TR: *Kauru*; L: *Hymenea Courbaril* [Hoffman 2009:328]) and the cotton tree (TR: *Kumaka*; L: *Ceiba pentandra* [Hoffman 2009:309]) (Versteeg 2003:38). These bamboo forests are in general apparently found in the western part of Suriname (Teunissen *et al.* 2003:34; cf. discussion of secondary forests in Hoffman 2009:56-7; van Andel *et al.* 2009:14). Fortunately, the composition of certain species in former gardens and villages contrasts with their environment, facilitating archaeological surveys that would normally be an extremely difficult task to undertake due to the dense vegetation.

2.5 Summary of the Trio groups and their environment

Although the largest part of this chapter has focused specifically on the Corentyne River basin of Suriname, I will conclude with a short summary of the 'reported' settings for the three Trio groups.

The villages of the Eastern Trio Group are situated on the Palumeu and Tapanahony tributaries of the Maroni River and house *c.* 25% of the total Trio population. The Trio members of this group live within close range of the neighbouring Wayana (see Boven 2006; Duin 2009) and cohabit with the Wayana in some of the villages (particularly the village of Palumeu). The region of the Eastern Trio Group is subject to the Tropical Monsoon climate and is positioned on a different geological granite layer than that of the other Trio Groups. [31]

The Southern Trio Group is the largest in terms of inhabitants and houses more than half of all the Trio. The villages of the Southern Trio Group are positioned at the headwaters of the incipient tributaries of the larger Corentyne and Paru Rivers. The group transcends a political boundary uniting the Surinamese and Brazilian Trio.[32] When visiting their Brazilian relatives, the Surinamese Trio have to march for a day to cross the divide. An important notion is the fact that the vegetation in some of its parts is much different from that of the other two groups. Next to inhabiting the dry and floodplain forests, the Southern Trio also experience the mountainous Tumuc-Humac and the savanna landscape which accompanies the borderland. Within the area of the Southern Trio Group, the people most probably experience a transition from a Wet and Dry Tropical climate (Aw) in the west to a Tropical Monsoon climate (Am) in the east.

The Western Trio Group houses less than 25% of the Trio and is therefore the smallest in terms of population and the youngest of the three groups. This group is situated on the broad stretch of the Corentyne River. This location increases their opportunities to travel, too, since the broad waters, especially in the rainy season, enable a relatively fast way of travelling on the river when compared with the other regions. This fact is also reflected in this Group's elongated settlement distribution within the landscape. In terms of vegetation, they come across floodplain forests, dry forests and their forest islands. The northern part of the group extends towards the mouth of the Corentyne River where they find themselves surrounded by forests characteristic of the sediment basin. The group extends from an Aw climate in the south to an Am climate in the north ending up very near to the Af climate zone.

In the following Chapter the focus will be entirely on the Trio village of Amotopo located in the middle Corentyne agglomeration which is positioned in the Western Trio Group.

31 For further information on the Eastern Trio group see the publications by the anthropologists Vanessa Grotti and Marc Brightman (Grotti 2007; Brightman 2007). For more specific information on its surrounding forests see van Andel *et al.* (2009).

32 For more information on the Brazilian side of the Southern Trio Group, see the publications by the anthropologist Denise Fajardo Grupioni (Grupioni 2002; 2009).

Chapter 3

The *immobilia* of Amotopo

Once the wider biophysical setting of the region is explained, the focus is narrowed to the empirical unit of observation: the material village of Amotopo in the middle Corentyne agglomeration. As expressed in the Introduction, the aim of this research is to approach the topic of movement along archaeological parameters. All constituent elements of an archaeological site share the fact that they can all be considered as no longer moving and that they are all found at the same location. The site brings the *mobilia* together in a single geographical node where they ultimately converge.

As observation started in an on-going context of the present-day village of Amotopo, it is clear that objects were not entering an empty space. In order to contextualize the moving objects, we therefore first need to get an overview of those items that did no longer move: the so-called *immobilia*. The focus of this Chapter therefore has been to map the village along archaeological parameters. This implies that all observed elements that will supposedly leave irreversible archaeological traces are discussed. Applying an artificial division, the archaeological context is separated from the on-going context. This will be dealt with in the Chapter 4 (cf. Schiffer 1976:28; Siegel & Roe 1986). Besides providing invaluable context for the discussion of *mobilia* in the following Chapters, the present Chapter will provide a set of spatial relations within a Trio village (2001-2008) in order to show its merits as to future archaeological comparisons.

A brief introduction is provided to the archaeological mapping of a present day village in 3.1 (see below). A necessary division is drawn between the archaeological trace (the negative) and the object that creates the trace (the positive). The focus is subsequently set on the largest category of features, namely the totality of posts and stakes of the village.

In order to make sense of all these posts and stakes an observational sequence of the construction of a habitation structure is provided (for its foundations see 3.2, and for its architecture see 3.4). Based on this observational sequence, a subsequent model can be formulated for the majority of the founded structures of Amotopo (see 3.3). This will help us to differentiate them into communal, habitational and cooking structures as well as their different varieties (see 3.5).

Once the core of founded structures of the village has been described, we shall move towards discussing the non-founded structures and the features between and surrounding the founded structures (see 3.6). Located nearby the founded structures, we should bring to mind phenomena such as drying racks and buildings where pots are stored. More towards the periphery of the village, we encounter the dog kennels, the cluster of poles supporting different plants and the refuse deposits.

Last but least, in 3.7, the composition of a number of the above-mentioned features are dealt with in terms of spatial relations. Besides discussing the features' locations, the village vegetation and the surrounding horticultural band are introduced too. The data on the composition of the village of Amotopo and its archaeological immobile elements are contextualised and concluded in 3.8.

3.1 A positive archaeological image: posts and stakes of Amotopo

The *immobilia* (here the focus lies on the built environment) create the material characteristics of the Trio village of Amotopo (see Fig. 3.1). Although describing the characteristics of a present-day village is not at all similar to describing an archaeological site, it is possible to describe a 'living' village along the same lines as an archaeological site. Instead of all the postholes, ash layers, ditches and refuse depositions that archaeologists would encounter in an excavation, you can in the present view the actual

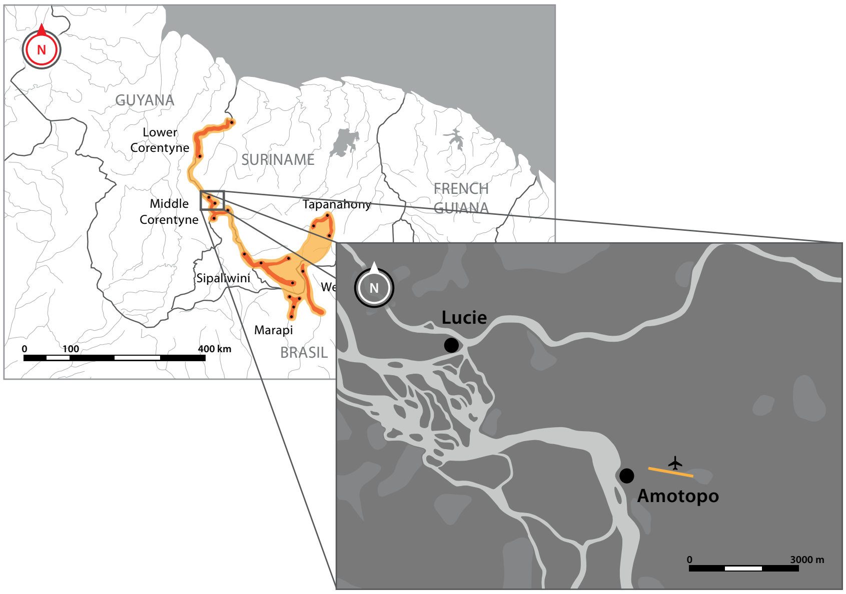

Fig. 3.1: The location of the Trio village of Amotopo.

posts, observe the locations of hearths and see where the inhabitants dump their waste and where their ditches are. In short, to observe where and how they leave their traces in the landscape. Expressed in a metaphor, these features and their traces are intrinsically linked as a negative image is to a positive image. An archaeological perspective is 'anchored' within an ethnographic study by choosing to start with this selection of information.

Although the material categories adhered to in this village are the same (posts, hearths, middens and ditches), the perspective does indeed start with a wider unit of observation, namely that of the entire village. In order to situate these material categories we undertake some action in order to adhere particular significance to the features. The ultimate goal of initially describing the village in this way serves to ground the subsequent, observed actions into the material setting described here. During these 8 years (2001-2008) the Amotopoans have created more than 688 immobile features. These can be divided into four categories. The main group is formed by the posts and stakes that leave their traces in the ground (n=639). In addition, the categories ditch (n=15), hearth (n=11) and refuse deposit (n= 23). Instead of starting with the latter (*i.e.*, the most physical and therefore archaeologically most visible features), my choice is to begin with the largest group and incorporate the other features while working research-wise towards the periphery.

Let us begin with discussing the numerous posts and stakes that penetrate the soil in the middle of the village. Between 2001 and 2008 the Amotopoans erected approximately 639 posts and stakes which form 93% of the total inventory of traces. This number encompasses all the features that I could observe in 2 successive years. The real count must be higher since I know that several structures had ceased to exist prior to my first visit. These 639 posts and stakes are not all archaeologically 'visible', but an attempt was made to document anything that leaves a mark in the soil. Instead of the normative, archaeologically acquired information like the diameter of a posthole and its depth, the negative image so to speak, in this study only positive values could be documented: the length of the posts and stakes and their circumferences.

The posts were measured with a ruler and compass during the first year (2007), and using a measuring tape and compass the following year. Due to incompatibility of several points measured in subsequent years, a decision was made to adapt all data to the most reliable year. The instruments applied in 2008 render the data acquired during that year the most reliable. Although the intra-structural error margin is less than 20 cm, the inter-structural error margin can rise to up to 100 cm on the outskirts of

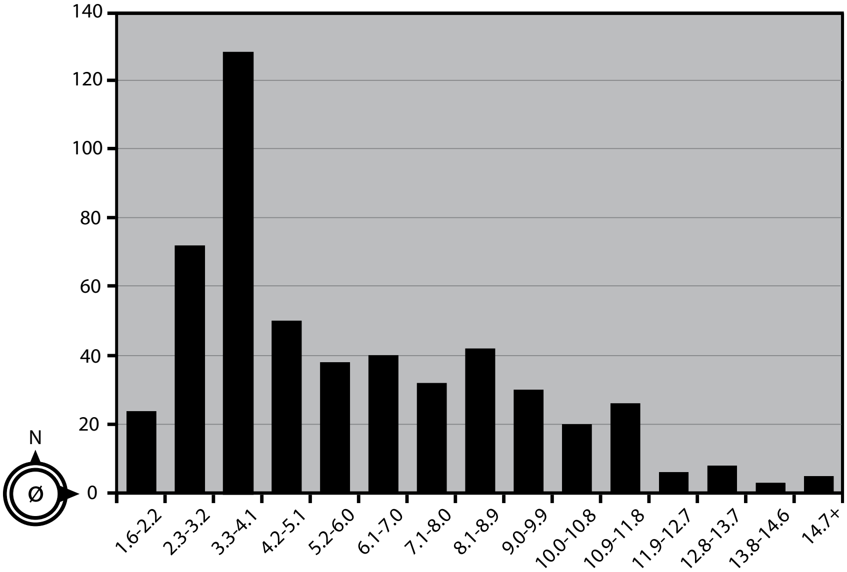

Fig. 3.2: Number of posts and stakes and their diameter distribution (in cm).

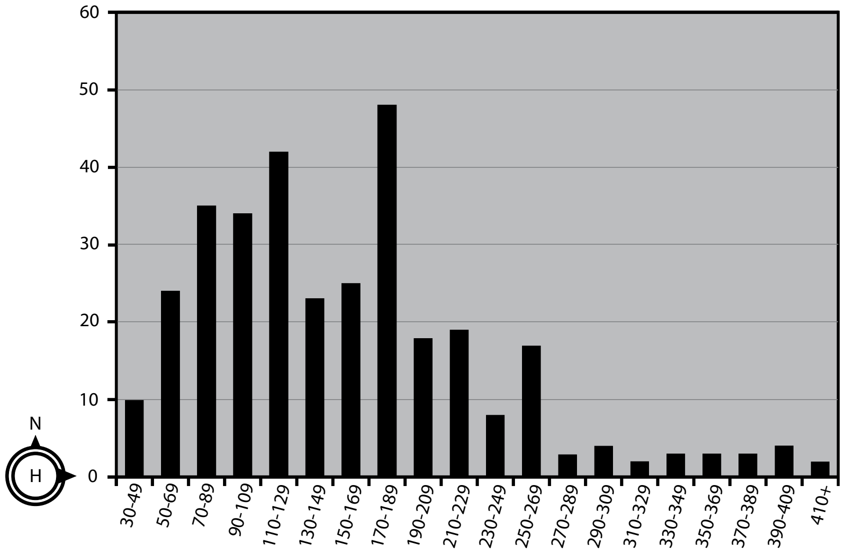

Fig. 3.3: Number of posts and stakes and their height distribution (in cm).

the village.[33] This error ratio appeared unavoidable, since the method of spatial data acquisition adopted in this research was less intrusive than when compared with conventional archaeological methods (*i.e.,* a total station or a measuring grid). The circumferences of the posts and stakes were measured with a rope or a measuring tape. Based on this circumference the diameter of a certain post or stake could be calculated. From the viewpoint of archaeological sectioning of features, this would be the preferred perspective. I managed to obtain a diameter observation for 524 of the 639 posts and stakes (82%) (see Fig. 3.2). The other variable that could be measured is the height of the posts and stakes. I managed to obtain a height measurement for 327 of the 639 posts and stakes (51%) (see Fig. 3.3).

The two above diagrams (Fig. 3.2 and 3.3) pose a number of questions. As these houses were occupied at the time, it was decided, due to privacy considerations, not to measure certain posts. For the sake of obtaining archaeological parallels we will continue the discussion in this Chapter by referring to structures instead of houses. This terminology will also be employed in the Chapter 4. Whenever a structure is discussed here, a reference is made to a group of interrelated posts or stakes (with a minimum of four) together serving a common purpose. We will now proceed by placing the aforementioned totals into more specific contexts. As it is easier to reason from a structure than it is from a trace, a description of a part of the sequence of how the most common structure is being built is presented in 3.2. This structure will then be considered a general model in order to describe the other structures in the village.

3.2 Building a house in Amotopo, Part I: the foundation supports

Unfortunately I was not able to observe the process of building a house from the very start due to miscommunication with the village captain, Paneshi Panekke who had already begun to place the four roof supports (RSs). *Wakapu* wood (T: *Wakapu*, L: *Vouacapoua Americana* [Teunissen *et al.* 2003]) is utilised for these roof supports, because of its hardness and therefore also its impenetrability for bugs. It is very irregular and asymmetrical in form, but its hardness (T: *Karime wehto*) is of prime impor-

33 These error margins apply partly to the second, but predominantly the third ring of habitation structures (see 3.7). The data acquired by means of a measuring tape and compass degrees become less secure over greater distances.

Fig. 3.4: Recently cut wakapu posts left to rot along the border of a newly cleared field.

tance.[34] Quite some time before building a house, *wakapu* trees in the vicinity of the village are selected when the men go hunting. They cut these trees down leaving the skin to rot while the hard core remains intact (see Fig. 3.4). Allowing the core of the *wakapu* tree to dry in the sun for quite some time, it becomes that hard a nail cannot be driven into it.

For the roof supports of the structure, a hole was dug with a small shovel to a depth of one arm (see also Fig. 3.6). Atinio Panekke, the captain's son, explained to me that as to the roof supports of the largest structure known to the Trio (the *Tukusipan*) in general a hole measuring the length of a human body up to the shoulder had to be dug.

The tops of the roof supports are broken off in a specific way in order to give a future beam more support (see Fig. 3.5). This is done efficiently with a machete by cutting a third of the way in to the core on both sides of the post *c.* 15 to 20 cm apart. With a simple kick, the pole breaks along the nerve structure leaving a nice cut-out. In order to place the supports at the correct distance between one and other, the captain takes six steps

34 In almost all cases the posts and stakes were placed with the end with the largest diameter in the posthole and the end with the smallest diameter up in the air. The only exceptions appeared to be the *Wakapu* posts, several of which have a smaller diameter on the ground than the end raised in the air. Due to the irregularity and the asymmetry of the *wakapu* post, probably the heaviest part of the post still tends to be placed downwards. However, this is not always reflected in the diameters.

Fig. 3.5: Turning a wakapu post into a support by combining cutting and breaking.

(average total distance 346 cm). Captain Paneshi then enters the forest to look for suitable beams and cross-beams carrying a piece of liana with exactly the right length. The quest for these beams is easier than looking for *wakapu*. Paneshi and Atinio entered the forest to the north of the village and spotted two candidates for posts within as little as 10 minutes. Within 2 hours four beams are taken to the village. Two are *Tïikaimë* (L*:* Unknown)*,* and the other two *Mekoro Wewe* (L: *Ephedanthrus guianensisi* [Hoffman 2009:320]) and *Kapai Ejami* (L: *Duguetia* spp., [Hoffman 2009:301]). Firstly, the two closest supports on either side are connected to two cross-beams. These will not stay in place permanently, but only serve to reach the tops of the roof supports. For this random wood is applied: another *wakapu* beam and one of *sokoi* (L: *Campomanesia aromatica* (Aubl.), [Hoffman 2009:324]). These are tied to the roof supports at shoulder height by means of *aijaware* liana (L: *Heteropsis jenmanii* [Teunissen *et al.* 2003]). The *aijaware* is prepared by soaking it in water and subsequently splitting it into six pieces. The cross-beam is tied to the 'interior' of the structure. In order to permanently connect the roof supports, *Mekoro Wewe* and *Kapai Ejami* serve as width cross-beams (T: *Patëtëmanton*). A stronger liana, *nopoijame* (L: *Carludovica sarmentosa*, [Teunissen *et al.* 2003]), serves to affix these cross-beams to the roof supports (RSs). These beams protrude *c*. 20 to 30 cm.

The length cross-beams are placed on these parts that 'protrude'. The *tïikaime* with its strength and symmetrical shape is ideal for such lengthy cross-beams. In order to level out any height differences, the side of the beam with the highest diametrical value is placed on what is assumed to be the lowest cross-beam. Next, a rough check by eye follows as to determine whether the beams are 'level'. Once these beams are in place the roof-ridge bearers are positioned in between the roof bearers and tied to

Fig. 3.6: Posts and stakes placed into the soil. L: The posthole with the floor post is filled with soil and pounded with a stick by Paneshi. M: One of the posts with the fresh soil contrasting with the surrounding charcoal soil (due to previous burn clearing). R: Paneshi embeds a pointed stake into the soil by adding water and continuously thrusting.

the permanent cross-beams on the exterior. Once again these roof ridge bearers consist of *wakapu* wood. The depth of each hole for these roof ridge supports is equivalent to the length of a human leg. As soon as these were in place an incursion took place into the forest to find a roof ridge. Once again, the length of this beam was measured with a liana. Once the roof ridge support has been put in place, the foundation of the house's roof is completed.

While preparing the thatch for the roof, Paneshi also made preparations for the posts that would support the elevated floor. These supports are also *wakapu* posts that were broken off in the same way as the roof supports (see Fig. 3.5). The side with the cut-out is placed facing the roof bearer and inside the structure. A knee-deep hole is dug and subsequently the post is placed into the hole in a slanting position. In this way the future cross-beam can be carried by the floor supports and lean towards the roof supports. The cross-beams are now placed. As to the erection of most other posts, all the small posts and the stakes, no holes are dug. The posts are thrust into the ground. In 2008, I witnessed a stake (with a diameter of *c*. 6.4 cm) being thrust into the ground after water had been poured into what was to become the hole (Fig. 3.6 R). After 5 minutes of thrusting, with the aid of water, the stake was deemed to have gone in deep enough (20-30 cm). It was already firmly set in the wet clay and all the more so once the clay dried in the sun.

3.3 From the post to the posthole and back

As can be concluded from the description of the construction process, the measurements of the human body are crucial in determining the depths of the foundations for specific posts. This presents us with a possibility to link the subterranean trace with the construction that led to its creation. But how do we determine how deep these depths actually are? As I was not in the position to determine how deep these body-measured postholes actually were, the body measurements themselves could bring us closer to ascertain the intended depths. On the basis of average somatic measurements of the Trio, a distinction can be made between the different functions of posts.

Glanville and Geerdink measured the Trio in the villages of Tëpu and Alalapadu during 1967 (Glanville & Geerdink 1970:457) providing us with averages of the body composition for Trio adults aged over 21, in the categories stature (n=115), shoulder height (n= 78), leg length (n=115) and arm length (n=78). These can all be utilised in the context of this Chapter except for the lengths of legs, since these measurements were determined by subtracting the sitting height from the stature height. Atinio Panekke, the captain's eldest son, informed me about the measurement they would apply in order to ascertain how deep the hole has to be for the roof ridge support by holding his hand just above his pelvis (Iliac Crest).[35] The knee height was not measured too, but could fortunately also be cal-

Function of Post	Relative Body Measurement	Avg. Measurement
Centre Roof Support (*Tukusipan*)	Male height up to the shoulder	124.9 cm
Roof Ridge Support	Man's leg (on Iliac Crest)	101.4 cm
Roof Support	Male arm	72 cm
Floor Support	Male knee	35 cm
Stakes as supports	Thrust	< 35 cm

Table 3.1: Intended depths of postholes and Trio average body measurements.

35 As to the present Chapter this could be calculated by subtracting the length of the upper arm from the shoulder height. The elbow joint is normally positioned just above the Iliac Crest allowing the elbow to tuck in just above the Iliac Crest when you carry something. Deducting the mean length of the upper arm from the shoulder height we arrive at the elbow height which is above the height of the Iliac Crest. Because upper arm length measurements are absent with Glanville & Geerdink, a mean number is borrowed from the Tukano-Decana, who are akin to the Trio with regard to the body composition.. The average upper arm length measured during the 1950s (n=10) was 30.6 cm (Bastos d'Avila 1950:81). Subtracting this upper arm average from the shoulder height would present us with an Iliac Crest height of *c.*101.4 cm.

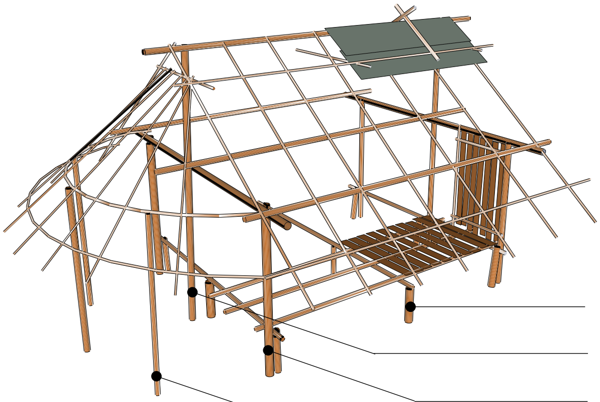

Fig. 3.7: The foundation supports.

culated.[36] The category of *Tukusipan* posts is not found in Amotopo since they do not have a *Tukusipan* in this village. However they do know that these are embedded up to shoulder height, which can be calculated to be 124.9 cm.[37] All in all, this provides us with the following overview of the intended average depths of different posts as discussed in the building of a house:

In order to relate these intended depths of postholes to the posts themselves, it is perhaps best to connect this average to the average lengths of the different posts in the positive image. The Tukusipan posts could not be measured, but they are said to be approximately as high as the antenna posts in the village, which are *c*. 6 m tall.[38] The other post categories could be measured and averaged. For the second type, which represents the roof ridge supports (see Fig. 3.7 and Fig. 3.8), an average length of 3.8 m could

36 There are anthropometric formulas with which to calculate the distance between the fibula and the stature. Genovés formula is applied as cited in White & Folkens 2005: 399. The calculation is 2.50 x Fib + 75.44. In reverse, departing from a Trio male mean stature of 157.7 cm this would result in 32.9 cm ± 3.52 for the fibula. To come from the fibula to the lower leg length we have to compare it with other regional anthropometric measurements. The relevant anthropometric data are the mean lengths of the lower leg of ten male Tukano-Decana. Their average leg length is 79.6 cm, and their lower leg measures 35.7 cm on average (Bastos d'Avila 1950:81), which makes it possible to assume the Trio knee height to be 35 cm.

37 Whenever the Trio determine the depth of a posthole for the Tukusipan axis-post, they measure this with their body length from the floor up to below the shoulder. The average shoulder height is 131.9 cm for Trio men. If this result is decreased with the diameter of their upper arm (circumference of 25.2 cm implies a diameter of 8.0 cm) we arrive at an average body length from the floor up to the shoulder of 124.9 cm.

38 All post lengths discussed refer to the lengths of the posts above surface.

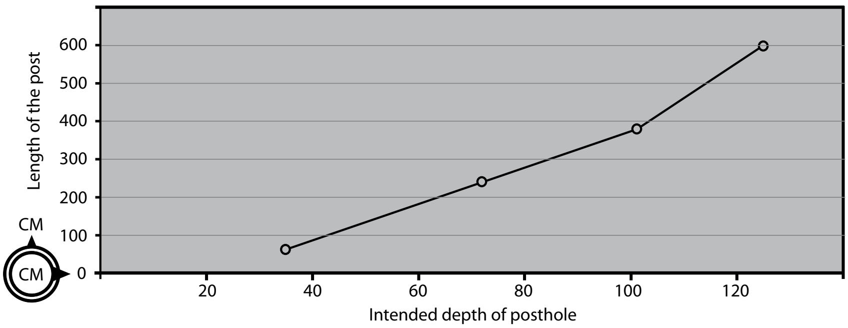

Fig. 3.8: Body-post depth-height relations.

be calculated on the basis of eight roof ridge posts (n=8).[39] The third type, the roof support, has an average length of 2.4 m (n=20). The fourth type has an average length of 63 cm (n= 12).[40] The fifth type, the stakes, may be present in the house supporting the extensions (see also 3.6 R). As I have not observed an extension being built, I have assumed that these supports have been thrust into the ground. The resulting stake holes are probably shallower than the smallest postholes. The lengths of these extension supports are similar to the roof supports, because the roof extensions for the habitation structures are roughly at the same roof height (2.4 m) as the core of the structure. The range of lengths of the different post categories do not seem to overlap.[41] This could imply that the same

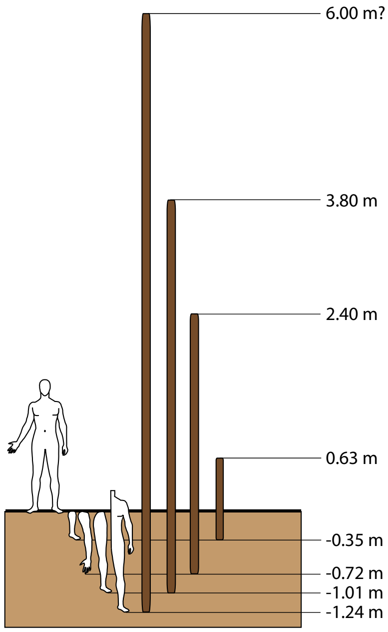

Fig. 3.9: Post-posthole ratios of the habitation structures.

39 These averages are taken from the habitation structures only (the various structures will be discussed below). The reason being it was this type of structure I observed while it was being built and to which the questions I pose relate. It could well be that the other structures are founded in postholes with the same depths. As to cooking structures, however, I observed various post lengths.

40 The number of posts is also calculated on the basis of the heights of the elevated floors on several sides.

41 The floor supports measure in length between 40 cm and 83 cm, the roof supports between 199 cm and 283 cm and the roof ridge supports between 335 cm and 404 cm.

applies to their depths (see Fig. 3.9). Notwithstanding, in absolute terms, these depths exhibit a much smaller range which makes the differentiation subsurface more problematic.

Based on these figures, some depth-length ratios can be calculated too. As for the elevated floor supports, the ratio of posthole depth to post length is × 1.8. For the roof supports this ratio is × 3.33 and in the case of the roof ridge supports: × 3.75. If the centre pole of the *Tukusipan* is indeed *c*. 6 m long, this would result in a ratio of × 4.44.

3.4 Building a house, Part II: the roof

Having completed this subterranean prospection of the habitation structure, it is time to inspect the remaining part (see also Boven 2009; Heemskerk & Lachmising 2010). Further examining this structure, we find several elements, a number of which reoccur in the other structures, albeit in different varieties.

As stated in 3.3, the house is mainly founded on three types of posts (see Fig. 3.7). The foundations of the extensions of the structure were not given too much attention in the description above. Reasoning from their length and diameter, we may suppose that the foundations of these extensions are thrust into the soil and that no hole is dug for them (see Fig. 3.6). As to a trench perspective, this renders them probably less visible with respect to the other foundations. The rectangular core of the habitation structure with its dugout foundations together with two extensions, the elevated floor and a wall of planks form the entire model (see Fig. 3.10). The habitation structure is the most complete structure, possessing all these features while the remaining structures have a similar blueprint. However, in order to explain the differences, further discussion on the blueprint extending beyond its foundations is required.

Before proceeding to the roof, a number of vernacular names for the various non-foundation elements that determine the form of the structure need mention (see Fig. 3.10). The foundation supports are not named, only in relation to what they support. Firstly the roof posts, located along the lateral axis of the structure and connected to each other by way of a cross-beam called *patëtëman* meaning 'one cross' (pers. comm. Eithne Carlin 2009). Subsequently this lends support to two cross-beams that connect the two *patëtëman-ton* which are called *aotï*, (meaning 'ribcage'). As to the extensions, the function of these cross-beams is continued by means of a flexible, curved twig connecting the roof posts along the lateral axis. The

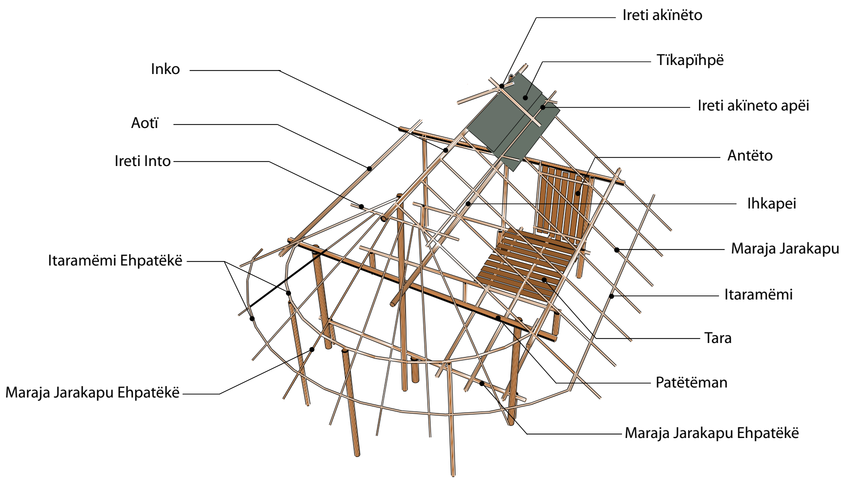

Fig. 3.10: Elements of the structure as defined by Paneshi and Atinio Panekke.

roof ridge posts are tied to the *patëtëman-ton* and, in a number of structures, secured with an extra cross-beam along the long axis called *ihkapei*. These posts support the roof ridge pole that is referred to as *inko.*

Once these cross-beams are in place, the lattice (*jarakapu*) can be placed. A number of stems are collected to serve as bars in this lattice work.[42] On both sides bars are positioned at 40 cm apart. The end of the beam with the largest diameter is placed upwards and the end with the smallest diameter is placed downwards. Nails are preferred when securing these bars to the ridge pole. If there are no nails then split lianas are applied.[43] Once these have been placed two smaller length cross-beams (*itaramëmi*) are added. These are placed on top of the bars slanting at a certain angle and 40 cm lower than the length cross-beams. The bars are all tied to this length cross-beam by means of wet liana strips.

Next the captain starts preparing the thatch. During the three preceding weeks *maraja* (E: Dalibanna palm; L: *Geonoma Baculifera* [van Andel 2000:II:103]) leaves have been stocked to dry. They are wrapped in six organic backpacks (*katari-ton*). The plaiting of the *maraja* is carried out inside the cooking structure. Two types of wood are utilised to plait these leaves. A piece of *pïura* (L: *Iriartea exorrhiza* [Teunissen *et al.* 2003]) and a smaller piece of *Maripa* (L: *Attalea* sp. [Hoffman 2009:319]) that is re-

42 These bars consist of the following wood species *paripoimë* (L: *Parinari rodolphii*), *paripo* (L: *Licania* spp.), *aritaimë* (L: *Trichilia* spp.), *tireneime* (L: Unknown), *wai* (L: *Licaria* spp.), *aimara ewa* (L: *Lecythis* spp.), *sirisirime* (L: Unknown), *moweimë* (L: *Pouteria* sp.) *and tïikaimë* (L: Unknown). The Latin nomenclature is derived from Hoffman 2009.

43 The liana vines (both *nopojame* and *aijaware*) are split in half with the thumbnail, and yet again, and then one more time, until the initial liana vine is divided into six strips. These are then placed in a bucket of water and soaked in order to provide them with maximum flexibility.

ferred to here as *wekïi*. They are both *c.* 200 cm long. Then the captain takes two leaves positioning them on top of each other with the nerve facing up and the stem towards him. Subsequently he places a leaf with the nerve facing down and the stem pointing towards him on top of the other leaves. The stems of the three leaves are curved around the *pïura* before being clasped with *nopoiame* that is tacked through the leaves onto the *wekïi*. This process is repeated on average 62 times, resulting in a single *tïkapïhpë* (lit.: 'the woven one'). On one occasion it was timed to take the captain 37 minutes. In the following days he completed the work on the six *katari-ton* with *maraja* leaves and started placing the *tïkapïhpë* on the lattice work.

The first *tïkapïhpë* to be placed on the lattice consist of a different material, *i.e.* the young stems of the *Maripa Ingo* (L: *Attalea* sp.). From these young stems three or four leaves are extracted. Next two opposite stems are tied together. These leaves are then loosely plaited, placed in the lowest place on the lattice in order to prevent the *maraja tïkapïhpë* from losing leaves when positioned on top of these *maripa ingo tïkapïhpë*.[44] The *maraja tïkapïhpë* are now put in the allocated place. On average they are 57 cm wide and 200 cm long. Two are positioned next to each other with an overlap of *c.* 15 cm. They are tied to every bar in close proximity. A 22 cm long stick attached to a liana that the captain wears around his neck serves to measure the distance between every *tïkapïhpë* to the one on top. After a while he finished all thirty *tïkapïhpë-ton* all the way to the top and had to collect new *maraja* leaves.

This time the process of drying does not take very long. After only a little more than a week, the leaves are plaited into *tïkapïhpë* and placed on the lattice work. Having finally reached the ridge of the roof, two *tïkapïhpë* are positioned over the ridge in overlapping fashion. Then, eight to ten *kumu* (L: *Oenocarpus bacaba*, [Hoffman 2009:318]) leaves are placed over the ridge of the house. In order to do so, a ladder is made specifically to lie at such an angle on the side of the roof without damaging the thatch. A small stick (*ireti into*) is pierced through the roof in two places on the ends of which small length cross-beams (*ireti apei*) are placed on either side. The *kumu* leaves are then secured to the roof by placing *ireti akïnëto* on top of the ridge and the length cross-beams. The *ireti akïnëto ('ireti'* lit. means 'antlers') are the two posts attached to each other forming an asymmetrical cross. They serve as a weight to press down the *kumu* leaves and secure the thatch on the ridge of the roof. The *ireti into* that pierces the thatch also provides an anchor point for the lattice work of the extensions. The thatch of the centre structure therefore needs to be made before the roof of the extensions can be built. Most probably, and in a similar fashion

44 Atinio pointed out to me that he forgot to use these *maripa tïkapïhpë* for his own house and therefore the lower *tïkapïhpë* of his roof were losing *maraja* leaves.

to the extensions of the *aotï*, the *maraja* leaves will be plaited on a more flexible sapling. I was able to observe the process of house-building up to this point.

Having discussed how a habitation structure is built, we can now consider how this particular model (see Fig. 3.7 and Fig. 3.10) relates to the other founded structures in the village.

3.5 The variety in the founded structures

The founded structures can be divided into the following categories: (a) the communal structure, (b) the habitation structure and (c) the cooking structure . In Fig. 3.12 we see the differences with the previously discussed

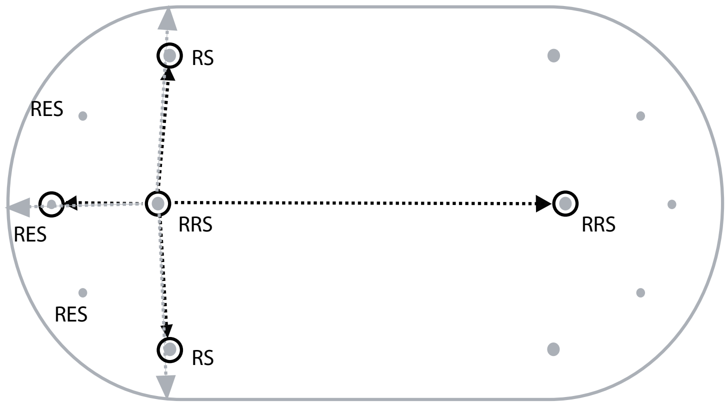

Fig. 3.11 (top): Schematic plan view of the foundation posts. RRS: Roof Ridge Support. RS: Roof Support. RES: Roof Extension Support.

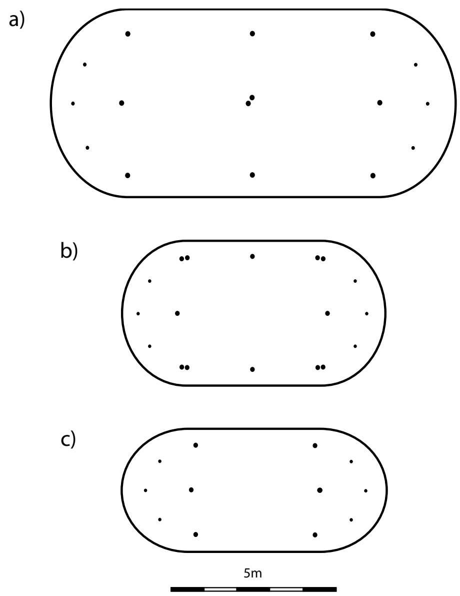

Fig. 3.12 (right): Plan view of the founded structures. a) Average CMS structure (Paiman). b) Average HS structure (Pakoro). c) Average CS structure (Wetïrihto Pakoro).

habitation structure model. However, this time it is presented in plan view and in comparison to those of the communal structure model and the cooking structure model. These models are based on the average spatial relations between the foundation posts and their relation to its floor area. The floor area in this sense is considered to be that specific part of the structure that remains dry due to the form and size of the roof. How their structural appearances relate to the foundation posts and the floor area will be discussed in this section. As a Trio template or model governs all the elliptical structures, we can estimate the floor area by calculating the distance between the deepest placed posts: the roof ridge supports (RRS) (see Fig. 3.11). In fact, we are now dealing with semi-circles on two sides allowing us to gather a number of averages to work with.

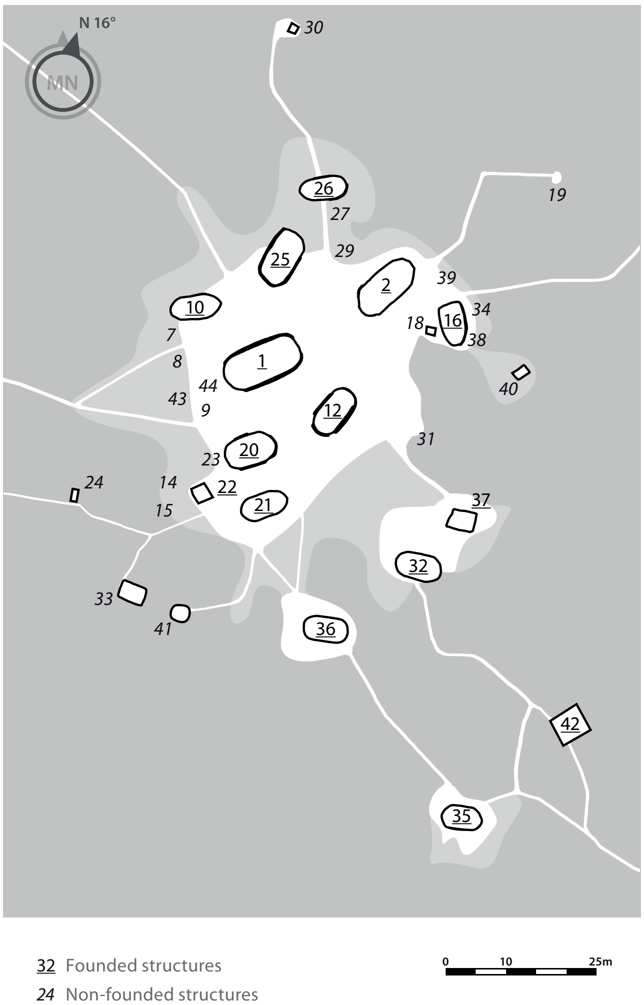

Fig. 3.13: Map of the structures of Amotopo in 2008.

Next to these generalizations applied in order to construct this model, the model itself serves to showcase the differences between the separate structures. In this way the intra-structures become more visible. Additional information belonging to following sections can be found in the Appendices. In Appendix A all the Amotopoan feature types and their abbreviations are mentioned. Together with Appendix B these can be consulted for additional information concerning the features. Appendix C lists all wood species that could be recorded as to the built environment (Trio terms and plant names provided by Paneshi and Atinio Panekke). Their codes are mentioned in Appendix B. Appendix D provides additional photographs for some of the structures. For a map depicting the village with the mentioned structures, see Fig. 3.13 and for a more elaborate version see Fig. 3.31.

3.5.1 The Communal Structures (CMSs)

In the village of Amotopo, two structures could be classed as communal when judging from their physical appearance. The layout of the communal structure distinguishes itself from the habitation model by: (a) three roof ridge supports (RRSs) instead of two, (b) no elevated floor supports (FSs), and (c) by occupying a larger surface than the other structures in the village (see Fig. 3.12). The average length of the two structures from the one roof ridge support to the third in line is 7.73 m. For the length of the total floor area this average is 12.25 m. The width between the centre roof posts is 4.12 m, the width of the floor area is 5.70 m.[45] The averaged floor area of the communal structures comes to 61.85 m².

Instead of dealing with each structure separately, I will now discuss both of them together departing from the model. The average provided earlier serves as a bridge, since the sizes differ significantly (see Fig. 3.14). ST-01 is the larger of the two with a surface of 72.14 m². ST-02 with its smaller size of 51.55 m², seems more to approach the average surfaces of the habitation structures (see 3.5.2). Firstly, the average foundation supports (RRSs, RSs and RESs) are introduced.[46] The RRSs are 3.8 m in length (n=6) and have an average diameter of 9.8 cm (n=6).[47] The centre RRS in both cases is *Tïïkaime* (L: Unknown), the other four are all *Wakapu* (L: *Vouacapoua Americana*). The RSs are 1.81 m in length (n=7)[48]

45 For the separate and averaged ratios for calculating Trio floor areas from distances between posts, see Appendix E.

46 In providing these averages, the number (n) of the subject supporting the average is mentioned. As the measurements were not taken equally with regard to all aspects of a subject, the amount referred to may vary.

47 The diameter measurements were calculated on the basis of the circumferences taken as low down as possible on the post.

48 The measurements of the lengths were taken only from ST-01 since these data for ST-02 were regrettably not collected.

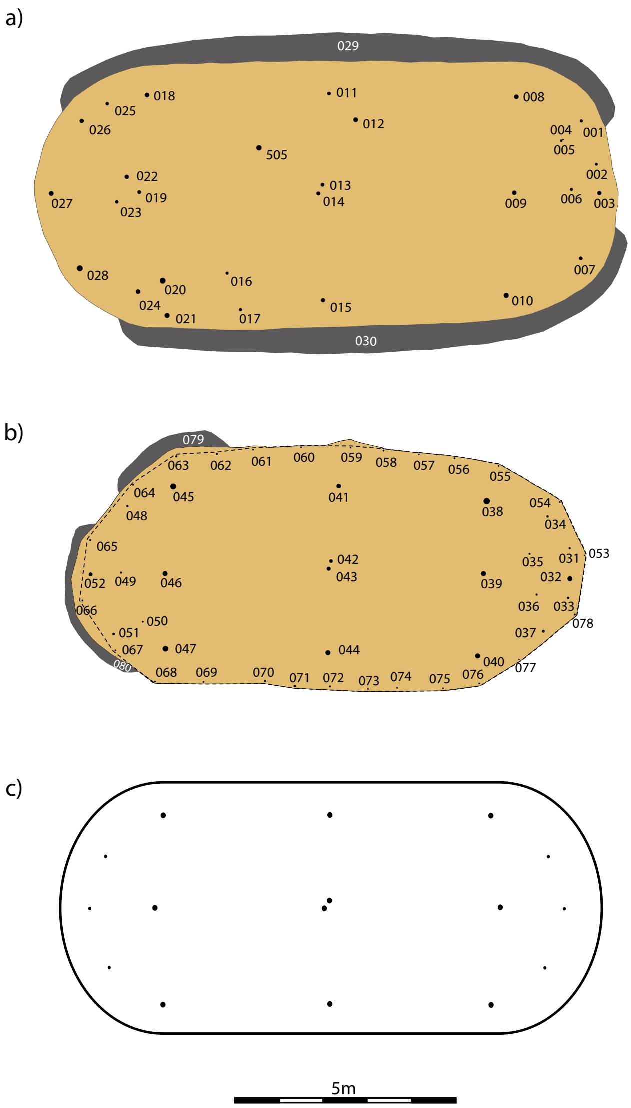

Fig. 3.14: The Communal Structures (CMSs). a) ST-01. b) ST-02. c) An average communal structure.

with an average diameter of 10.5 cm (n=15). The *wakapu* make up 87% of the RSs, the other 13% are represented by *Tïïkaimë*. The RESs have an average length of 1.25 m (n=6) and a diameter of 8.2 cm (n=11). *Wakapu* makes up four of the eleven RESs, another four are *Tïïkaime* and the remaining part consists of other species.

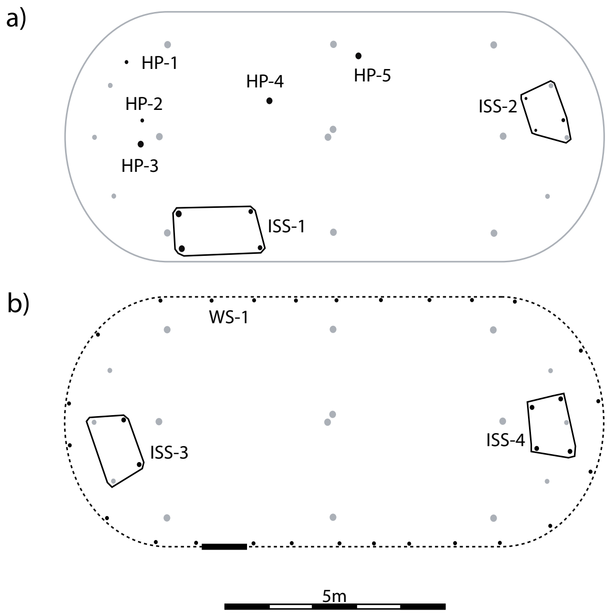

Fig. 3.15: Schematic CMS plan views with additional posts and stakes superimposed. a) ST-01 (CMS). b) ST-02 (CMS).

Secondly, the intra-structures are discussed (see Fig. 3.15).[49] A large difference between the two communal structures is the wall intra-structure (WS) that encloses ST-02. The other intra-structures are storage supports (ISS) found in both structures. All the ISSs are positioned near the extensions. Three of the four are placed inside the extensions of the structures. In ST-01 they serve to store both communal and individual property. For instance, the one small storage support (ISS-2) raises the communal short-wave radio off the ground, while the larger of the two (ISS-1) supports the captain's and his wife's individual property. They sleep in that section of the structure. The function of the ISSs in ST-02 remains unclear, as it is no longer in use. It can be stated that it must have supported individual property, as it never functioned as a communal house. Within the ISS of the communal structures, a number of the RESs (Roof Extension Supports) also form part of the ISS.

Another issue is the group consisting of hammock posts (HPs). In ST-01 we count five HPs, while ST-02 has none. Hammocks may hang in all structures, but this does not imply that HPs are found everywhere. In most cases the cross-beams or foundation posts themselves are utilised to hang hammocks up on. The HPs are also used in combination with any

49 An intra-structure is a group of non-foundation posts positioned within the floor area boundaries of a certain structure.

suitable part of the structure to hang a hammock on. Finally, we must feature two large ditches surrounding ST-01 along the long axis of the structure. These ditches, in some places more than 30 cm deep, drain the abundance of rainwater and prevent it from running through the structure. Apparently this was not necessary for ST-02.

3.5.2 The Habitation Structures (HSs)

The village of Amotopo counts seven habitation structures: ST-12, ST-20, ST-25, ST-32, ST-35, ST-36 and ST-42 (Fig. 3.16). All have the same model except ST-42 which is based on a new model.[50] The remaining structures are characterized by being smaller than the communal structure (with two instead of three RRSs) and by having elevated floor supports (FSs). Due to the elevated floor, the roof supports (RSs) are longer than in the other structures.

The average floor area of the habitation structures is calculated to be 30.16 m² (n=6).[51] This number reflects the floor area of the structure and not the elevated floor area which is smaller. The average distance between the two RRSs measures 4.43 m whereas the total length of the floor area measures 8.0 m. Along the lateral axis the distance between the RSs measures 3.27 m on average whereas the width of the floor area extends to 4.4 m. The RRSs have an average length of 3.8 m (n=8) and a diameter of 8.0 cm (n=9). All of the timbers (n=8) are *Wakapu* except for one which is *Otopïmï* (L: *Minquartia guianensis* [Hoffman 2009:311]). The RSs average 2.4 m in length (n=20) and have a diameter of 10.3 cm (n=25) of which 84% are *Wakapu* timbers and the rest are *Mowë*, *Otopïmï* and *Paripo*. The heights of the RESs of the habitation structures have not been recorded. However, it can be estimated to be higher than 2.2 m (n=4)[52] and the diameter is 8.0 cm (n=20). They are almost two thirds *wakapu* timber (total n=16), the remaining six are all of different species.[53] The final category is that of the floor supports (FSs). They are 65 cm long (n=14) and their diameter measures 7.9 cm (n=42). *Wakapu* again forms the majority of these timbers (86% from n=43).[54]

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50 This structure was being built in 2008. The men were finishing the roof when I left the village.

51 This average represents a range from 22.45 m² for ST-35 to 41.55 m² for ST-25.

52 The lengths themselves were not recorded in the field. However, during the process of writing up the research they turned out to be interesting data to include. Not the heights of the posts, but the height of the four extensions in general have been applied. Since the supports are even taller than that, it is reasoned here as 'higher than'. Another point of interest, is that the extensions facing northeast are smaller (1.9 m) than those facing southwest (2.4 m) due to the lightly sloping character of the landscape in which the village is built.

53 The remaining six are TIM-9, TIM-56, TIM-72, TIM-90, TIM-33 and TIM-41 (see Appendix C).

54 The remaining six are TIM-40, TIM-46, twice TIM-41 and twice TIM-52 (see Appendix C).

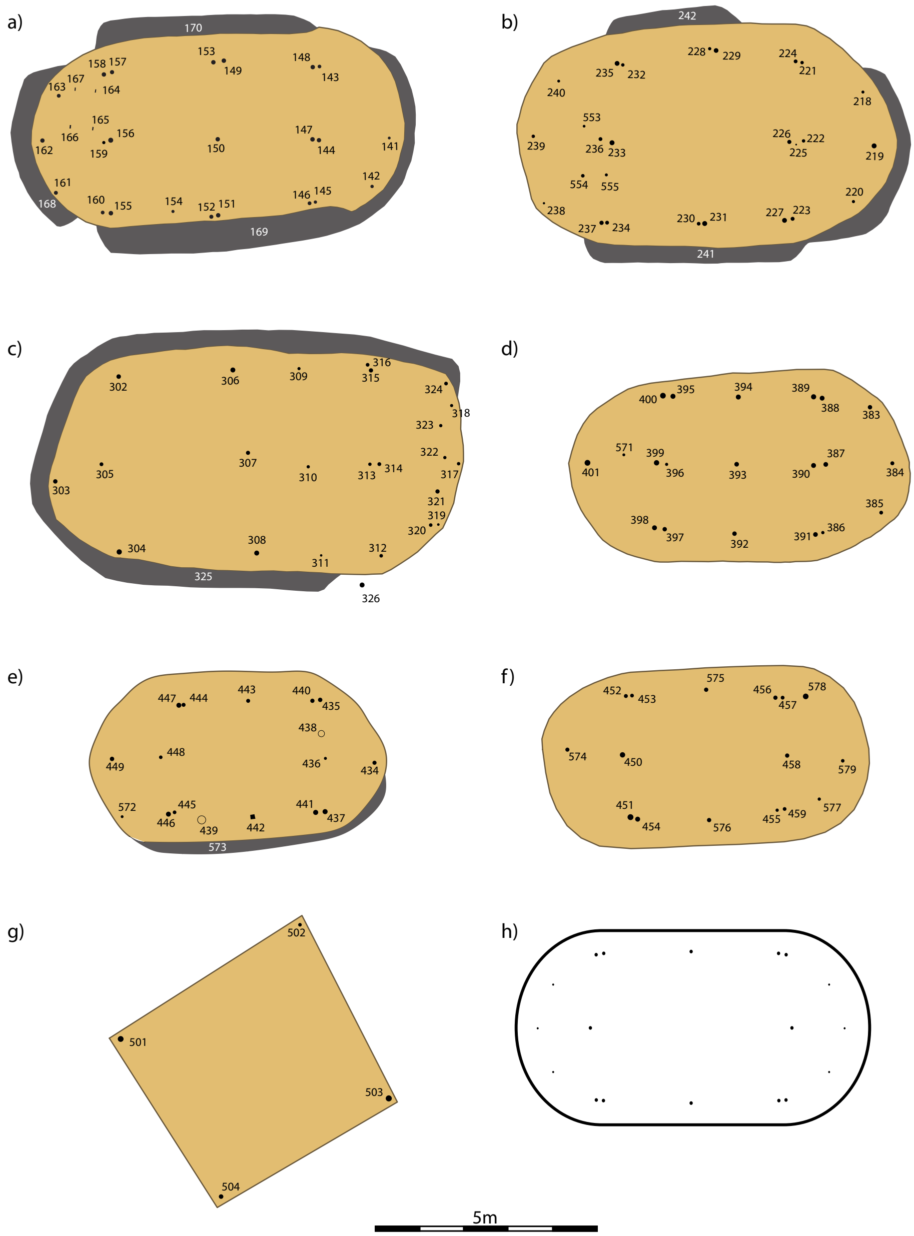


Fig. 3.16: The Habitation Structures (HSs). a) ST-12, b) ST-20, c) ST-25, d) ST-32, e) ST-35, f) ST-36, g) ST-42, h) Average HS.

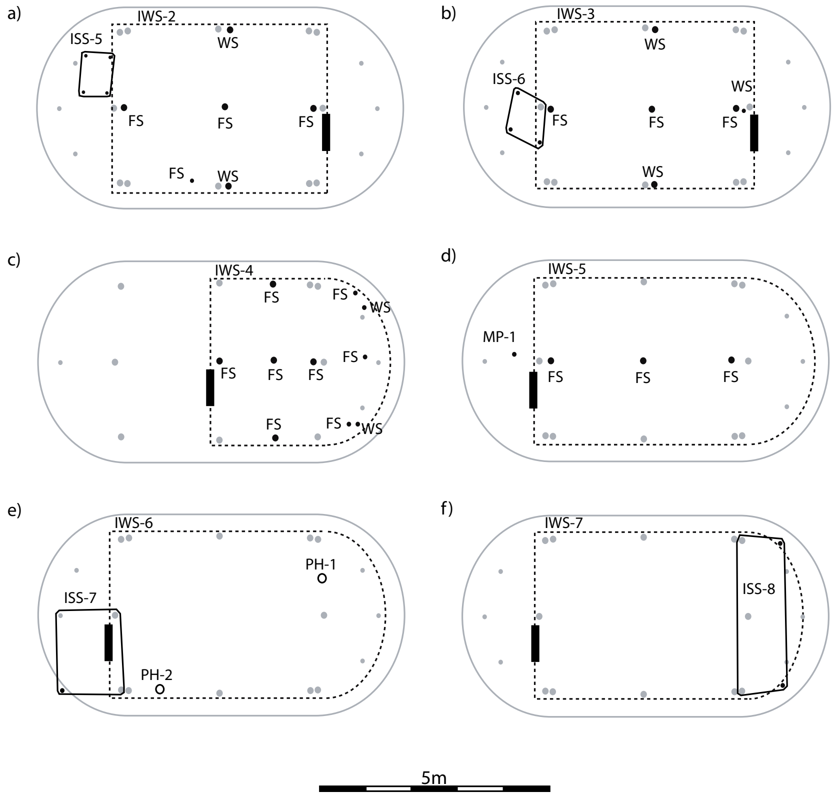


Fig. 3.17: Schematic HS plan views with additional posts and stakes superimposed. a) ST-12, b) ST-20, c) ST-25, d) ST-32, e) ST-35, f) ST-36.

Those longest standing structures seem to have developed ditches. In other cases their owners dug them. All structures have slatted walls (see Fig. 3.17). These walls are not completely continuous, but feature gaps. In two cases only the central part of the structure is walled. In three cases, however, one of the extensions is also walled. In one case half of its centre-structure was walled (see ST-25). Depending on the various elevated floor areas, additional supports or various positions for floor supports (FSs) may also be called for. Whereas ST-35 and ST-36 counted a minimal number of floor posts for their elevated floors, other structures feature several additional floor posts. Especially those slightly larger in size, like ST-25, need additional floor support. This has implications for the IWSs, too, which also need additional wall stakes (WS).

All the ISSs are placed in the extensions outside the IWSs and in a single case even completely under the IWS (ST-36). The extension applied is the one without the opening in the IWS. All kinds of objects are supported on these structures. ISS-5 serves to elevate the generator that produces electricity. ISS-6 serves to elevate sealable plastic buckets filled with various cassava products, ranging from cassava beer to cassava bread. The remaining space in these extensions is occupied by cassava squeezers and items like a shovel, a gun, boots, and other hardware. ISS-7 is an elevated non-walled floor area that serves as an entrance. Its young constructor must have seen something similar on a trip to the city. Finally, plastic jerry cans, empty or filled with gasoline, are stored in ISS-8.

Finally, a note is added on the structures ST-35 and ST-42. They were both constructed by young men. ST-35 was the first structure built by one of the captain's grandsons who in the course of its construction received instructions from his grandfather. Initially it was too small according to the captain: 'Where could he possibly hang the hammock of his future wife?' He had to rearrange it, resulting in some 'faulty' postholes (see the PHs in Fig. 3.17e). The other young man, a distant relative, began to build a structure following a new model he had observed while staying in Sandlanding and Apura. The captain's son expressed his admiration, stating that it was starting to look beautiful. He plans to perhaps construct a similar house in the future.

3.5.3 The Cooking Structures (CSs)

Amotopo contains five cooking structures: ST-10, ST-16, ST-21, ST-26 and ST-37 (Fig. 3.18). These structures are the smallest. These most slender founded structures are characterized by two RRSs, the presence of hearths, the presence of food preparation posts, wind shield stakes, gutter supports, and the absence of an elevated floor. As we shall see, these structures are not quite as high as the habitation structures. However, due to the lack of an elevated floor and a narrower floor area, the roof is at a steeper angle. It thus provides a more spacious and, therefore, safer environment while enclosing the open fires.

The average floor area surface is 25.62 m² (n=5) with ST-37 (13.34 m²) and 23.16 m² without (n=4).[55] The average length of the RRSs of the CSs structures is 3.2 m (n= 6)[56] and its average post diameter is 9.2 cm (n=6). Four of the six consist of *wakapu* wood, the other two being *tïikaime*. The RSs 1.71 m in length (n=14) and the average post diameter is 9.8 m (n=18). *Wakapu* was the species defined in twelve of the RSs. The RESs are more than 1.2 m in length (n=6)[57] and have a diameter of 7.8 cm (n=11). Six out of eleven are *wakapu*.[58]

55 Surface areas range from 13.3 m² (ST-37) and 24.27 m² (ST-16) to 27.18 m² (ST-10).

56 For the average it was decided to exclude the data from ST-37. Although it has similar elements to the CS model, it is much smaller in all its facets. See the discussion below.

57 Not the lengths of the posts, but the height of six extensions themselves has been applied. Since the supports are even taller than that, it is reasoned here as 'higher than'. Two RESs of the relatively large cooking structure ST-16 were recorded. Together they have an average length of 1.7 m (n=2).

58 The others being two of TIM-8, TIM-40, TIM-46 and TIM-68.

The cooking structures form the densest clusters of traces (Fig. 3.19). This is due to the presence of numerous features related to food processing and the relatively small area they take in when compared to the other structures. The differences between the cooking structures can be found in the placement of several of these features.

Let us begin with the hearths (Hs) that were documented by means of the outline of their ash stains. Since most of the ashes are swept up, removed and deposited in the trash pits, the ash layer itself can be a very ephemeral feature. Those hearths in use still show the ash stains on the surface. Some hearths, however, had fallen into disuse. H-4 from ST-10 and H-5 from ST-16, (drawn with a dashed line, see Fig. 3.19) did not exhibit any ash stains. I could observe the stains by the relative redness of the baked soil that the former hearth had transformed this part of the

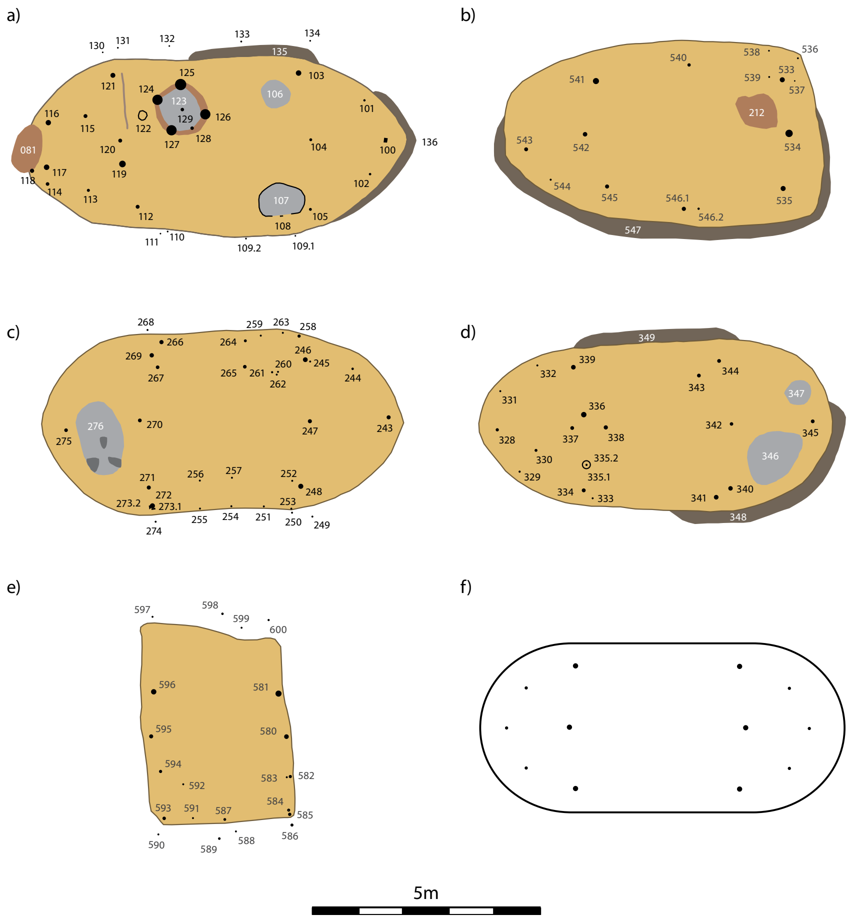


Fig. 3.18: The cooking structures (CSs). a) ST-10, b) ST-16, c) ST-21, d) ST-26, e) ST-37, f) Average CS (calculated without ST-37).

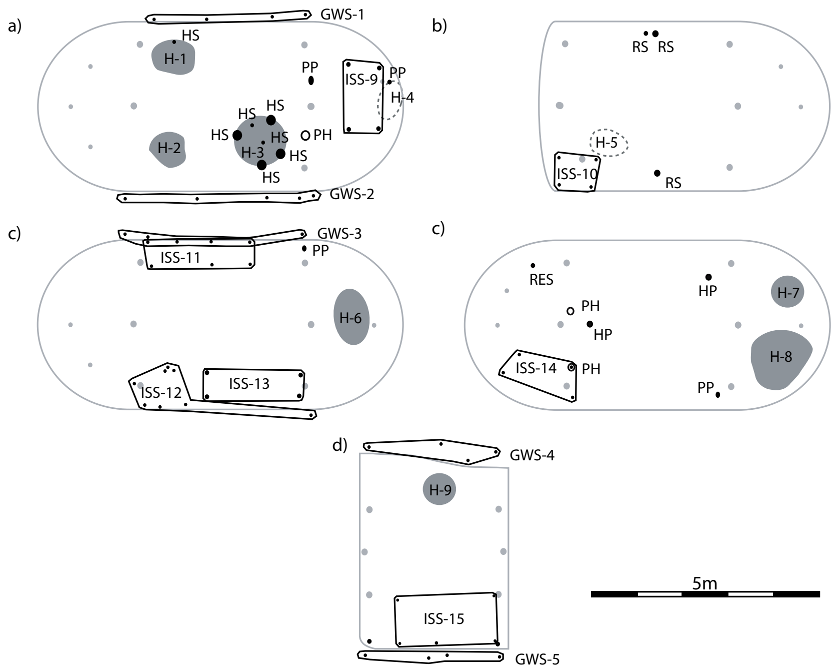


Fig. 3.19: Schematic CS plan views with additional posts and stakes superimposed. a) ST-10, b) ST-16, c) ST-21, d) ST-26, e) ST-37.

floor area into. H-4 was the hearth of the cooking structure that preceded ST-10 which had a different orientation (see Chapter 4). After rebuilding ST-16 its owners decided to externalize the hearth (see below in 3.6). The sizes of the hearths still in use differ. Several hearths (H-1, H-2 and H-7) are bounded by means of a half-size oil barrel that serves to lift the grill, pot or pan above the fire. The hearth supports found in H-1 and H-3 all consist of pieces of iron thrust into the ground and in H-3 even large, concrete cylinders. These cylinders support a metal griddle on which the cassava bread is baked. These breads are baked on this hearth only; the ash stain borders almost reflect the griddle's circular form. In H-6 three stones make up hearth supports, the only natural stones serving as HSs.

The following types of intra-structures are found in the cooking structures: (a) the above-mentioned ISS (Intra-Support Structure), and (b) the GWS (Gutter Windbreak Structure). We also come across the ISS in the other structures. It can be any cluster of posts or stakes meant to contain something within its cluster of posts. The position of the ISS in the cooking structures differs from that of the habitation structure as it is placed in the extensions (n=2), as well as in the middle of the structure (n=5). The majority of these ISSs are elevated platforms on which pots, pans, plates or pieces of fruit such as bananas are kept (ISS-10, ISS-12,[59] ISS-13, ISS-14 and ISS-15). The other two have different functions. ISS-9 supports the *komoi*, *i.e.*, a cut-out from an old canoe now with a new purpose: a receptacle for the grated manioc that drains the prussic acid into a bucket placed under the lowest side of the *komoi*. ISS-11 serves to stack up firewood, the stakes of the structure preventing the wood from rolling into the structure.

The gutter and/or windbreak structure (GWS) seems to only occur in this type of founded structure. Whenever a structure has a roof with zinc plates, it is likely to be aligned with a GWS. The stakes placed along the length of the floor area of the cooking structure are all individually connected with a piece of rope consisting of silk grass (T: *Wirawaito*), cotton (T: *Maru*) or industrial) to the *aotï* (the cross-beam connecting the RSs along the long axis, see Figs. 3.10 and 3.19) hanging loosely underneath the thatch. A zinc gutter is fastened to these threads encircling the roof's edge. It collects the rainwater and drains it to its lowest point near the structure's extensions where a large iron barrel (old oil barrel) collects it. The GWS-1, GWS-2, GWS-4 and GWS-5 all serve this purpose. However, GWS can also be found when there is no zinc roof. In this case, together with loose plates (zinc or wood), it prevents the wind or rain from entering the structure (GWS-3). Several other GWSs were observed to serve as a windbreak when there was a need thereof.

The final category concerns the isolated posts and stakes. Besides a number of additional RSs and RESs, there are also several PHs and HPs with which we are already familiar from the previously discussed structures. The interesting isolated posts in these structures play a part in the food and drink preparation process (PPs). A distinction can be made between the following types of posts: (a) the sugarcane press posts (see 3.20 L) as found in ST-21 and ST-26 and positioned at a slight angle on the outside of one of the RSs and (b) the manioc press posts found in ST-10 (see 3.20 R). These are applied during manioc processing and consist of two posts, a long and a short one. The long PP is positioned between the RS and the RES. This post is securely tied to the *patëtëman i.e.*, the cross-beam that connects the RSs along the lateral axis. The other end of the post is connected to the lower PP in the extension by way of a cross-beam. Due to the differences in height between the various posts, the cross-beam

59 The shape of this intra-structure is odd and probably due to its second function. Next to raising a small shelf just below the roof (at the time not supporting anything special), the main cluster is horizontally connected by means of a stick to the 'isolated' stake beyond ISS-13, serving as extra support for the lowest *tïkapïhpë* (strip of thatch). This side of the thatch appeared to be suffering from gravity and now it keeps the storage of ISS-13 from becoming wet. Next to these functions it can also serve a similar function as ISS-9. Its form suggests that its stakes may have served as a GWS. In every sense a multifunctional structure, but one that would be incomprehensible on the basis of the plan view alone.

Fig. 3.20: Processing Posts (PPs) in action. (L) A sugarcane press (PP) in ST-26. (R) A manioc squeezer and its position in the leverage construction (PP on the left side) in ST-10.

sticks out at the high end above the long PP serving as a 'hook' from which the plaited manioc squeezer can be suspended. At the low end of the long PP, a hole is created large enough to fit a beam. This beam is subsequently positioned through the plaited loop of the low end of the manioc squeezer into the hole of the long PP. When this beam (*c*. 2.5 m long) is pushed to the ground, leverage is created in order to squeeze the prussic acid out of the grated, bitter manioc.

3.6 The supportive structures from core to periphery

We have discussed the communal, habitation and cooking structures in 3.5. From an archaeological viewpoint, these are the most visible. Their various sizes, randomly placed ISSs and other varieties seem to cause their apparent exterior differences. These ISSs are the small groups and clusters of stakes that create an incomprehensible swarm of stake holes. It seems impossible to categorize them and to ascribe any significance to them. However, it can become more 'cloudy' still. It could be postulated that these features are at least embedded in a mother structure. Let us continue with structures lacking such an overarching mother structure. They will be discussed as classified into the following categories: (a) the group consisting of the small structures and (b) the group consisting of the isolated posts and stakes. The first group (a) is mostly constructed by means of stakes thrust into the ground and occupies an area smaller than the smallest cooking structure (ST-37). The second group (b) incorporates those posts and stakes that do not show any structural correlation with other posts and stakes or those that truly serve a single purpose. We will set off from within the village to then radiate outwards towards its peripheral features.

3.6.1 The Support Structures (SS) and isolated posts

Although the various types of structures above ground do have several features in common, in plan view it might seem to be just an unrelated cloud of posts and stakes. The described communal, habitation and cooking structures also exhibit variation in their lay-out and appearance. This is predominantly due to their various sizes and the variation of the intra-structures. The group of the Support Structures to be discussed here has a functional overlap with the ISS in that the structures in general consist of at least four stakes and in that their surface appears in rectangular form in plan view. For a discussion of two structures that are larger external varieties of these ISS and that serve as extra-large storage facility, see below. The majority of the remaining structures, however, consist of drying racks placed near the cooking structures. These are quite similar to the ISS and keep foodstuffs (cassava bread, fish) above the ground away from insects, rats and dogs. As we shall see these structures do not consist of the strongest wood. This leads to frequent repair jobs and replacements only adding to the growing cloud of postholes and stakes. Although the group of the Support Structures can be subdivided into structures ranging from larger storage units to smaller drying racks, I prefer to unify them under a single group heading as they all have the same rectangular appearance in plan view.

3.6.1.1 Pot structures (Patu pakoroton)

Two of the support structures, ST-13 and ST-22 (see Fig. 3.21, Fig. 3.22a and b) are large in the sense that their foundations consist of posts rather than stakes. Although the amount of space they occupy is not necessarily larger than a number of other non-founded structures, they appear to be the only ones the main foundations of which are constructed from *wakapu* posts. They are referred to as pot houses where all kinds of pots, pans and plates made of iron and plastic are stored, distributed over two platforms placed one above the other. Between 2007 and 2008, ST- 22 was equipped with a higher, zinc roof top, thereby now functioning as a rain collector too.[60] The other structure, ST-13, had already disappeared by 2008. It had served as a cooking structure. At the time a proper one had yet to be built (ST-37). This does not imply that the construction of these pot houses

60 A GWS is placed on the north side of the structure, too.


Fig. 3.21: ST-22 (L) in 2007 and (R) in 2008.

in general precedes that of cooking structures. ST-22 is indeed a separate structure serving as a support structure next to the cooking structure (ST-21). Since these structures have a roof, they also have a floor area. Their average surface measures 5.52 m².[61] The average post height of ST-22 in 2008 was 2.5 m (n=6). Once they raised the zinc roof above the existing structure, the average length of the posts in 2007 was much lower, namely 1.6 m (n= 4, all *wakapu*).[62] The average post diameter of all the foundations (2007 and 2008 posts coexist) related to this structure is 8.9 cm (n=10, bar two probably all *wakapu*).

3.6.1.2 Drying Racks (Jarakaputon)

In 2008, the village of Amotopo counted nine drying racks. Six of them are placed in clusters of two (ST-27 and ST-29 [see Fig. 3.23]) and four (ST-7, ST-8, ST-43 and ST-44) (see Fig. 3.22e-f); the remaining three (ST-11, ST-23 and ST-39) are isolated. Although they do not have a roof, a surface calculation is made from the rectangle that can be drawn departing from the four main stakes.[63] From smallest to largest, they range from 0.78 m² (ST-23) to 5.19 m² (ST-08), with an average of 2.3 m² (n=9). The height of the stakes ranges from 0.75 m to 1.36 m and their average is calculated to be 0.86 m (n=36).[64] The wood species are all but *wakapu* (see Appendix A and C). Except for one (ST-23) they are all positioned near a cooking structure. In 2007, I noticed that several drying rack stakes

61 ST-13 has a surface area of 4.17 m² and ST-22 a surface area of 6.86 m².

62 As can be seen in Fig. 3.21 (*r*), the decision to raise the roof was probably the result of the acquisition of a new hard plastic rainwater receptacle. The Amotopoans received this receptacle from a charity organization in 2007 after a second year of floods had affected their lands.

63 The calculation rectangle was placed between the centre points of the stakes.

64 Two stakes had a height of 1.75 m and 2.29 m. Stakes are not always cut off at the required level (see Fig. 5.19). For our average these two anomalies have been excluded.

were supported by a second supporting stake. In 2008, a number of them had been replaced by single supporting stakes. Several old stake holes must have been reused; others were probably thrust in again.

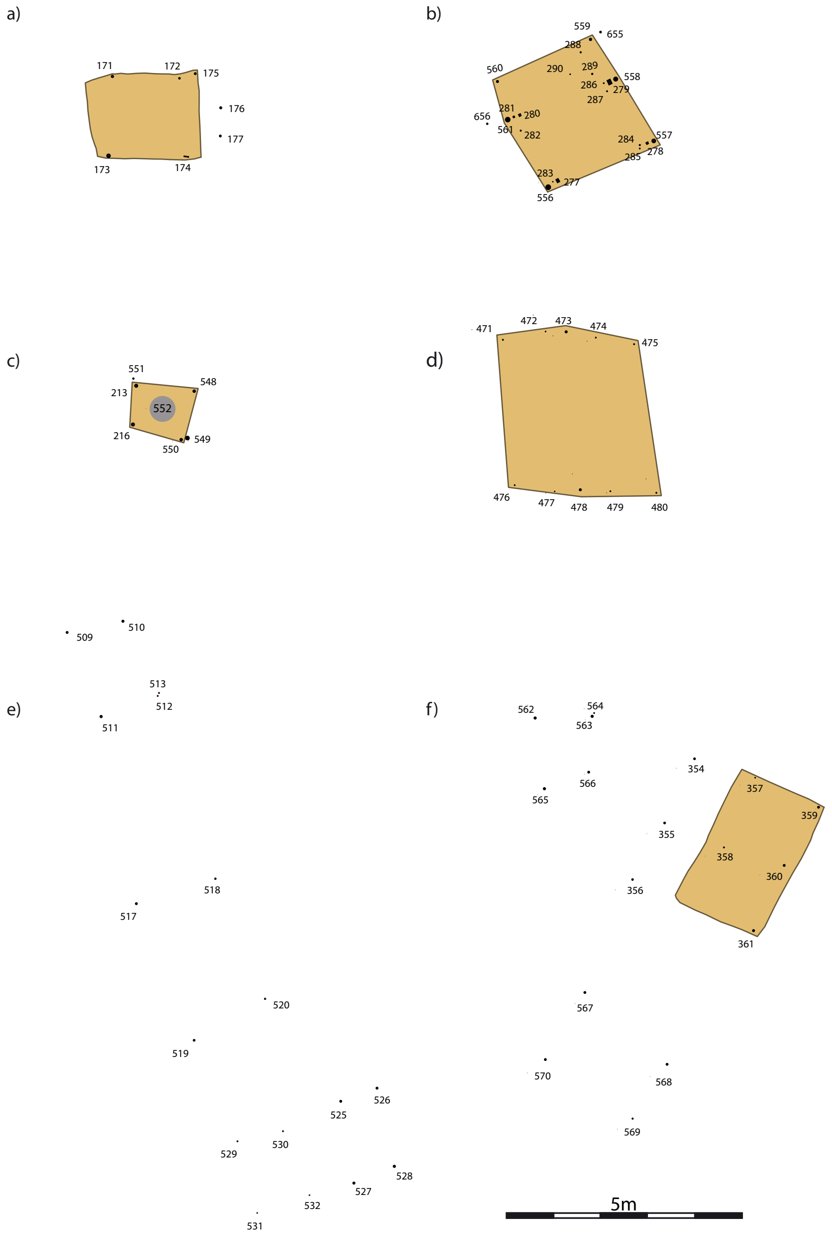


Fig. 3.22: The Support Structures (SSs). a) ST-13, b) ST-22, c) ST-18, d) ST-34, e) From high to low: ST-7, ST-8, ST-43 & ST-44. f) From high to low: ST-27, ST-28 and ST-29.

3.6.1.3 Miscellaneous structures

Three structures that do not belong to one of the aforementioned categories need to be briefly described in order to complete the description of the village. However, they do fall within the category of the support structures (SSs) which is broadly defined as being rectangular in surface and having at least four foundation posts or stakes. These are the hearth structure ST-18, the camp structure ST-38 and the sugarcane structure ST-28 (see Fig. 3.22 c, d and f).

The hearth structure had four foundation stakes and two supportive stakes measuring on average 6.7 cm in diameter. The supportive posts were 1.76 m in length and the structure itself has a surface area of 1.24 m². This hearth was probably externalized from ST-16 the reason for which remains unknown. The sugarcane structure (see Fig. 3.22f middle and Fig. 3.24) was recorded in 2007, but was no longer spotted in 2008. Although it no longer served the proper function of holding sugarcane, it served to store various kinds of items. Except for several dog kennels, this is the one of the few structures observed to have a sloping roof. The long side has an average length of 1.95 m (n=3) and the short side an average of 1.20 m (n=3). The diameter of the stakes is 5.4 cm (n=8). Two out of eight are *wakapu* wood.[65] Its surface area is calculated to be 8.17 m².

The camp structure ST-38 was built alongside the cooking structure ST-16. Due to the floods during the 2008 rainy season, the neighbouring village of Lucie had been completely inundated. The captain of that village, Pepu Ipajari (Okomoyana), and his family, returned to the village of Amotopo to live in his former house (ST-2 and ST-16) for a month in the company of his hunting dogs. Without a kennel in Amotopo he constructed such a camp structure for the time-being. I too saw this camp structure being built when a longer journey necessitated an overnight stop. It has a similar structure to the other founded structures except that here long stakes are utilised instead of posts. In order to improve stability, extra supports stand at an angle to the main supporting stakes of the structures (see Fig. 3.25). The structure had a surface area of 9.31 m².

In 2007, while documenting ST-16, which had fallen into disuse at that time, I observed the remains of a similar camp structure (ST-34), in the same place that ST-38 was later built. This structure had a round appearance in plan view, since its angled supports were positioned outside the floor area rectangle. The majority of camp structures I came across had a canvas roof. Canvas provides an easy means to construct a camp roof and therefore is a common requisite on long journeys. It also serves to protect the goods transported in the canoe against the rain and the water from the river.

65 The other species represented are TIM-1, TIM-36 (n=2), TIM-75 (n=2) and TIM-90 (n=2).

Fig. 3.23: ST-29 (2007).

Fig. 3.24: The sugarcane structure ST-28 (2007).

3.6.2 *The peripheral structures (PSs)*

The group of peripheral structures is formed by buildings not positioned in between structures, but by buildings placed beyond the border of the cleared area of the village; in other words beyond the core of founded structures. Kennels and lavatories belong to this category.

Fig. 3.25: ST-38 (2008).

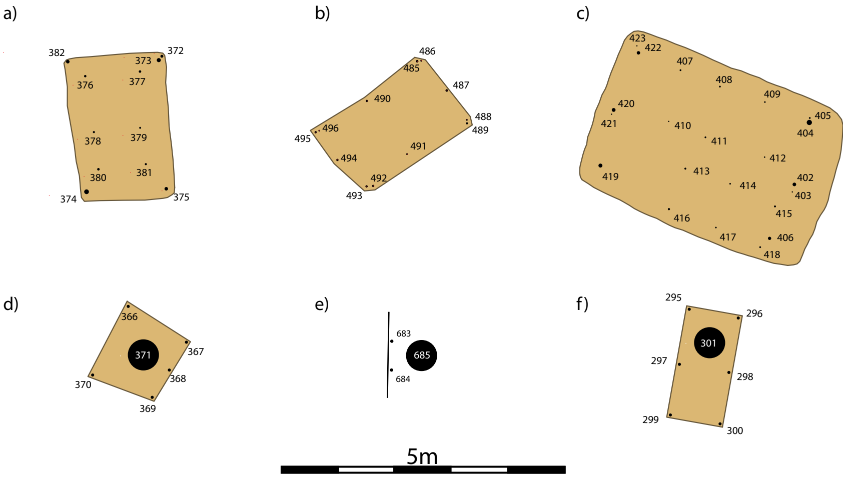


Fig. 3.26: The Peripheral Structures (PSs). A selection of the dog kennels: a) ST-31, b) ST-40, c) ST-33, The lavatories: d) ST-30, e) ST-19, f) ST-24.

3.6.2.1 The dog structures (DSs)

The dog kennels (ST-14, ST-15, ST-31, ST-33, ST-34 and ST-40)[66] have a trait in common with the habitation structures in that they also have an elevated floor in order to keep the sand flees and other insects away from the hunting dogs (see Fig. 3.26 a-c, 3.27). The sizes of the kennels can range from a structure fit for a single dog to a structure that houses several dogs. The largest structure (ST-33) has a roof ridge top; the other smaller ones have a sloping roof top of Maripa leaves. The surface area covered by these structures ranges from 3.54 m² (ST-34) to 12.60 m² (ST-33) with an average of 6.55 m² (n=4).[67] The average diameter of the stakes can be discerned from the group of the floor stakes, ø 3.2 cm (n=14), and the average of those supporting the roof ø 5.7 cm (n=15).[68] The length of latter is on average 1.92 m (n=19). A wide range of timber species serve as construction materials (see Appendix C).

3.6.2.2 Lavatories (Ls)

The lavatories (ST-19, ST-24 and ST-30; see Fig. 3.26 d-f, Fig. 3.28) are placed at a reasonable distance from the cleared areas. Each one is constructed at the end of its own private path. In order to do so a cesspit

66 These structures are the ones that I spotted in 2007 and 2008. However, I was told of others that had existed in the past (ST-4, ST-6 and ST-17).

67 Only the observed floor areas are used in this calculation from ST-14, ST-31, ST-33 and ST-34.

68 In this count three 'stakes' were excluded (ø 10.2 cm (n=3). These beams must have derived originally from a saw mill in the coastal area, which the Amotopoans must have found in the vicinity of the village.

Fig. 3.27: The Dog Structures (DSs). L: inside view of ST-33 (2007), R: ST-31 with the hunting dog called Jentï (2007).

Fig. 3.28: ST-30 at the end of its private path.

was dug that is topped with a half open oil barrel. The lavatory closest to the village (ST-24), and therefore visible from it, is completely lined with zinc plates. The other two lavatories not within viewing range are merely fenced off from the village leaving one side open. Their average surface area measures 1.88 m^2 (n=2).

3.6.3 Peripheral posts and stakes

Clusters of stakes and isolated posts and stakes in both the inter-structural space as well as the peripheral area are discussed in this final category. The clusters of stakes can be distinguished because the majority forms clusters or clouds of stakes that do not demonstrate a clear or common pattern in plan view. The inter-structural posts and stakes unrelated to a group of other posts or stakes serve their own purpose, occasionally with one other post or stake. Firstly, the inter-structural isolated posts and stakes found in the core of the village are dealt with, followed by the peripheral features.

Some of these isolated posts, the HPs, are similar to those encountered within the structure, the only difference being that they are positioned just outside the structure. These hammock posts are placed outside the structures at such a distance that one of the structural foundations can serve as the second post for the hammock. They are only found near the founded structures. In total four HPs were determined not to have an intra-structural position. Another group of isolated stakes is formed by washing line stakes (n=6) that are placed between structures, as well as fence posts (n=6), which leaves a miscellaneous group of posts and stakes that serve very specific purposes (n=6).[69]

The majority of the clusters and isolated stakes are found in the peripheral area, in other words not in between other structures. They can be found beyond or on the border of the cleared area. A minority of these peripheral stakes (n=12) represents birdcage supports positioned along the borders of the village, mainly on the eastern side. Placing birdcages here allows the caged birds to communicate with other birds, improving their songs, but sometimes also attracting and finally luring other birds. These small forest birds, like the chestnut-bellied seed-finch (T: *Pikolet*, L: *Oryzoborus angolensis* [Teunissen *et al.* 2003]), are expensive singing birds and are highly desired in the larger towns where these birds are seen as real masculine pets, whose owners make them take part in large bird-singing contests.

By far the largest group of peripheral stakes is the group representing shallowly thrust plant supports, all supporting either chili pepper plants or cotton plants (see Fig. 3.29). The chili pepper plants (*Capsicum* spp. & *Physalis* spp.) receive the most attention, by means of relatively short stakes (average length 0.92 m [n=26], and diameter of 2.6 cm [n=26]) which elevate them from the ground. This is because peppers are an important ingredient in every meal. Because of their role in the daily meals they are mainly planted around cooking structures (see nrs. 20, 21 and 22

69 These highly selective purposes are for instance supporting the antenna of the short wave radio (two 6.0 m long posts) , two 'boot hangers' and two short-lived stakes that supported a bird net that was suspended within structures for a day or two.

in Fig. 3.31). Their supports form the majority of the peripheral stakes. The other plant species in need of support (n=19) are the numerous cotton plants surrounding the village. They require larger stakes (average length 1.95 m [n=15], and diameter of 3.8 cm [n=19]) than those supporting the chili pepper plants. Due to the slant of most cotton plant supports, the deviation on the surface can be large (see Appendices A and B).

An interesting feature to conclude with was a tortoise pen I observed in 2007 in the peripheral area consisting of around 70 stakes placed neatly side by side with a surface area of 0.76 m² (see Fig. 3.29). The tortoises and their pen had disappeared in 2008. A new cooking structure ST-37 was placed not far from where the pen had been seen.

3.6.4 The Refuse Deposits (RDs)

Forming a boundary around all the founded structures, the refuse deposits mark the transition area to the periphery. I counted 23 refuse deposit concentrations ranging areas covering between 1.49 m² and 16.48 m², the average being 7.25 m² (n=23). Only the outlines of these heaps could be measured. The pattern is that they are found near the cooking structures and along both sides of the paths leading to the lavatories. These paths appear to be real waste trails. The largest and thickest deposit by far is refuse heap RD-1 located behind ST-10 which is the communal structure where manioc is processed (see Fig. 3.30). The majority of the waste can be found here. The smallest deposit is the one in the northeast next to the

Fig. 3.29: Peripheral post and stakes. (L Top): Tortoise pen, (L.Below): Chili pepper supports, (R): Cotton plant supports.

Fig. 3.30: The main refuse heap RD-1. At the back, beyond the horticultural strip, we see cooking structure ST-10.

new cooking structure ST-37, which is RD-23. After several initial deposits there, Atinio, the eldest son of the captain, asked his wife and daughters to no longer use it as a trash pit. The reason being he planned to expand the boundaries of the village in that direction. Thus the densest trash heaps are those near the cooking structures, whereas heaps not far from habitation structures seem to predominantly represent an accumulation of patio clearing, so mainly soil and grasses. The clearings of the communal area around ST-01 seemingly serve to cover over the dense rotting heap behind the main cooking structure (ST-10). The presence of these heaps does not mean that all refuse is found in deposits. More durable, discarded artefacts can be found in a waste zone. This waste or 'toss' zone is situated between the cleared areas and the surrounding forest which appears to also coincide with other ephemeral boundaries. These will be further discussed in 3.7 (see below).

3.7 Amotopo composition

Having discussed all the various features we can now move to their composite level as encountered in 2008. The distances between the structures will be discussed first, then the distances between the structures and the refuse heaps, and finally the more ephemeral vegetation boundaries of the village. Subsequently a number of values are created for the village in its entirety.

3.7.1 Distances between the structures

The inter-structural distances represent a significant value from an archaeological standpoint. Firstly they provide us with a sense of space within a certain village. How far apart are the structures positioned? Which are more adjacent, and which stand further apart? How far away from the structures are the refuse heaps? Some of these values can be of interest as to ethnographic comparisons (the Lokono and Kari'na structures seem, for instance, to stand much further apart) and as to prospective comparisons in archaeological research. Secondly, it provides an interesting parameter with regard to spatial change over time. As we will see in Chapter 5, a village where the captain of Amotopo grew up 50 years ago (Alalapadu) had various structures and various spatial distances.

We can measure these distances in two ways. On the one hand, the distances between the RRSs of the structures and, on the other hand, the distances between the closest floor spaces, which will make these values easier to compare with village plans with different architecture. We will start with ST-01 in the core of the village. Thanks to its central position, it provides us with the best initial accounts. An overview of its inter-RRS distances between ST-01 and the surrounding structures, and the distances between the floor area of ST-01 and the closest floor areas of neighbouring structures can be presented as follows:

On average the distance between the nearest inter-RRS distance in this category measures 13.32 m (removing the outlier ST-02 would bring this average down to 12.61 m). For the actual inter-floor area distance this av-

Structures	Inter-RRS distance from ST-01	Inter-Floor Distance from ST-01
ST-02	16.16 m	12.28 m
ST-10	12.26 m	7.65 m
ST-12	12.58 m	7.56 m
ST-20	12.88 m	7.32 m
ST-25	12.73 m	8.33 m

Table 3.2: The inter-RRS and inter-floor distance between ST-01 (CMS) and the surrounding habitation structures (HSs).

Structures	Inter-RRS Distance	Inter-Floor Distance
ST-25 to ST-26	9.41 m	5.72 m
ST-2 to ST-16	9.88 m	6.10 m
ST-20 to St-21	9.28 m	4.88 m
ST-32 to ST-37	8.60 m	5.53 m
ST-12?[70]	-	-

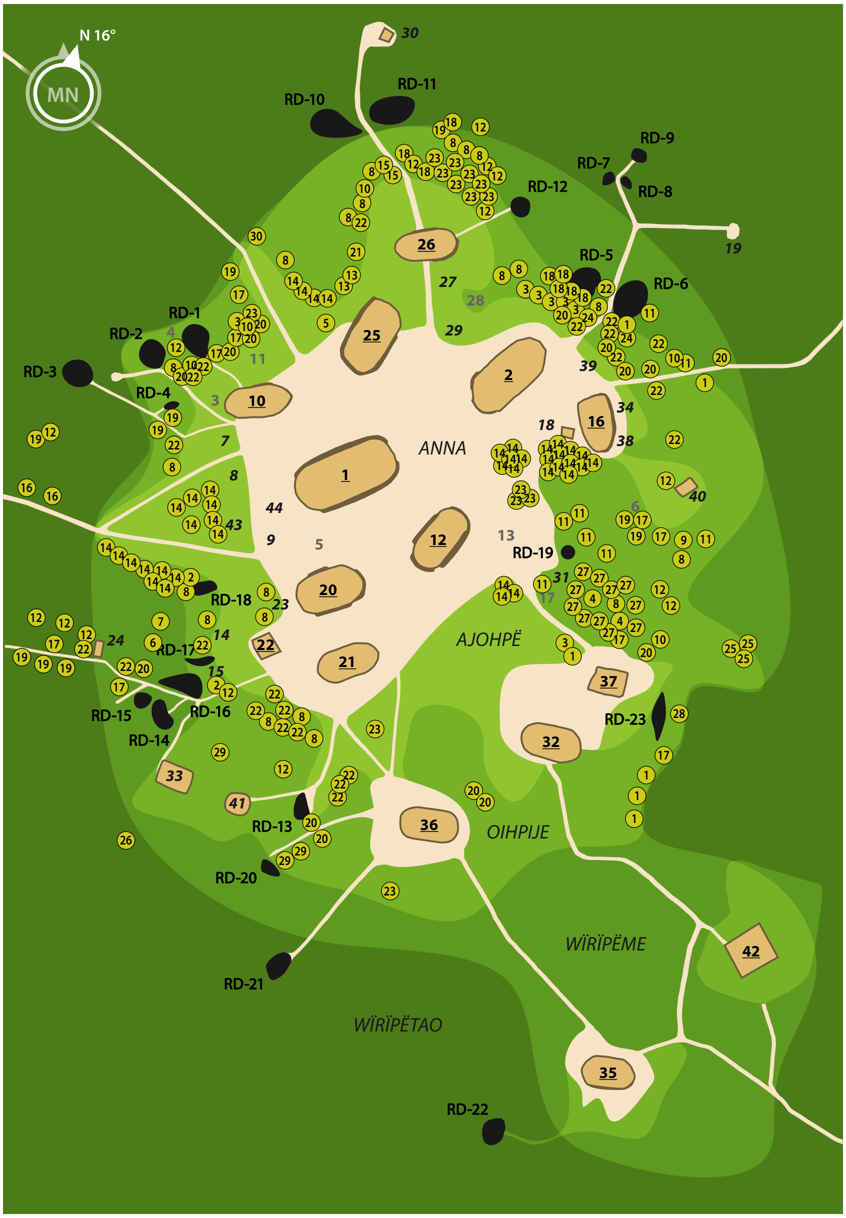
Table 3.3: The inter-RRS and inter-floor distances between the habitation (HSs) and nearest cooking structures (CSs).

erage measures 8.63 m (remove the outlier ST-02 and this average drops to 7.72 m).

In general it can be stated as to the village of Amotopo specifically that habitation structures are closest to the cooking structures which are placed behind them, albeit in such a way that one of the extensions can still be seen from the communal structure. These compounds that I will refer to as the habitation and cooking structures jointly (Siegel 1990:338) are positioned in a ring around the communal structure. The inter RRS distance between the habitation and cooking structure forming a compound measures on average 9.29 m. The distance between their floor areas measures on average 5.56 m.

Outside this first ring of compounds lie other habitation structures which I will refer to as the second ring of two habitation structures (ST-32 and ST-36). They are positioned on an average of 41.96 m (inter-RRS, n=2) and 37.26 m (inter-floor, n=2) away from the communal structure ST-01. Lastly, we have a third ring of habitation structures, again two (ST-35 and ST-41), that lie even further away from ST-01, namely at an

70 This habitation structure was not linked to a cooking structure. Instead it had a number of isolated hearths placed outside and a pot structure. This cluster of features lies on a similar distance when compared with the average of the other compounds. However, in 2007, the people of Amotopo begin to build a cooking structure that seems spatially more connected with ST-32 than ST-12. These habitation structures both apply this cooking structure.



<u>**32**</u>	Founded structures
24	Non-founded structures
17	Removed structures
(14)	Planted species
RD-22	Refuse deposits

0 10 25m

Fig. 3.31: The structures of Amotopo village, the RDs and the various bands surrounding it.

average of 78.16 m (inter-RRS, n=2) and 74.36 m (inter-floor, n=2). A final interesting distance is the one between the refuse heaps and the closest founded structures. This distance can be of interest for locating structures on the basis of the refuse deposits. Of the 23 refuse deposits, 10 are nearest to habitation structures, the remaining 13 are nearest to cooking structures (CSs). When calculated from the refuse deposits to the nearest RRSs of founded structures, the closest distance measures 6.10 m between RD-02 and ST-37. The greatest distance is 26.42 m between RD-08 and ST-26. On average the distance is 15.48 m (n=23).[71]

3.7.2 Vegetation boundaries

Strengthened with this knowledge concerning the founded structures we can now start to associate their distribution and the distribution of those not yet discussed with their relation to the vegetation boundaries surrounding the village.

The Support Structures (SSs), subdivided into the pot structures, the drying racks and the miscellaneous group, are all positioned within and/or between the founded structures linked to those closest to them. All the founded structures are positioned within the cleared zone. The support structures are aligned in places along the edge of the cleared zone (T: *Anna*) and that part where cultivated grass grows (T: *Ajohpë*). In a number of areas on the edge of the cleared area the Amotopoans intend not to clear the soil, but instead cultivate the grass with their machete leaving a band of mown grass. One of the reasons, as the son of the captain told me, is that the grass benefits the wood of the drying racks, some of which are positioned within this area of cultivated grass. Another reason must be an aesthetical one, since the Trio consider it a beautiful sight.

The toss zone begins beyond this cleared area. This zone forms a band stretching all around the core of the founded structures. The village clearing is made clean almost on a daily basis, since especially in the rainy season any vegetation in the clearing returns quickly. The size of the space cleared differed according to my observations in two successive years, which makes these boundaries appear flexible. When Amotopoans do not live in their houses for some time, grass overgrows their once cleared patio. The remaining Amotopoans referred to these overgrown patios as 'infested with grass' (T: *Oihpije*). However, this term is also applied when refering to those parts of the village that had been burned some time ago, but not worked afterwards. A distinction can be made between a segment of the

71 Calculated from the refuse deposits to the nearest floor areas of the founded structures, the closest distance between RD-02 and ST-37 is 4.12 m and the greatest distance between RD-08 and ST-26 is 24.23 m. The average distance is 13.44 m.

village covered in grass that still belongs to the cleared area and a segment that is no longer part of the village.[72]

Then there are two other categories. To explain these I must firstly explain the outer band that is no longer really part of the village. The Trio call it *wïrïpëtao*. It is considered an ambiguous area surrounding the village, where spirits are said to dwell (Riviére 1981:7). According to Riviére, *wïrïpëtao* refers to

> *"the area between the village clearing proper and the forest proper. This is a strip of tree roots, uncleared fallen trees, weeds and low secondary growth and is the place where rubbish is dumped. It is neither village nor forest, which are the two essential socio-spatial categories in Trio thought, but something in-between."* (Riviére 1981:7).

In my view this area sets off with the band of the waste heaps and continues to the place where the actual forest begins and where the visibility from the village ends (T: *Itu*). The outer band seems to correspond to the first clearing of this place as a garden in which subsequently the smaller, present village was developed. Before reaching this band we find the band called *wïrïpëme*, which could roughly translate as 'a place similar to the one of the spirits'. This was explained to me as a 'dirty' area while pointing at scatters of trash beyond the cleared area. Between *wïrïpëme* band and the *wïrïpëtao* band, however, there seems a gradual fading from the visible edge of the village to the location no longer visible. This area which, as a visible band, stretches to the refuse heaps which seems to form the outer part of the toss zone. The latter zone is the area where the trash can be found that has been removed from the cleared area. Even lighter scatters of trash can already be found in the band filled with grass.

A horticultural band is placed on the border of the cleared area and the toss zone. In it useful plant species are grown: chili peppers, cotton, mangos, herbs, pigment-providing plants, calabash, pineapple, and other species are encountered (see Appendix E and Fig. 3.31). Material references to this horticultural band are the shallow thrust stakes that support the peppers and the cotton plants (see 3.6). Beyond this band, the remnants of typical garden plants can be encountered (various manioc and banana species), forming the remaining part of the former garden. The kennels are found in the refuse deposit band or just beyond it.

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72 I observed the cooking structure ST-16 in an advanced state of *oihpije*, with grass up to its roof top, It was, however, quite easily cleared again by its owner and reclaimed to the *anna*. I witnessed how the same occurred as to cooking structure ST-26. It seems logical that the cooking structures fill up with grass more quickly than its paired habitation structure. The reason being that the latter forms part of the communal *anna* that is mainly cleared by the captain and his wife.

3.8 Concluding the positive archaeological image

The data presented in this Chapter started with a number of features with which we are familiar with from archaeological perspectives. This Chapter is not about movement at all. However, by beginning with some of the presumed deepest postholes and then continuing on to their structures, working from structures and stakes towards their distributions and their spatial relation, a positive archaeological map of material distribution is provided helping us to ground subsequent 'movement' Chapters.

Some interesting conclusions can be drawn with regard to the field of archaeology. The Trio measured the depths of the postholes according to certain specific bodily dimensions. With this knowledge a ratio could be calculated for a number of depths within these Guianese soils to the actual heights of certain posts. Reasoning from the distribution of these foundation posts and the distances between them, a floor area for elliptical structures can be calculated through certain ratios (see Appendix F). Variation between structures based on the same model can be explained by differences in terms of size, of internal post distribution and of associated additional posts and stakes. Here a distinction can be made between (a) foundation supports, *i.e.* posts requiring a posthole, and (b) smaller stakes that can simply be thrust in the ground. All non-founded structures, except for perhaps the pot structures, are constructed by way of these thrust stakes. This different construction also corresponds to the application of various timbers. Where the founded structures are mainly constructed from *wakapu* timber, the non-founded structures are constructed by means of stakes consisting of different and softer wood. This also leads to frequent replacement and repair which in turn increases the number of traces.

Peripheral structures and stakes, as sub-category of the non-founded structures, are usually invisible in archaeological cases. However, when some structures and stakes are recorded they usually end up in a residual category and remain too speculative to ascribe to a specific function. As some stakes do not exhibit any patterns except for forming 'clusters', a different material correlation is needed to assign any function. This issue can be approached by discussing spatial boundaries. In the Trio village of Amotopo the founded structures and their ISSs, and SSs that are positioned in between them, together form the core of the village. The kennels, lavatories and plant supports can all be found within the peripheral band surrounding this core village. This peripheral area seems to be composed of three 'material' bands: (a) the outer area formed by the band of refuse deposits, (b) the inner band which is the cultivated part bordered by the horticultural band and in places marked by the clusters of plant supports and (c) the area between this inner and outer band. This is where any loose rubbish is disposed of and where the kennels can be found.[73] The lavatories are located in the area beyond the refuse deposits or along paths beyond these deposits.

This material notion of three bands also roughly corresponds with the Trio perception of their surroundings. The cleared space which signifies the core of the village (T: *Anna*) is followed by a band of horticultural plants (T: Unknown), behind which lies a toss zone they refer to as 'dirty' (T: *Wïrïpëme*). The next band (T: *Wïrïpëtao*) marks the area between the refuse deposits and the initial outline of the first garden beyond which the forest (T: *Itu*) begins.

How this seemingly synchronous material image is divided into the years of its existence and is linked to the movements of the social dimension is dealt with in Chapter 4. Here I will introduce its inhabitants and connect them to the immobile sphere discussed in the present Chapter. Hence we will have a decent departure point in order to focus on the *mobilia* and their relations outside the village. As could already be read between the lines, the materials presented all form part of the process of the village. The becoming of this village over a period of eight years shows that a number of the structures are not contemporaneous and in some cases overlap each other even within the space of such a short period of time. The positive image, as it is presented here, is not at all its final stage. The village is not an archaeological site. The present chapter employed an artificial 'freeze' that I imposed on the village's process. On the contrary, its spatial boundaries are in a state of constant fluidity. This artificial 'freeze' does, however, provide us with some notion of distance signified by the Amotopoans in their young newly founded village.

73 I must mention here that the area surrounding a number of kennels (e.g. the path leading to the structure) seemed to be cultivated on a regular basis. As was not the case as to all the structures I documented in 2008.

Chapter 4

AMOTOPOAN *MOBILIA* AND THE VILLAGE FLUX

> *"Proceeding along a path, every inhabitant lays a trail. Where inhabitants meet, trails are entwined, as the life of each becomes bound up with the other. Every entwining is a knot, and the more that lifelines are entwined, the greater the density of the knot."* Ingold [2009] 2011:148

This Chapter will focus on the *mobilia* of Amotopo or, in other words, all matter in the village that was observed to be not yet permanently fixed in the landscape (cf. the *systemic* context [Schiffer 1976:27]). In a reaction to seeing people as being bounded by static places, it has recently been proposed to perceive people to live their lives *'through, around, to and from [places]'* (Ingold [2009] 2011:148). An Ingoldian place should be seen as a 'knot' of peoples lines of movement. The data presented in this thesis were gathered along similar lines in the course of 2007 and 2008 whereby I extended this perspective in order to encompass all matter that people move. From an archaeological perspective the movements of people and objects are inextricably linked, their ultimate *situated* fix in time and space being the only lens to the dynamics of the past archaeologists wish to study. Archaeologists therefore only perceive fragments of the ultimate 'knot' and all movement has to be deduced from these.

The present chapter starts unravelling the trajectories of people and objects (*mobilia*), by distinguishing them into different spheres of movement that are correlated to differing spatial immobilisations in the village. In the first section (4.1) the *mobilia* that will eventually end up on the refuse heaps will be discussed. These reflect the sphere of subsistence *mobilia* that are deposited there on a daily basis. In the second section (4.2) the *mobilia* will be dealt with that can also be found in the toss zone that surrounds the village. I relate the scatters of *immobilia* in this spatial band to the sphere of the exchange *mobilia* which condenses a longer time span. In 4.3, we will focus on the *mobilia* that will ultimately form the traces of the structures in the centre of the village. These I will relate to the sphere of residential *mobilia*. Following the direction dictated by the asymmetry of perception (see the Introduction), the focus will firstly be set on the observed movements and subsequently on the reported movements of objects.

In the final section (4.4) the abovementioned Amotopoan spheres of movement, which together compose the total immobilisation process of the village, will be discussed and concluded.

4.1 The sphere of subsistence *mobilia*

The sphere of the subsistence *mobilia* is marked by the remains deposited on the refuse deposits surrounding the village (see 3.6.4, Fig. 3.31) and reflects the daily movements of the Amotopoans as finally introduced here. The subsistence *mobilia* mark the daily movements that entail procurement of subsistence resources in the immediate surroundings of the village which are predominantly for own consumption. Firstly I will introduce the movers themselves. A marked difference in daily mobility between men and women can be detected necessitating a discussion on gender-related task divisions.

4.1.1 Meet the Amotopoans

The core of the community of Amotopo during 2007 and 2008 consisted predominantly of a single extended family of Okomoyana-Sakëta descent.[74] The captain of the village is Paneshi Panekke (56y, AMO-01),[75] born in Panapipa and of Okomoyana descent. His wife Apëhpïn Mami (53y, AMO-02) is of Sakëta descent and was born in Waananpë in Brazil. Their hammocks are in the communal house (ST-01), from the western extension to the end of ISS-1 (see Fig. 4.1).

Together Paneshi and Apëhpïn have four sons: Atinio (39y, AMO-03), Petinia (37y, AMO-10), Atima (34y, TËP-02), and Mëpi (22y, AMO-16). These brothers, all Panekke's, are married with children of their own. With the exception of Atima, who has moved to the Eastern Trio Group in Tëpu, they all reside in Amotopo. Atinio, is married to Rosianne Inesaahpë (40y, AMO-04), the *basja* of Amotopo, also of Okomoyana descent.[76] Together they have two daughters and one son named Marcel,

74 The descent identities can be seen as subgroups of the Trio language group. These descent identities, (more of them will be mentioned in Chapter 5) were supposedly different linguistic groups that over the course of time have adopted the Trio language. The descent identity appears to be vague and non-fixed, able to change from generation to generation. Be that as it may, these identities are perceived as true identities.

75 In contrast to ethnological modes of referencing relations, it is more interesting, from an archaeological point of view, to include the place of origin in a code. Later on in this chapter, when dealing explicitly with migration, it becomes obvious that this way of coding leads to a convenient and instant comprehension of the totality of movements.

76 A *basja* is an authorised assistant-leader of the captain who is employed by the Republic of Suriname.

which becomes ‘Manais’ in the local lingo (6y, AMO-09).[77] Of the two daughters Mereo (22y, AMO-05) and Felitia (14y, AMO-08), the elder is married to a Sakëta named Ande Sikïriphe (24y, AMO-06). Mereo has a son named Erinalse or ‘Tuta’ (8y, AMO-07). In 2008 Mereo gave birth to a daughter named Keetje (0y, AMO-21).[78] In 2008, Atinio and Rosianne were living together with Felitia and Marcel in ST-12 (see fig 4.1).

The second son, Petinia, is married to Senairë Siruwinpë (35y, AMO-11) who is of Sakëta descent. Together with Petinia she has three sons and a daughter. The two sons, Aterie (18y, AMO-12) and Setrick (15y, AMO-

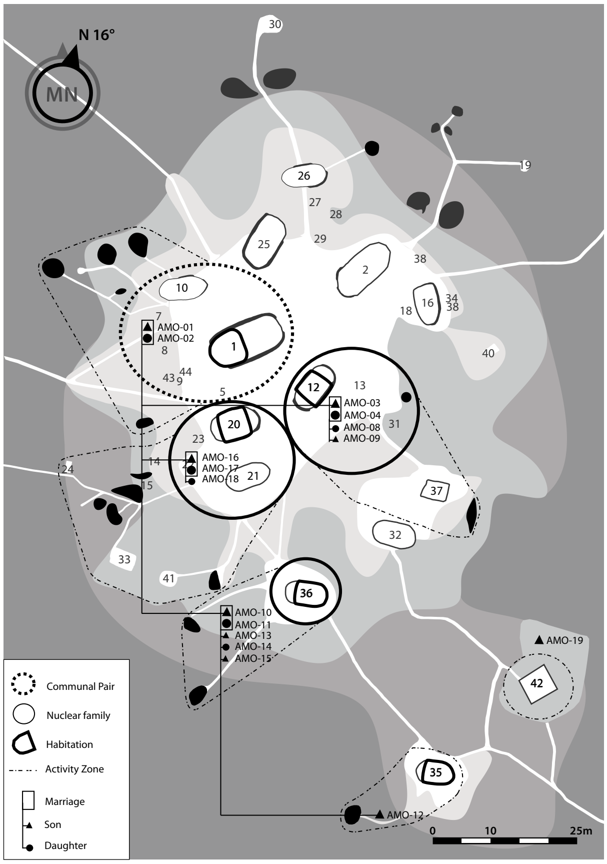

Fig. 4.1: Amotopoan social relations and compounds in 2008.

77 The children inherit their mother’s surname when their parents are not ‘officially’ married in the eyes of the Surinamese government. The majority of the married couples are not ‘officially’ married. Surnames for the Trio were introduced during the early 1960s when the people from the coast came into permanent contact with the Trio. Registration of surnames was required, so they were invented and added to the governmental administration. Only Paneshi and Apëhpïn are officially married.

78 It may be added here that Keetje (AMO-21) was named after the sister of the present author.

13), are adolescents, the daughter Merissa is a young girl (10y, AMO-14) and the third son, named Meseki (3y, AMO-15), is still a toddler. The eldest son, Aterie, sleeps in his own house, ST-35. Petinia, Senairë, Setrick, Merissa and Meseki sleep in ST-36. The fourth son of the captain, Mëpi, has recently remarried to Sarita Akarasa (20y, AMO-17) of Okomoyana descent, who in 2008 gave birth to their first-born, a daughter named Tërisë (0y, AMO-18). They reside in ST-20. Mëpi has a daughter, Mirena (5y, SAN-07), from his former marriage, who lives with her mother, Meseo (23y, SAN-06) of Sakëta descent, in Sandlanding near Apura.

Next to this core family there are other community members who have a house in Amotopo and claim or are claimed to reside in Amotopo. The first is Sarawa (55y, AMO-20) who is a stepsister of Apëhpïn and is also of Sakëta descent. She has been staying in Sandlanding for the past two years, but ST-25 remains her house. The last member of the Amotopo community is a young Okomoyana named Erijam Numehpë (21y, AMO-19), who is a grandson of Sarawa (AMO-20). He was staying in ST-01 as a guest, while constructing ST-42. Another house (ST-02) was occasionally inhabited by its owner, Paneshi's stepbrother, Pepu Ipajari (58y, RUS-01) and his wife Toke Tashoepuu (60y, RUS-02). The former is the captain of the small village of Lucie (T: *Rusi*), positioned on an island half an hour downstream of Amotopo. He has founded the Trio village of Amotopo together with Paneshi. He briefly stayed in Amotopo in 2008 because of the high floods that had inundated his village.

4.1.2 Task divisions of the Amotopoans

> *"Gardens have to be slashed and planted by men before women can pick up the products; fish have to be poisoned by men before women can trap them in their baskets; all that is plant and flesh has to be brought back to the settlement by men before women can turn it into food."* Dumont 1976:64

Now we will proceed with a discussion of the daily movements of the Amotopoans made in order to fulfil their basic subsistence needs. These movements are dictated by the daily tasks of the Amotopoans which are strictly divided between the males and females. Roughly speaking, there is a tendency for the men to be responsible for the initial contact with any non-cultivated material from outside the village, be it animate or inanimate *i.e.,* men 'initiate'. After this first contact has been made, it is up to the women to introduce the material into the village and process it further *i.e.,* women cultivate. After this process, all the material is available for men and women equally.[79]

Let us consider three examples so as to illustrate this division. On several occasions I observed that when the men returned from a successful catch, they would throw the fish and/or game out of the canoe onto the rocks of the bathing place near the village. Subsequently the women transported the sometimes numerous fish and game from the bathing place up the steep river bank and then towards the village. The men usually followed them empty-handed. A second example of this division is the acquisition of firewood. The men were observed to chop down specific timbers and cut the tree into large segments. Next the women cut them into smaller segments to subsequently transport the heavy load to the village. The men again return empty-handed. A third example to affirm this initiate/cultivate division, is the observation of the women carrying the manioc from the gardens themselves.[80]

This strict division could derive from a tacit strategy for the men to protect women outside the village (pers. comm. Carlin March 2009). While the women have their hands full, the men who are empty-handed are then able to protect them against sudden threats.[81] By handling the first contact with the 'outside' material, the men initiate the material. Afterwards, the women can introduce the material into the village. By processing it further in the village, it becomes cultivated, made 'inside' or 'socialised', and can then be safely eaten or utilised by all. Nevertheless, it should be mentioned that, on several occasions, I observed men carrying in materials without female intervention, too. This occurs, for instance, in the case of hunting, where no single gathering point exists. In other cases, it takes place whenever there is firewood or fish in abundance. Now the men occasionally helped to carry it to the village.

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79 This division of tasks according to gender is well known in the anthropological literature of the region (see for example Rivière 1969:42-50; Dumont 1976:64-5; Morton 1984:225; Overing 1986:142-150; Mentore 1987:518-9; McCallum 2001:48-58; Boven 2006:26-8). The awareness of this division is therefore not only down to personal observation, but also recorded. The anthropologist Vanessa Grotti seems to argue against the spatial gendered dichotomy of 'inside' and 'outside' for the Trio inhabiting the Eastern Group and speaks rather of various types of gendered movement: men are 'centrifugal' and women are 'centripetal' (Grotti 2007:181-2). Grupioni also mentions the Trio distinction in gender differences in relation to horticulture (Grupioni 2002:72), but not necessarily its spatial organisation.

80 In the case of Amotopo, the gardens are adjacent to the village and might already be perceived as 'cultivated', since the gardens were originally initiated by the men from the village who chopped down all the trees before burning them in order to prepare cultivation.

81 On one day I was informed that a snake was being killed by one of the Amotopoan men on the path following the women who were carrying goods to the village. This man quickly laid his hands on a random stick so as to kill the snake with a blow before it could bite a child.

In short, men usually guide the mobility of women outside the gardens and village. Amotopoan women bring in the root crops and firewood collected within the cultivated area (the village and its gardens). Men bring in fish, game, fruits and construction materials from beyond this cultivated area. Amotopoan men seem to have the first contact with everything coming from outside the cultivated area of the village and the garden. Within the cultivated area anything can be handled and further processed by women. As we shall see, task division does not necessarily relate to the physical effort or strength needed in the process.

4.1.3 The procurement of subsistence mobilia

Firstly we will discuss the mobility patterns of the women and the material they bring back to the village. Seen from a material perspective, one of their tasks is to transport firewood, manioc (L: *Manihot esculenta*) and the sugarcane (L: *Sachharum officinarum*) into the village. The loads they carry on their backs and bring into the village can weigh up to *c.* 40 kg.[82] Their movements are mainly restricted to the gardens located near the village. Over the course of 25 days, the six women of the village,[83] together with the occasional guest, collected an estimated 875 kg of firewood, which was necessary for the preparation of food and drink. Furthermore, they collected manioc with an estimated total of 524 kg and sugarcane (70 kg). This approximate average resulted in quantities of firewood (35 kg), manioc (21 kg) and sugarcane (2.8 kg) *per diem*. The average maximum distance travelled beyond the village clearing is 206 m (disregarding one anomaly of 561 m), a limit imposed by the boundaries of the gardens (see Fig. 4.2). The numbers seems conservative since the rainfall in this period was exceptionally high, destroying a large share of the yield.

82 During the first days of documenting the women's mobility I was able to weigh two backpacks (T: *katari-ton)* with firewood which they considered heavy (37 kg and 38 kg respectively). Soon after these first measurements the weighing scale broke down. I estimated one full *katari* to weigh *c.* 35 kg, and from then on counted the number of backpacks. All of these numbers should therefore be regarded as estimates and future accurate measurements are necessary.

83 Girls of a young age already fully participate in the daily tasks of the village. At the same time boys of the same age are still practising their hunting skills, in a playful manner, on anything that moves within the village boundaries. Admittedly, the boys in Amotopo, who were still young (5 and 8 years of age), sometimes went along on fishing trips (see also Heemskerk & Delvoye 2007:57). The catch they brought into the village in terms of fish and game seemed negligible. Setrick (AMO-13), aged 15, did contribute substantially and is considered a 'mover' here. The two young girls from Amotopo, Merissa (AMO-14) aged 10 and Felitia (AMO-08) aged 14 years, are both already considered 'movers' in this study since they brought large loads of manioc and firewood from the gardens into the village. Needless to say, the youngest carried less weight.

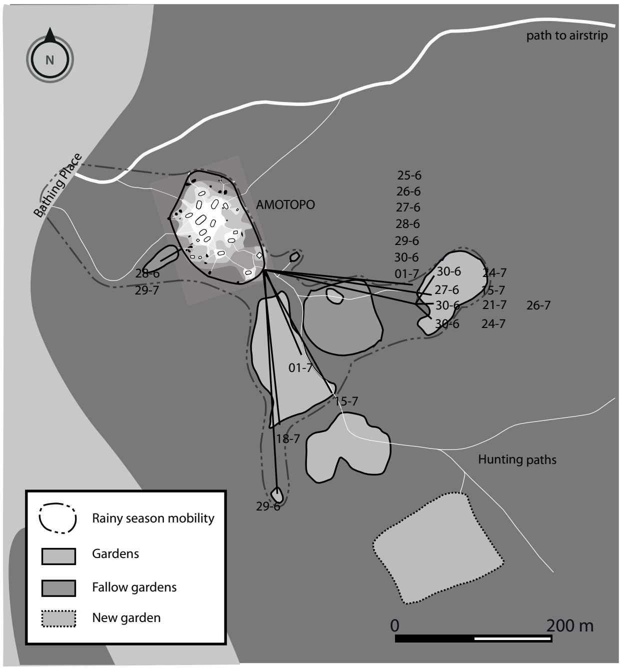


Fig. 4.2: Movements of the Amotopoan women over a period of 25 days.

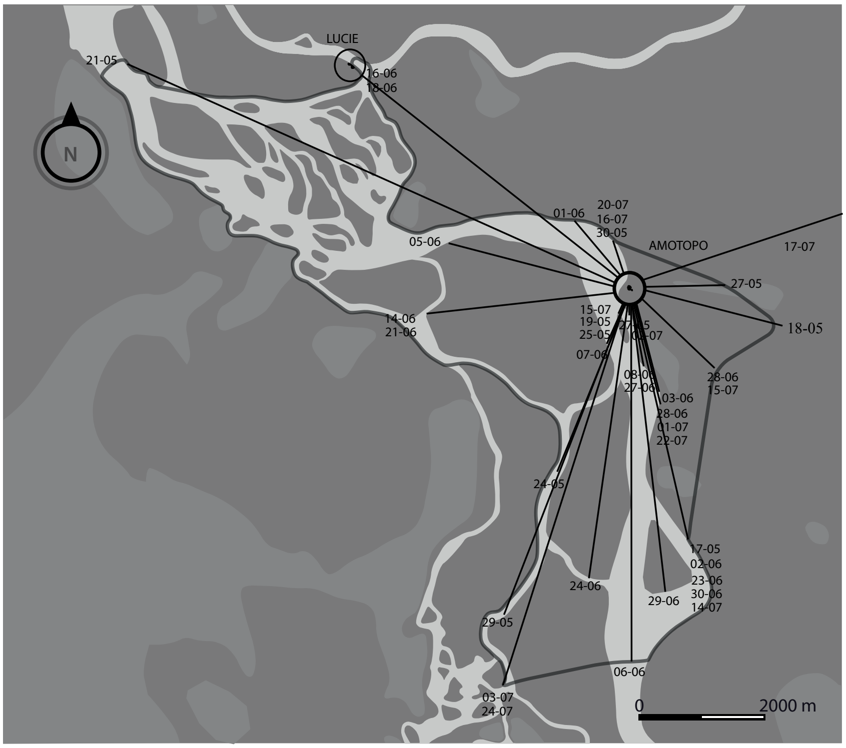


Fig. 4.3: Movements of the Amotopoan men over a period of 57 days.

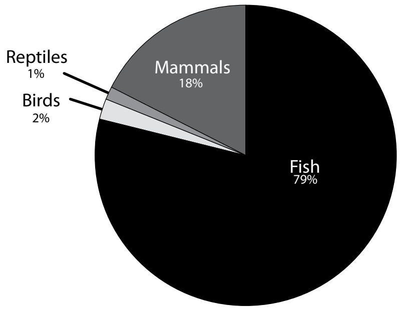
The men go out fishing and hunting, so the *mobilia* they bring into the village on a daily basis mainly comprise animals and the pieces of fruit they happen to find on the way. I will here focus on the animal component.[84] Over a period of 57 days these seven men, at times assisted by occasional guests, fished and hunted a total of 320 animals. The majority hereof (n=253), *in casu* 79%, consists of fish (see Fig. 4.5). Here the catfish category dominates: the granulated catfish (T: *Soke*, L: *Pterodoras granulosus*), the manduba (T: *Metara,* L: *Ageneiosus inermis*), the red-tailed catfish (T: *Kinoroime,* L: *Phractocephalus hemioliopterus*) and the tiger shovelnose catfish (T: *Surui*, L: *Pseudoplatystoma fasciatum*). Smaller species such as pacu (T: *Wasitau,* L: *Myleus rhomboidalis*) and piranha (T: *Pone*, L: *Serrasalmus* spp.) were frequently caught.

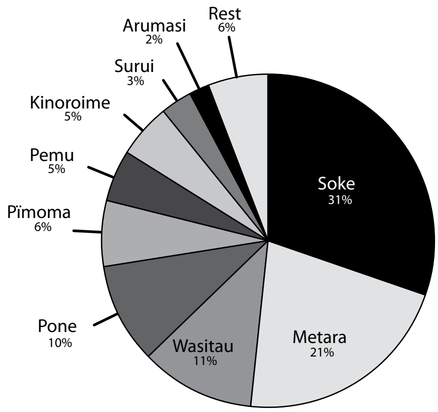
The other 21% consists of hunted animals (see Fig. 4.4 and Fig. 4.6). Here the mammals dominate: agoutis (T: *Akuri*, L: *Dasyprocta leporine*), pacas (T: *Kurimao,* L: *Cuniculus paca*), howler monkeys (T: *Arawata*, L: *Alouatta seniculus*), armadillos (T: *Kapai*, L: *Dasypus novemcintus*); a minority consists of birds, such as black curassows (T: *Ooko*, L: *Crax alector*) and guans (T: Marasi*,* L: *Penelope* spp.), and reptiles such as caimans (T: *Ariwe,* L: *Caiman crocodiles*) and iguanas (T: *Iwana*, L: *Iguana iguana*). A daily average of this number can be calculated at 4.4 fish and 1.2 game for all of the seventeen residents combined. The average maximum distance (disregarding a single anomaly of 15.33 km) travelled for these *mobilia* is 2834 m (see Fig. 4.3). The amount of game seems to be overrepresented as the hunting of the rodents was facilitated during this period by the flooding of the islands, which in one instance yielded a very fruitful bounty of twenty agoutis, one paca and seven armadillos.

The surrounding *mobilia* introduced into the village consisted not only of root crops and animals but also of fruits, seeds (for jewellery), craft and construction materials. The men at times brought these into the village returning from hunting trips. Visiting another village also provides men and women with the opportunity of returning with materials that are not present in their own daily range. Atinio (AMO-03), for instance, brought home several backpacks of Brazil nuts (T: *Tuhka*, L: *Bertholletia excelsa* [Teunissen *et al.* 2003]) from a grove he visited near the village of Casuela.[85] His wife, Rosianne (AMO-04), took the opportunity to harvest jumby beeds (T: *Wëtëu*, L: *Ormosia coarctata* [Hoffman 2009:307]) overhanging the river on a trip back from Wanapan. However, cases have also been observed in which trips were organised from Amotopo *specifically* to collect goods, mainly handicraft and construction materials from the direct surroundings. An example of this is a short trip undertaken by

84 The Latin references to Trio names of animals are mainly drawn from Teunissen *et al.* 2003.

85 See also 2.4.3. Atinio (AMO-03) also brought home two small *tuhka* plants in the hope of growing them at Amotopo (see No. 28 in the horticultural band in Fig. 3.31).





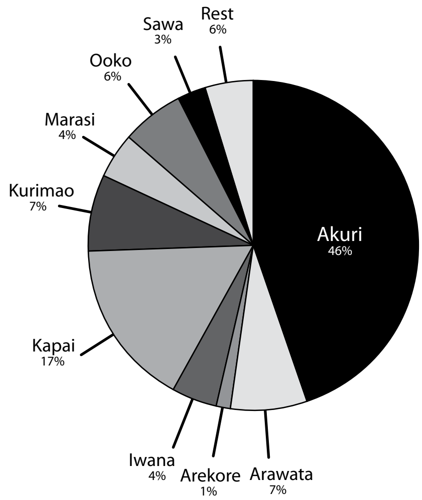


Fig. 4.4 (above): Percentage distribution of individual fish and game (n=320) over a period of 57 days during the rainy season.

Fig. 4.5 (top right): Percentage distribution of fish (n=253) over a period of 57 days during the rainy season.

Fig. 4.6 (right): Percentage distribution of game (n=67) over a period of 57 days during the rainy season.

Paneshi to a grove of Dalibanna palms (T: *Maraja*, L: *Geonoma baculifera* [Teunissen & Noordam 2003; Yde 1965:34]), the leaves of which served as roof thatch (see section 3.4). Similarly, roof posts, wood for an axe handle or the like were specifically sought. The majority hereof had been collected within the daily range as depicted in Fig. 4.3.

4.1.4 Observed flux of procured subsistence mobilia

The greatest part of the above-mentioned collected animals and root crops was consumed and the remains deposited on one of the refuse heaps. The remains of the communal meals were deposited on the refuse heap (RD-1) behind the communal cooking structure (see 3.7.4). The daily accumulations of weeds and cassava peels on top of animal remains keep the stench from its rotting process at bay. Remains of non-communal meals are deposited on the refuse heaps nearest to the individual cooking structures.

Here the *mobilia* are subjected to their final deposition and are transformed into *immobilia*; they become a permanent feature, geographically fixed in the landscape. A small share of the food items, however, was observed to stay 'mobile' by being given to inhabitants of other villages in return for other *mobilia*.

Over a total period of 72 days only an estimated 35 kg of manioc (one *katari*), 7 kg of cassava bread and 5 litres of cassava beer were exchanged.[86] This must be considered a small amount, and can be attributed to a large number of the manioc plants in the gardens having rotted away due to the heavy rains. This had also happened at the Amotopoans' former village of Kwamalasamutu one year earlier, in 2007. Amotopo had sent their former co-habitants a surplus of 400 kg of manioc. The observed animal exchanges over a period of 72 days showed that 67 individual animals of the entire quantity of fish and game were exchanged.[87] Apart from a single smoked iguana, all were fish. Considering the daily total average, 0.95 of the 4.40 caught fish was exchanged out of Amotopo. In other words, 22% of all the caught fish left the village.[88]

As the food items show, the remains of the greater share of the procured *mobilia* transform into *immobilia* due to its final deposition on the refuse heaps, in the shape of a.o. cassava peels and the skeletal remains of the animals consumed. However, as we have seen not all the food is consumed within the village boundaries. A part continues as *mobilia* until it becomes immobilised in another village (see 4.3).

4.1.5 Reported seasonal differences

The first issue that springs to mind is the seasonal variation that might have an effect on the daily movements of the Amotopoans. Unfortunately, both of my spells of fieldwork took place during a rainy season (see 2.3). I therefore could not acquire any dry season data to compare with. As reported knowledge is required here, I consulted the Amotopoans who informed me that fruit from the *wanuimë* tree (L: Unknown), red sali tree (T: *Arita*, L: *Tetragastris panamensi* [Hoffman 2009:303]) and Maripa palm (T: *Maripa*, L: *Attalea maripa* [Hoffman 2009:302]) start to ripen during the rainy season. Animals that feed on these fruits, like the howler monkey and the spider monkey (T: *Arimi*, L: *Ateles paniscus*), start to grow

86 My 2008 fieldwork period lasted 72 days during which any exchange could be monitored and during which I made trips to two other villages. During these trips I could not track the entire daily mobility in and around Amotopo.

87 Of these 67 exchanged animals, 51 were entire individuals and 16 not. The latter should be understood as, for instance, the exchange of only a fish head or tail.

88 At a certain moment during my fieldwork a large exchange was being prepared that included several smoked and grilled mammals. This exchange, however, was cancelled at the last minute when it appeared that the small airplane, the intended vehicle of transport, was not continuing to its expected destination.

fat and, and due to this, they become desired game. The tapir (T: *Pai*, L: *Tapirus terrestris*),[89] the iguana and the black curassow are also said to make good catches during the rainy season. It should be remembered that the highest level of water in the rainy season comes to flood the islands in the river. These island animals (armadillos, agoutis) incur the loss of land and, while fleeing the floods, become an easy catch. Well aware of this, the Amotopoans exploit this situation. Next to the animals mentioned, Heemskerk and Delvoye also add the giant anteater (T: *Masiwe*, L: *Myrmecophaga tridactyla*), the agouti[90] and the caiman to this rainy season list (2007:58).[91] The red-tailed catfish, the granulated catfish and the tiger shovel-nosed catfish become the desired rainy season catch once the water rises.

During the dry season the water level drops. Now fish, *in casu* the anyumara (T: *Aimara*, L: *Hoplias macrophtalmus*), peacock bass (T: *Tukunari*, L: *Cichla monoculus*) and pacu become the desired species. On the land, Sauari nuts (T: *So,* L: *Caryocar nuciferum* [van Andel 2000:48-9]) and Macca nuts (T: *Murumuru,* L: *Astrocaryum sciophylum* [see Hoogbergen 1996:219]) start to ripen. According to the Amotopoans, this mainly attracts the paca, the collared peccary (T: *Pakira,* L: *Tayassu tajacu*) and the white-lipped peccary (T: *Poinjeke,* L: *Tayassu pecari*). The deer (T: *Wikapau*, L: *Odocileus virginianus*; *Mazama americana*)[92] become desirable, too, and are said to feed on flowers at this time. Heemskerk and Delvoye confirm this (as to the *Odocileus virginianus*), although they add that at this time a deer is eaten because of their leanness, since their fat is not much preferred. They add the savanna tortoise (T: *Oi kurija*, L: *Geochelone carbonaria*) to the list of the sought-after dry season animals. The eggs of the iguana, which become available during the dry season, are considered a true delicacy. Heemskerk and Delvoye describe how the falling water level also offers the hunter an advantage by forcing all animals to find their way towards a small remaining volume of sweet water, in this way becoming easy prey (2007:59).

89 Heemskerk and Delvoye state that tapirs are only caught if enough hunters are available to transport the animal (Heemskerk & Delvoye 2007:58). This can be corroborated by my own data, since the Amotopoan men also shot a tapir on one occasion. Since the heavy game could not be lifted out of the water by the two young hunters, it could not be brought to the village and was considered lost in the river.

90 The agouti is reported to be an easier catch after it has eaten fermented fruits, rendering it somewhat 'drunken' (Heemskerk & Delvoye 2007:58).

91 It should be mentioned that Heemskerk & Delvoye reflect on the seasonal variety of the Trio village Sipaliwini near the savanna.

92 According to Teunissen *et al.* the Trio name *Wikapau* refers to the *Odocileus virginianus* while the Trio name *Kajake* refers to the *Mazama Americana* (Teunissen *et al.* 2003). In Amotopo they seemed to refer to both species with the term *Wikapau* and only to the smaller *Mazama gouazoubira* by the Trio name *Kajake*.

4.2 The sphere of exchange *mobilia*

The next sphere of the *mobilia* to be dealt with is that of the exchange items of Amotopo. These *mobilia*, when ultimately broken or out of use, are mainly discarded in the toss zone (see 3.2.7, see Fig. 3.31). The durable exchange *mobilia* are, due to their nature, dominant within the archaeological discipline.[93] Within archaeology this group is normally comprised of lithic, shell ceramic and metal objects. As we will see this category is expanded in Amotopo by way of the many plastic objects added to the assemblage. The group of perishable organic artefacts are, needless to say, archaeologically the more ephemeral one, namely those made of materials such as wood, resin, cotton, vines, feathers and grasses.

A different perspective is adopted with regard to this sphere of *mobilia*. In order to incorporate the social element, social network tools serve to visualize the movements of goods on both the intra- and inter-village levels. However, since we are discussing the movements of goods between social nodes here and not the static dyadic relations, we might as well emphasize this difference. Ingold's term 'meshwork' seems to be a good replacement for 'network' emphasising its dynamic content. As stated in his recent publication he aims to reveal that which lies

> *"behind the conventional image of a network of interacting entities, what [Ingold] call[s] the meshwork of entangled lines of life, growth and movement. This is the world we inhabit. [Ingold's] contention, throughout, is that what is commonly known as the 'web of life' is precisely that: not a network of connected points, but a meshwork of interwoven lines"* (Ingold 2011a:63, see also Ingold 2007:80-82). [94]

Ingold's aim is to undo what he calls the 'inversion' of movement into nodes. My aim here is instead to shed light on the movements of objects *between* different social and spatial nodes. The latter are prerequisite and necessary archaeological markers. Indeed the flux of *mobilia* through a certain site should be seen as 'place-binding' trajectories (Ingold 2011a:148). However, when a certain artefact stops moving, it becomes an archaeological immobile node and thus its movement becomes inevitably inverted

93 In fact, it needs to be acknowledged that 'perishable' and 'durable' are in fact two opposing extremes of a continuing spectrum (Drooker 2001:5).

94 Ingold borrowed the term 'meshwork' from the philosopher Henri Lefebvre (Ingold 2007:80).

into a node.[95] Since I will discuss exchange *mobilia* that are all still in flux, it would here be apt to speak of 'meshworks' instead of 'networks', since we are dealing here with a snapshot of temporarily convening artefact trajectories.[96] In the first meshwork analysis, the exchanges (movements of objects between social nodes) *observed* during fieldwork are captured. This will incorporate part of the subsistence *mobilia* as discussed in 4.1. The second meshwork analysis will focus on the *reported* movements of Amotopoan objects which condense a time scale of up to, say, 30 years. In both cases the *mobilia* were still in flux, so no final spatial nodes could be postulated. Although it is assumed here, following observation, that some of these *mobilia* will eventually end up in the toss zone surrounding the village.

4.2.1 Observed flux of exchange mobilia

The first network is based on observed artefact exchanges that took place between Amotopoans and their exchange partners outside the village during 3 months in the rainy season of 2008. The nodes in the network are social actors both inside and outside the village of Amotopo. The movements of objects between these actors are visualized by directed 'edges' which are the arrows in the meshwork.[97] This meshwork of exchange represents a time slice of on-going, delayed reciprocal actions; therefore, in most instances only one 'half' of the exchange process could be recorded (see Appendices H and G). Whenever an exchange from one person to another comprised several items, these were all counted individually. In case of exchanged animals all were counted separately, even if it concerned certain body parts of an animal (in line with the Minimum Number of

95 At present Ingold seems to bring the pendulum to the middle, and sees a co-existence of a meshwork and a network. Referring to the archaeologist Carl Knappett Ingold states "should we not also be prepared to recognise that fluidity has its limits, its stoppages and its moments of consolidation? 'Up close' and immersed in the action, things may seem fluid, but what if we were to step back and take a longer and more measured view?" (Ingold 2011b:5). In another recent publication Knappett states that objects in networks and things in meshworks need not be opposed, but should be seen as different dimensions of the same process, the one being an analytical dimension, the other being experiential (Knappett 2011:40).

96 In a forthcoming publication together with Angus Mol, I discuss the same data in two *network* analyses that were interpreted in terms of power relations (Mol & Mans 2013). Here I will apply the same analyses, but will speak instead of *meshworks* since the focus is here explicitly on the movements and flux of objects. In both cases Visone software is utilised (www.visone.info).

97 The arrows which represent the movement of objects are ascribed a value from 1 to 4: the value '1' was ascribed to the movement of durable non-container items such as machetes, axes or even nylon bird nets; the value '2' was ascribed to the movement of durable container items including all metal pans and plastic bottles and bags; the value '3' was given to movements of animals ranging from living pets to dried, salted or smoked animal parts; and finally the value '4' was ascribed to the movement of organic (botanical) objects including items such as cassava products, arrow reeds and beads made from seeds.

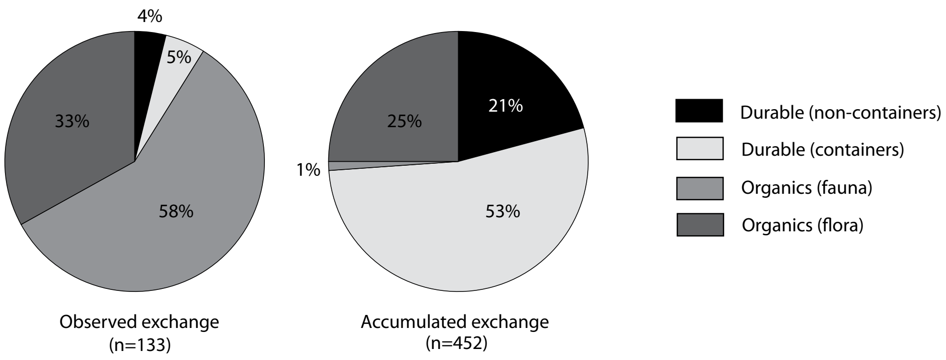


Fig. 4.7: The separate categories of objects of both observed (L) and accumulated Amotopoan exchange (R).

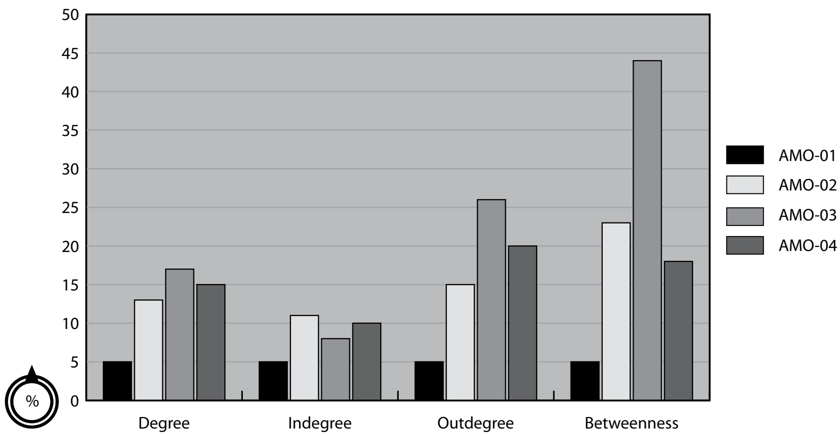


Fig. 4.8: The different calculations reflecting the relative positions of four of the social nodes in the meshwork of the observed exchange.

Individuals [MNI] approach). For a number of botanical gifts a further differentiation was made.[98] In this way a total of 133 exchange items could be differentiated (for a breakdown into types of objects see Fig. 4.7, L).

The 133 object arrows show the movement of objects between 33 social nodes of whom eight were inhabitants of the village of Amotopo. Four of these inhabitants were selected for further analysis testing their intra-site centrality in the meshwork, namely captain Paneshi (AMO-01) and his wife Apëhpïn (AMO-02), their eldest son Atinio (AMO-03) and

98 In only a few instances was a large botanical exchange object divided into smaller units in order to make its value apparent in the network. For instance, the incidental case of a substantial exchange item of 35 arrow reeds was documented in the network as seven separate gifts, since the smallest exchange of reed observed was five arrow reeds.

his wife and *basja* Rosianne (AMO-04). Together they form the two most central marital pairs that formally lead the village. In describing the exchange of items, it soon became clear that the exchange of animals is a crucial part of the observed exchanges (see Fig. 4.7, L). All of the fish and game in Amotopo was caught by the men and was handed to the women for preparation. Fish or game meant to be given away was seen being prepared by either men or women.

The captain of the village in this case, however, is not so much occupied with hunting and fishing, but mostly concerned with collecting, craftwork, teaching, preaching and leading the village. Likewise, in the meshwork analysis, Paneshi (AMO-01) appeared less active in exchanges, which is reflected by his low centrality with respect to all 'centrality degree' analyses (see Fig. 4.8).[99] His wife, Apëhpïn (AMO-02), appears to play a far more important role. The network knowledge of the exchange spheres, especially regarding the observed food exchange, resides with her and to a lesser extent with her daughter-in-law (AMO-04). Apëhpïn is the one who knows who ought to receive what (see also Thomas 1972:23-24). In this case, exchange, and hence the movements of objects, is not only a man's affair but is in part mediated by women: the latter have an influence on the decision-making process of the exchange 'inside' the village; the men subsequently perform the actual movement of objects 'outside' the village.

Atinio (AMO-03) provides the bulk of all the fish and game to his fellow Amotopoans and even to actors outside the village, which results in a high 'outdegree centrality' (see Fig. 4.8).[100] The many object movements

99 A degree centrality analysis is the most basic analysis of social networks and is based on the total number of edges connecting to a certain node, which can then be analysed in relation to the degree centrality of other nodes in the network (see Koschützki *et al.* 2005:20). In the presented meshwork, this degree shows how actively a person is involved in the movement of objects. Working with meshwork data (based on directed edges or 'arrowed' movement), we also looked specifically at two other degree analyses. Indegree centrality is calculated by adding up the incoming edges of a certain node, while outdegree only counts those edges that leave the node. Translated to our meshwork, it could be said that a person with the highest indegree is the greatest receiver of objects. The person with the highest outdegree is he or she who is the greatest giver of objects. Next to these degree analyses also the betweenness centrality of nodes is used (Koschützki *et al.* 2005:29-31). Having a relatively high betweenness centrality means being on many of the shortest paths between nodes relative to the other nodes. The person with the highest betweenness centrality therefore has the most face to face exchanges with different people and can be called the middle-man in terms of exchanges and object movements.

100 Although I could observe most of the exchange of fish and game from Atinio to his wife and mother, I could not oversee what game and fish they, specifically Apëhpïn, would receive from her other sons. Since I did not observe her husband Paneshi hunt himself, it is here assumed that Atinio provided the bulk of fish and game to both his wife Rosianne and his mother Apëhpïn, which they subsequently redistributed, the exchanges of which I could observe. Although I focus here explicitly on these four individuals, it could well be that her betweenness degree might be higher and that of her son, Atinio, lower.

in which he is actively involved, as is shown in the meshwork, is the result of his encounters outside Amotopo with many people some of whom exclusively exchange with him. This is reflected in a high betweenness centrality level. Regarding the flux of exchange items it suggests he acts as middle-man between Amotopoans and non-Amotopoans. He has the most face to face interactions with different actors in and outside Amotopo and is responsible for the bulk of the flux of *mobilia*; he is a vital part in this Amotopoan meshwork (see Fig. 4.9).

Atinio (AMO-03) not only functions as a middle-man for the relatives within his own village, but also for several villages located to the south and the north of Amotopo. For instance, although not incorporated in the current dataset, there is a long-standing tradition of inter-tribal exchange between the Waiwai and the Trio that plays a role in Amotopoan

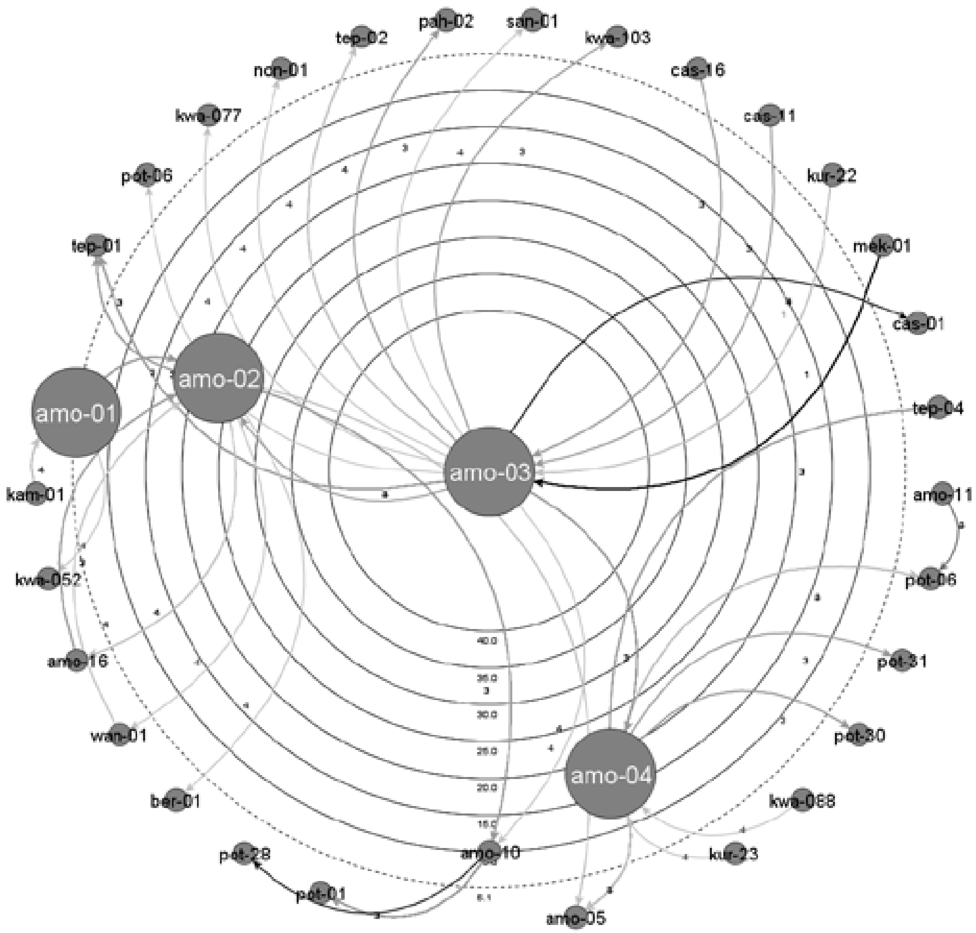


Fig. 4.9: The observed exchange network of the Amotopoans during the rainy season of 2008, showing the relative level of betweenness.

interactions. Atinio (AMO-03) contributes to these interactions by receiving hunting dogs and manioc graters from the Waiwai village of Casuela and subsequently taking them to the Maroons near the coast, in return for manufactured goods from Paramaribo (see 4.2.3; see also Howard 2001:229).

Several conclusions can be drawn from this meshwork. The first is that captain Paneshi (AMO-01), the main official political figure, plays only a minor role in the sphere of exchange mobilia, and that his eldest son is the one who is mainly active in this sphere (cf. Butt-Colson 1973:7). The two wives (AMO-02 and AMO-03) are more at the receiving end of the exchanges than their husbands (see Fig. 4.8). This is partially because they receive, prepare and redistribute animals for exchange, which they in turn have for the largest part received from Atinio (AMO-03). Subsequently they also exchange a portion of their own acquisitions, processed root crops and seeds. Remarkably, the Amotopoans gave far more than they received within the observation period. This can be explained by the fact that no other people hunt and fish in this area and therefore the yields are high. It can also partially be due to the rainy season: many fish typical for this season are caught (see 4.1.5). This situation is exploited in order to produce a surplus of food for exchange purposes. This appeared to be Amotopo's exchange specialization during the rainy season of 2008.

4.2.2 Reported flux of accumulated exchange mobilia

The second meshwork has a more specific spatial intra-site context that concentrates not on the observation of exchange, but on the accumulation of *mobilia* in houses. In 2008, nine of the sixteen large structures were in use (see Fig. 4.1). An object inventory was made of six of these structures (see Fig. 4.10).[101] These included two habitation structures (ST-12 and ST-20), three kitchen structures (ST-10, ST-21 and ST-37) and a storage structure (ST-22). All six structures discussed in 4.2.1 are owned by the two aforementioned central marital pairs (AMO-01 & AMO-02, AMO-03 & AMO-04). Inside these six structures a total of 452 objects were inventoried (see Appendices I and G). The inventoried structures can be divided into: (a) a group made up of the habitation structure ST-20, kitchen structure ST-21 and storage structure ST-22. These form the first compound (*sensu* Siegel 1990:338) and belong to Paneshi (AMO-01) and

101 The other three structures were not inventoried due to the fact that they belonged to new Amotopoans with whom a strong bond of trust with the researcher had not yet developed.

his wife Apëhpïn (AMO-02),[102] (b) a compound made up of the habitation structure ST-12 and kitchen structure ST-37, both belonging to the second household formed by Atinio (AMO-03) and his wife and Rosianne (AMO-04) and (c) the communal cooking structure ST-10, which serves all.

In essence, the four social nodes in the meshwork (AMO-01 & AMO-02, AMO-03 & AMO-04) form the core group of Amotopo. Atinio (AMO-03), while representing the four, was asked about each of the 452 objects: Had they acquired them themselves? Had they received them from someone else (for a division into types of objects, see Fig. 4.10).[103] In the latter case, he was asked from whom the object was received, to whom it was given and where it was given. As to the total of 452 inventoried objects, for 98 (21%) of them it could no longer be recalled how they had ended up inside their structures. As to 76 objects (17%) it was remembered that these were procured or purchased and brought into the village by Amotopoans themselves. As to the remaining 282 objects (62%) they remembered that these were received either as a gift or through exchange with others. This number is applied in the present meshwork. The result of this inquiry is an insight into the accumulation of exchange *mobilia* temporarily stationed in the habitation and cooking structures of these four actors.[104]

In this meshwork of accumulated objects it appears that Apëhpïn (AMO-02), the captain's wife, was involved in most of their trajectories as is reflected in her highest centrality degree (Fig. 4.14). In this respect, her husband, captain Paneshi (AMO-01) on the other hand was the least involved in the exchanges. His outdegree, however, testifies that the little

102 Although these were the possessions of the captain and his wife, their youngest son Mëpi (AMO-16) his wife Sarita (AMO-17) and their daughter Tërise (AMO-18) were sleeping in ST-20 in 2008. Instead captain Paneshi and Apëhpïn slept in their hammocks in the western extension of ST-01, the communal house. That being said, almost all objects in the ST-20, ST-21 and ST-22 were their belongings.

103 The structured interviews for the meshwork data were conducted with Atinio (AMO-03). He appeared to know who had given what object to whom as to the majority of the objects, probably due to the fact that he played a central role in the movement of most objects. Although it is true that marital pairs form economic units in exchanges (see Howard 2001:39), individuals were mentioned when the question was asked who the present owner of a certain object was. When it came to objects he did not know he asked his mother (AMO-02), his father (AMO-01) or his wife (AMO-04).

104 It should be stated that the objects inside the habitation structures (within the wall-planks) were not inventoried due to the fact that I had previously realised that this was entering a very private circle. I considered myself intrusive enough already and decided not to cross that boundary of privacy. This implies that any private possessions inside the house could potentially and probably be older and more valuable. The objects inventoried in the habitation structures were predominantly found at the back of the habitation structures, outside the enclosed interior. In addition, one could say that true valuables nowadays are, for instance, a watch, an outboard engine or a shortwave radio. None of these were found inside the inventoried structures.

Fig. 4.10: Amotopo and the six inventoried structures.

involvement he had was mainly on providing objects to his wife. Their eldest son Atinio (AMO-03) had the highest outdegree (Fig. 4.11). This is probably due to the fact that he is the one provisioning predominantly his mother and his wife, with the most *mobilia* which he acquired through exchange. With the exception of some objects which the wife of the eldest son (AMO-04) gave her mother in law (AMO-02), the Amotopoan women in general are not 'providers' but 'receivers' of *mobilia*, most of which are durable containers (see Fig. 4.7 R), via the men.[105] When plotting the accumulated *mobilia* in a meshwork it becomes clear that Apëhpïn (AMO-02) is at the receiving end of the bulk of exchanges; the movement of many objects is temporarily paused in her possession (see Fig. 4.12). This corroborates the results of the meshwork constructed from the observed exchanges.

105 In the 1960s Peter Rivière also noted that women had more possessions than the men, because of the many utensils necessary for cassava production and other food preparations (1969:40).

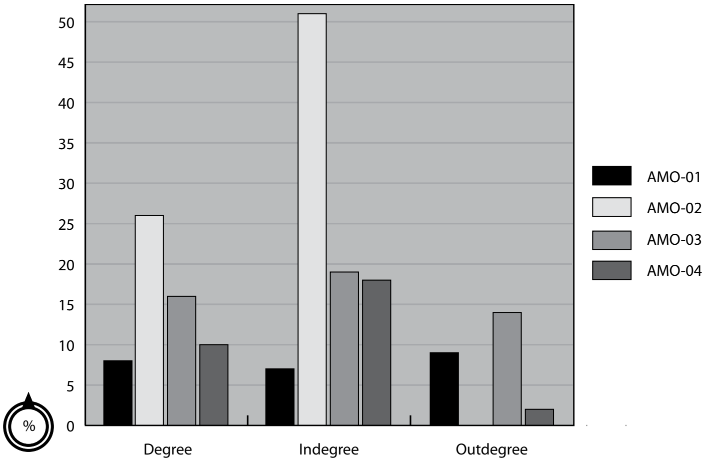


Fig. 4.11: The different calculations reflecting the relative position of four of the social nodes in the analysis of the accumulated exchange.

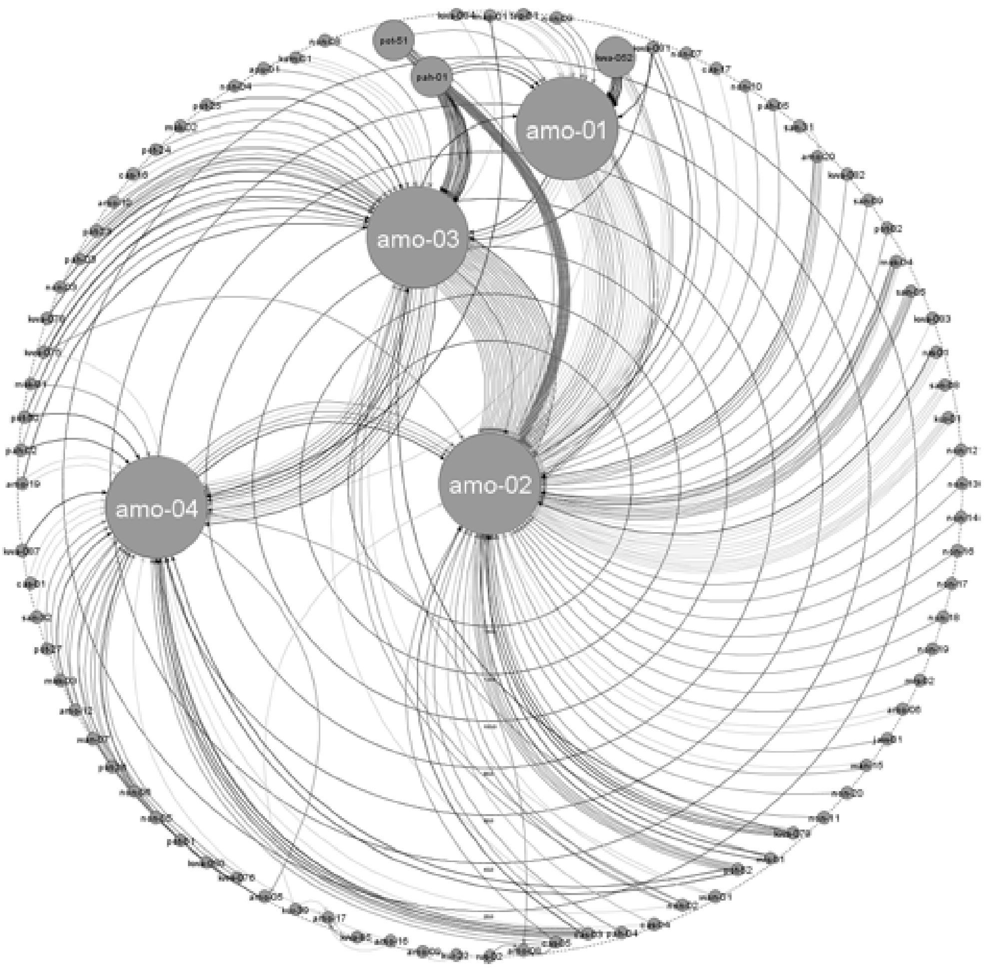


Fig. 4.12: The accumulated exchange network of the Amotopoans in 2008, showing the absolute level of degree.

In sum, the two meshworks of Amotopo show that the captain (AMO-01) is neither responsible for exchanges, nor the most important meshwork actor in the studied spheres of exchange *mobilia*. Atinio (AMO-03) on the other hand appears to be the person who predominantly exchanges with outsiders, as reflected in his high betweenness centrality for observed exchanges and degree centrality for accumulated goods. In fact one can say he is the middle-man between Amotopoans and outsiders. Antinio appears a driving force behind the movements of objects in and out of Amotopo. Additionally, the fact he has a high outdegree centrality in both meshworks shows that he gives away many objects and does not possess many objects himself. The female actors, Apëhpïn (AMO-02) and Rosianne (AMO-04), have an unexpectedly high degree centrality in both meshworks and a relatively high betweenness centrality in the meshwork of observed exchanges. This is because they process the food that comes into the village before it is redistributed. In terms of reported exchange they are at the receiving end of most *mobilia*.

Between these two meshworks a difference can be observed between perishable exchange *mobilia* and durable exchange *mobilia*. The exchange of botanical and faunal objects seem to approach the most recent face-to-face exchange meshwork of a village, whereas the durable *mobilia* together condense an accumulation of multiple exchange networks. Let us take a look at the oldest object for which a context was known. It concerned a metal pot which Apëhpïn (AMO-02) received from the missionary Claude Leavitt (NON-09) in Alalapadu in 1967. This object, which reflects an exchange element of the Alalapadu network of the 1960s, subsequently moved to Kwamalasamutu with its owner, who still uses it in Amotopo. In order to calculate the effect of this I have plotted the approximated years from when these objects were acquired. This was possible with regard to 179, *i.e.*, 63% of all the exchanges.

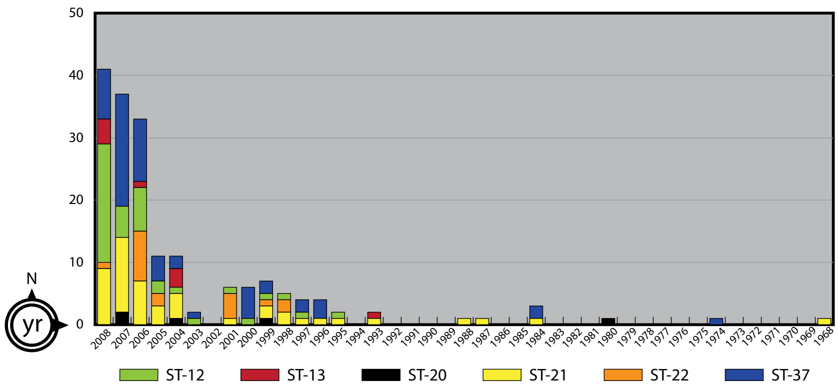


Fig. 4.13: The present location of inter-village mobilia and when they were approximately received.

Of these 179 objects everything before 2001 can be seen as most probably brought along with the residential move from Kwamalasamutu to Amotopo. In total now we are dealing with 44 objects which is 25% of the total of 179 objects for which an approximate year could be given. There are only two objects from Alalapadu, the other 42 objects represent the Kwamalasamutu exchange network of their owners (see Fig. 4.13 between 1975 and 2001). Although the 2001-2008 acquisitions show 75% of all the accumulated goods, a great deal of the newly acquired items is still in flux and a great deal will be exchanged on. The oldest durable objects, the ones the Amotopoans use most frequently, seem most likely to be discarded the earliest in the new site, over-representing former exchange networks in the archaeology of the new village. Durable exchange *immobilia* therefore potentially come to represent a sequence of networks that predates the investigated archaeological site.

4.2.3 Reported information on different exchange objects

In the two meshworks, data were applied that can be considered snapshots of a totality of village object movements. Both are quantitative reports of exchange *mobilia* trajectories in the village in 2008. However, due to the specific foci of the two meshworks, the movements in a short period of time and specific temporary locations, there was as yet no room for individual object histories. Here I will take an approach in an attempt to contextualise these analyses with more reported information on some of these object trajectories from and to Amotopo. It will contextualise the goods themselves and their inter-site movements as seen from Amotopo. The earlier archaeological division of botanical and faunal perishables and durable containers and non-durable containers will be upheld.

4.2.3.1 The exchange of botanical objects (perishable)

The most fleeting group of objects are from the viewpoint of archaeology, those made of botanical perishables. Objects such as bows and arrows, resins, plaited objects, nuts, seeds and root crops belong to this group. For this group of objects the people seem most reliant on their immediate surroundings, but, as it appears for Amotopo, also very much on exchange. It turned out that the exchange of perishable crafts is very much at the heart of the Trio exchange sphere.

Amotopo receives almost all of its plaited objects from other villages. I observed during my first fieldwork period how the Amotopoans took on board two manioc sieves (T: *Manare*) and two manioc squeezers (T: *Matapi*) in Sandlanding on their way back to their village. Apëhpïn had ordered these from Maita (SAN-08). In return she gave 25 kg of processed baked manioc (T: *Kajama*) and two Waiwai manioc grater boards

(T: *Simari*). Other examples come from the object inventory. In 2007 Apëhpïn (AMO-02) received two manioc squeezers from Santana (KUR-01), for which 20 kg of sugar was given in return. In 2008 manioc squeezers and sieves were also obtained from Casuela, for which fishing nets were given in return.

Another plaited object to reach Amotopo through exchange is the fire-fan (T: *Sipari*). Apëhpïn was given a fire-fan by Kasa (WAN-15) which she exchanged for a 1.5 litre bottle filled with salt, a similar bottle containing crushed dried peppers and a t-shirt. Rosianne received a fire-fan made by Mani (KWA-075) in exchange for a plastic bucket. Likewise, in 2006, she received a fire-fan from Santana (KUR-01) in return for a pack of batteries. From Arapahtë (WAN-01) a fire-fan was obtained for which Atinio gave back 10 kg of processed cassava (T: *Kajama*). Later, when documenting the objects in the structures, I encountered several plaited objects also made by Paneshi (AMO-01), Pepu (RUS-01), Ande (AMO-06) and Erijam (AMO-19). I then realised that in Amotopo the knowledge was actually present to produce a number of these plaited objects and was informed that they chose to exchange these goods with people in other villages, because 'it is family'.

Further examples of botanical exchange items are the bow and arrow. The Trio make use of the bow and arrow on a daily basis, alongside shotguns, mainly for hunting iguanas and fish. In order to make a bow and arrow you need several resources: bow wood, arrow reed, an arrow point, resin, rope and feathers. The latter two can be found in the vicinity of the village. The fibres of silk grass (T: *Wïrawaito,* L: *Bromelia alta* [Teunissen *et al.* 2003]) are twined into a rope. Paneshi (AMO-01) grows several plants of this species near the village (No. 29 in Fig. 3.31); he is skilled in twining. The feathers are mostly taken from the black curassow, the meat of which is regularly consumed. The arrows are often decorated with small feathers of the white-throated toucan (T: *Kijapoko*, L: *Ramphastos tucanus*). The arrow points consist of small pieces of iron bars which they have brought from the former village. I once observed how Atinio (AMO-03), on a visit to Kuruni, received a piece of bow wood (T: *Wïrapa*, L: *Piratinera* sp. or *Brosimum* sp. [Teunissen *et al.* 2003]) from Tarïjasi (KUR-22). It was presented to him so that he could make a bow for his son Marcel (AMO-09). Later it became clear to me that the Amotopoans also have a bow wood tree in the vicinity of their village. Arrow reed on the other hand (T: *Pïreumë,* L: *Gynerium sagittatum* [Teunissen *et al.* 2003]) does not grow in Amotopo. I was informed that they are starting to grow it in

Casuela, but that it is still of little importance. For the past years they have acquired arrow reed through trading partners in Kwamalasamutu.[106]

The resin *mani* (L: *Symphonia globulifera* [Teunissen *et al.* 2003]), which is applied in tar for ropes, allegedly travelled the furthest. Atinio (AMO-03) obtained the *mani* from Eimmun (MAP-01), a Waiwai living on the Brazilian Mapuera River (see also Howard 2001:229). Atinio met Eimmun in Kwamalasamutu and informed me he had acquired the *mani* in a bamboo tube (*c.* 80 cm/ ø 4.5 cm) from him. In addition, Atinio was also presented with a piece of *barata* (L: *Manilkara bidentata* [Teunissen *et al.* 2003]) which was stored in a smaller bamboo tube (*c.* 40 cm/ ø 3 cm). The resin *barata*, applied to shaft arrow points into the arrow reed, was given by Atinio (AMO-03) to his father (AMO-01), who in turn gave half of the *barata* to his brother Pikiku (KAM-01). Over the years Atinio has presented pieces of this *mani* (*c.* 10 cm) to his younger brothers Petinia (AMO-10) and Atima (TËP-05), to Pono (KUR-12), Tina (CAS-04) and a large piece of 40 cm to Kujimpë (KWA-079). Amotopo obtained new *mani* from Casuela in exchange for fishing line and fish hooks.

Several other botanical items are among the resources that leave Amotopo. Apëhpïn (AMO-02) has acquired several objects in her house for the return gift of threaded cotton. Likewise, she regularly sends fresh chili peppers to the captain of Wanapan, Arapahtë (WAN-01) (see Nos. 20, 21, 22 in Fig. 3.31). Another plant that grows well in Amotopo is annatto (T: *Wïsee*, L: *Bixa orellana*) the seeds of which serve as red pigment (No. 30 in Fig. 3.31). Atinio brought four branches of annatto to Aisaki (SAN-01). Brazil nuts are either received from Casuela, close to which there is a grove of Brazil nut trees (T: *Tuhka,* L: *Bertholletia excels* [Hoffman 2009:109]). The Amotopoans either acquire it from the people of Casuela through exchange or they procure it there themselves. Once these Brazil nuts are collected, they are sent to the city, for which city products are acquired. Furthermore, containers of calabash (T: *Kariwa,* L: *Crescentia cujete* [Teunissen *et al.* 2003) are found in Amotopo. These have been provided by people from Sandlanding and Casuela since it is not yet fully grown in Amotopo.[107] As to the category of decorative seeds, several exchanges have been made.[108] In 2006, Rosianne (AMO-04) acquired

106 Arrow reed can therefore be considered a scarce commodity in Amotopo. When missing a shot for an iguana on a branch near the river, one has to go downstream with the canoe quickly to retrieve one's precious arrow.

107 Apëhpïn is now trying to grow calabash as well (see No. 6 in Fig. 3.31) after acquiring the seeds from Sandlanding in 2006.

108 Decorative seeds are used to make necklaces, bracelets and belts which the people of Amotopo wear themselves. However, they prefer beads (glass or plastic) from the city which they say are more beautiful. They mostly sell the adonments made from seeds to tourists who like them the most. Those staying near Amotopo in a tourist lodge sometimes visit the village before returning by plane to Paramaribo. Their beadwork is also sold to various shops in the capital.

through Dinia (CAS-05) a small bucket filled with sugar in return for an undefined quantity of painted *mara mara* (T: *Mara mara*, L: *Didimopanax morototoni* [Teunissen *et al.* 2003]) which is the most widely used decorative seed among the Trio. Atinio received kufa seeds (T: *Wanapan,* L: *Clusia grandiflora* [van Andel 2000:II:65]) from *basja* Jan (WAN-07) in return for chili peppers.[109] I have seen a number of decorative seeds being collected by men and women during visits to other villages. Special trips to collect these have, however, been reported too.[110]

The final, and largest, group of exchange objects in this category to leave Amotopo, is manioc. This will become apparent from the examples mentioned in the following sections that are return gifts for the accumulated objects. In 2007 I witnessed that the inhabitants of Amotopo were capable of producing a large surplus of manioc which they exchanged, in processed or raw form, to numerous trading partners. Due to bad harvests that year, their former village Kwamalasamutu was in desperate need of manioc. The Amotopoans managed to send 400 kg of manioc (a full Cessna, paid for by the government) to their former village. In 2008 I could observe far less of the botanical food exchange. The reason for this was that, in that year, the heavy rains had fallen on the Amotopoan side and had ruined the majority of their crops.[111]

4.2.3.2 The exchange of animals and faunal objects (perishables)

Whereas the manioc yield was low in 2008, this was not the case for the catch of fish and game. As revealed above in the first meshwork, almost a quarter of all the fish left the village again. Several of the dried and smoked fish were sent either to trading partners in Paramaribo or Kwamalasamutu. Fish was then sold in Paramaribo (mostly pacu) for which small city objects such as shotgun cartridges, batteries, bread, sugar and salt were sent to Amotopo in return. The remaining dried and smoked fish were sent to family relatives in Kwamalasamutu. The majority of these fish are transported via the small planes which land in Amotopo. These planes generally speaking come to Amotopo in order to bring and pick up tourists who travel on to a tourist lodge *c.* 30 minutes upstream from Amotopo.

109 The village of Wanapan is named after the presence of many of these plants found in that locality (T: *Wanapan*, L: *Clusia grandiflora*). Kufa plants, however, can also be found near Amotopo.

110 Reported examples of the seeds they have procured, either in the vicinity of Amotopo or on trips to other villages, are *wëteu*, *tokiriman* (L: *Dialium guianense* [Hoffman 2009: 305]), *mokoko enu* (L: *Eugenia coffeifolia* [Hoffman 2009: 310]), *pïeura* (L: *Socratea exorrhiza* [Hoffman 2009: 322]), *makui ipana* (L: *Mendoncia hoffmanseggiana* [pers. comm. Hoffman) and *mara mara*.

111 Due these bad yields, the Amotopoans received food packages (rice, sugar, salt, stock cubes, etc.) from the Red Cross.

The Amotopoans are allowed to load a certain number of small packages on board the plane whenever space permits. If a seat is available the Amotopoans can also fly to Paramaribo.[112] However, speaking from personal experience, these flights can be very infrequent and are mostly dependent on tourist bookings.

More reliable is travelling up and down the Corentyne River by canoe, which also gives the Amotopoans more opportunities to bring and collect a larger number of objects. Other exchange goods that pass through Amotopo in this manner are hunting dogs. Amotopo has hosted many dogs in its young existence, testified by the large number of kennels (see 3.7.2.1). During my fieldwork I did not directly witness any dogs being exchanged, although I did see the objects given for them in return. In 2007, I observed an exchange between Atinio (AMO-02) and Kenki who lives in the Waiwai-Trio village of Casuela. Atinio gave Kenki (CAS-01) a shotgun in return for a hunting dog and two backpacks of manioc. Atinio, in turn, sold this hunting dog to a Maroon from Godolo in Paramaribo. In 2008, he received another hunting dog from Kenki (which originally came from a Wapishana) which he intends to exchange in the city in the near future. Therefore this dog was in transit in Amotopo. In a second example dating back to several years ago, Atinio had given the aforementioned Waiwai Eimmun (MAP-01) a HiFi stereo-set when he was still living in Kwamalasamutu. In return Atinio will receive a hunting dog from Eimmun at some point in the future when visiting Mapuera. This should be considered a long delayed return.

The trade of hunting dogs between the Waiwai and the Trio has been noted by several anthropologists (Howard 2001:227-229; Mentore 2005:61). Based on Waiwai field data from the 1980s, Howard gives an example of trade goods from the Waiwai to the Trio from the village Kaxmi which now no longer exists. She mentions that the Waiwai of Kaxmi

> *"concentrated on the animate wealth specialties of parrots and dogs. Most of these were sent to the northern Waiwai village, from where they were then passed on to the Tiriyó of Surinam in the east, thence to the Maroons. Along with dogs and parrots went various subsidiary specialties such as cotton thread (formerly also loincloths), annatto face paint, hair oil from Brazil nuts or palm fruits, balls of resin, arrow reeds and pepper sauce. In exchange they received manufactured goods from the Tiriyó: aluminium pots, knives, iron tools, mosquito nets, and glass beads"* (Howard 2001:229).

The Amotopoans acquire dogs from the Waiwai and from the Lower Corentyne agglomeration. Apëhpïn was given a puppy by Noeimi (WAN-10) and Atinio was given a dog by Panuweo (SAN-02) for which he said

112 Atinio (AMO-03) helped to clear the airstrip in Amotopo. In return he could enjoy free travel to the city (whenever there was a vacant seat) or send packages whenever there is any space.

he gave 5 kg of *wëteu* (seeds) in return. A final example comes from the inventory of the accumulated objects. One of Apëhpïn's metal pots in ST-21 came into her possession in 1984 through the exchange of a hunting dog with Sopo (KWA-19) who now lives in Kusare (Brazil).

4.2.3.3 The exchange of containers (durables)

Most information on the exchanging of durable containers derives from the object inventories. Having started with the object inventories in 2008, I encountered new plastic plates (T: *Ërimakë*) in one of the structures and realised that a few I had spotted in 2007 were missing.[113] After asking Atinio about this he explained to me that when visitors arrive in the village food plates are offered to those who do not have plates. In 2007 for instance Anturu (KWA-065) came from Kuruni on a visit with his children. Apëhpïn gave two plates to Anturu for him to keep, for which she received a piece of soap and a package of stock cubes in return. And, Rosianne gave him two plates, for which Anturu returned 5 kg of sugar. During the inventorying it became clear that earlier in 2008 Atinio had sent ten plates to Eimmun in return for the *mani* and *barata* he had been presented

Fig. 4.14: A metal pan (stored in ST-22) was presented by Pesuwi (SAN-05) to Apëhpïn (AMO-02).

113 During my first fieldwork in Amotopo, in 2007, I started drawing up some initial house inventories in Amotopo. Upon return for my second fieldwork a year later, I decided to conduct these inventories more systematically.

with earlier. Tusiki (RUS-03) brought them by canoe to Kwamalasamutu, where Eimmun was at the time. Apparently there had been a large flux of plates from Amotopo to the south in a short space of time. The ensuing void was filled with new plates from the coast.

Another group of durable containers consists of metal pots and pans. In a few cases it could be noted that names had been engraved of former (female) owners, leaving a clear marker of exchange on some of the metal pots and pans. In Fig. 4.14 we see an example of such a metal pan. It was once owned by Pesuwi (SAN-05), a former Amotopoan (see 4.3), who in 2008 was living in the Trio village of Sandlanding. The metal pan was given to Apëhpïn (AMO-02) in 2006 and made its way into ST-22. Another object found in ST-21 was presented by Pesuwi to Apëhpïn. Around 1998 a metal mug was given by Pesuwi to Apëhpïn, when both were still living in Kwamalasamutu. As this mug was exchanged in 1998, it must have been Apëhpïn herself who brought this metal mug to Amotopo.

4.2.3.4 The exchange of durable non-containers (durables)

The category of durable non-containers includes, in fact, any durable object that is not a plastic or metal cup, pot, pan or plate. An example of an object in this category is the manioc grater board (T: *Simari*) which consists of wood and is studded with sharp stone chips of stone.[114] Manioc grater boards have been exchanged via Kwamalasamutu and Casuela to Amotopo. Subsequently these grater boards have been exchanged from Amotopo to people from Wanapan and Sandlanding. Rosianne (AMO-04) has given two grater boards to Pesuwi (SAN-05) in return for 25 kg of sugar, and Apëhpïn (AMO-02), too, has given two grater boards to Noeimi (WAN-10) also in return for 25 kg of sugar. In 2008, Rosianne received another three new grater boards from Kusipi (CAS-03) for which she gave back a large metal bowl (ø 40 cm) and a smaller one (ø 30 cm).

According to Howard, grater boards were predominantly produced in the Waiwai villages of Mapuera and Shepariymo (Xapariymo) (Howard 2001:227-9; see Fig. 4.15). The village of Shepariymo was deserted in 1986.[115] Some of its inhabitants now live in the village of Masakinyarï

114 These stones are called *sáma* by the Waiwai. According to Yde, the Waiwai used to travel two to three days to collect the stones that are suitable for the grater boards. There, a geological outcrop yields a type of stone which has been identified as hornfels. It can be described as a contact-metamorphosed rock. The Waiwai would collect blocks of these stones which were taken back to the village. Here only the outer layer of the block was utilised, the core was thrown away (Yde 1965:34-35).

115 For an ethnoarchaeological study of this village, see Siegel 1990.

(see Mentore 2005:59-60; Alemán 2005:2-3).[116] It is likely that the Amotopoan grater boards originally came from either the new Waiwai village of Masakinyarï, passing the Waiwai-Trio village of Casuela ('Cashew Island') or the Waiwai village of Mapuera passing through the Trio village of Kwamalasamutu. It is thus via both routes that Waiwai grater boards reach Amotopo. From here they are subsequently exchanged to an even more northerly location (see Fig. 4.16).

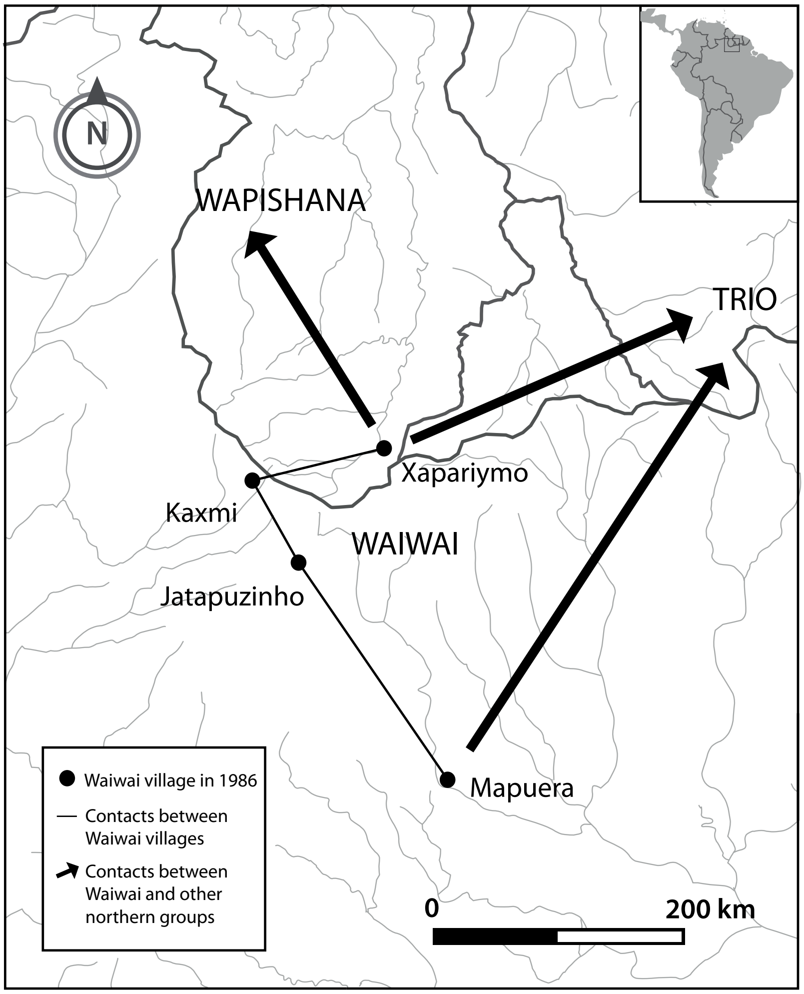


Fig. 4.15: Waiwai exchange routes in 1986 (redrawn from Howard 2001:228).

116 In 1986 the village of Shepariymo was deserted for a new village Akotopono, half a day downstream. This village in turn was deserted in 2000, splitting up into two factions. One faction founded a new village, Masakinyarï. Another faction moved further north to the Kuyuwini river where the village of Erepoimo was founded, which is now a Waiwai-Wapishana village (Alemán 2005:2-3; Mentore 2005:59-60).

In addition to grater boards, metal knives, machetes, shovels and other durables also fall into the durable non-container category. A great deal of these goods (machetes, shovels, axes, etc.) was provided by the government or NGOs, who distribute these objects to the villages in the interior. Goods, such as knives, are actually bought by the Amotopoans in Nickerie or Paramaribo. They then exchange these knives further to the south. For instance, Atinio has given Kenki (CAS-01) three knives, for which he will later receive 50 kg of Brazil nuts and 30 arrow reeds (when these will have grown to the proper size). In 2008 Kenki gave Rosianne a cassava squeezer for which she gave him a shotgun cartridge in return. Durable beads have also been exchanged. A bucket from Rosianne's house was received from Dinia (CAS-05) in return for which 500 g of glass or plastic beads were given.

4.2.3.5 Amotopoan exchange mobilia

As becomes clear from these examples of the various categories, several patterns have started to emerge (see Fig. 4.16). In general we can state that Amotopo receives plaited manioc sieves, squeezers and fire-fans from the nearest villages. Grater boards, resins and hunting dogs originate from the Waiwai, through the villages of Casuela and Mapuera, but dogs are also derived from the northern Trio villages. Amotopo in turn sells these hunting dogs to Maroons in Paramaribo. Arrow reed enters Amotopo from

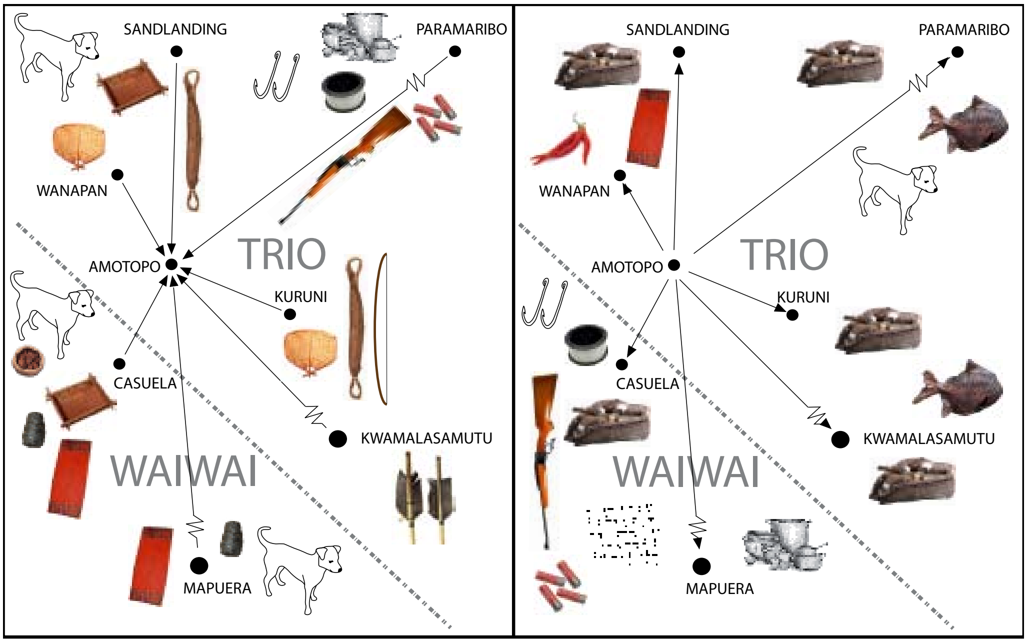


Fig. 4.16: Mobilia entering (L) and leaving (R) Amotopo.

Kwamalasamutu. From the capital, several durable products such as metal and plastic buckets, pots and pans, nylon fishing nets, shotgun cartridges, batteries etc., are sourced mostly by the Amotopoans themselves and in turn distributed to the hinterland. Likewise they distribute large quantities of manioc and large quantities of dried and smoked fish.

4.3 The sphere of residential *mobilia*

The residential *mobilia* are the traces or remains that explicitly signify the residential moves of people passing through a specific locality. The first group of residential *mobilia* are formed by those elements of the structures that cause the Amotopoan traces as discussed in Chapter 3. The Amotopoan structures will briefly be revisited and discussed in terms of their reported sequential appearances and will be related to the residential movements of the Amotopoans. The people themselves, and more specifically their bodies, form the second group of the residential *mobilia*. When someone passes away he or she is interred and the remains subsequently become immobilised. These mortuary features signify in this respect their final residential move. However, in Amotopo nobody has yet deceased[117] and therefore this part of the immobilisation process needs elaboration and a discussion on a deeper time frame (see Chapter 5). In order to shed light on the history of the built environment of the village, we will start this discussion with the first residents who in 2000 created a clearing and a garden in the location that came to be known as Amotopo.

The Okomoyana stepbrothers Paneshi (AMO-01) and Pepu (now RUS-01) were both captains in the village of Kwamalasamutu which to date is the largest Trio-speaking village in Suriname. In 1999, Granman Asongo (KWA-001), the paramount chief of the Trio, reasoned that their former land which extends to the north had to be re-cultivated before people from the coast could claim it as their territory. The Okomoyana stepbrothers were asked to return to the land of their Okomoyana ancestors, Pehkëtë, which is roughly the area between the Frederik Willem IV Falls and the confluence of the Lucie and Corentyne Rivers. Another reason given for movements out of Kwamalasamutu is that subsistence resources in Kwamalasamutu were slowly becoming exhausted. The children were often ill, which provided another impetus for several families to decide to leave the village.[118]

117 On my visits throughout the middle and lower Corentyne agglomeration I have only heard of only one individual passing away so far in the Western Trio group, namely a person from the Trio village of Kuruni.

118 The village Kwamalasamutu has been continuously inhabited from 1976 up to the present. In 2004 the estimated number of inhabitants was between 800 and 900 (Carlin 2004:2), whereas by 2009 this number had decreased to 600-700 inhabitants (Heemskerk & Delvoye 2007: 22; Carlin & Van Goethem 2009:17).

The Okomoyana families were not the only ones to leave Kwamalasamutu. Some years before they left, Aramayana (the 'bee people') and Sakëta families, and a Mawayana (the 'frog people') family moved out of Kwamalasamutu in order to found new villages to the northwest, along the banks of the Corentyne River. One family settled on the site of a former military camp which was already named Kuruni (also an ar-

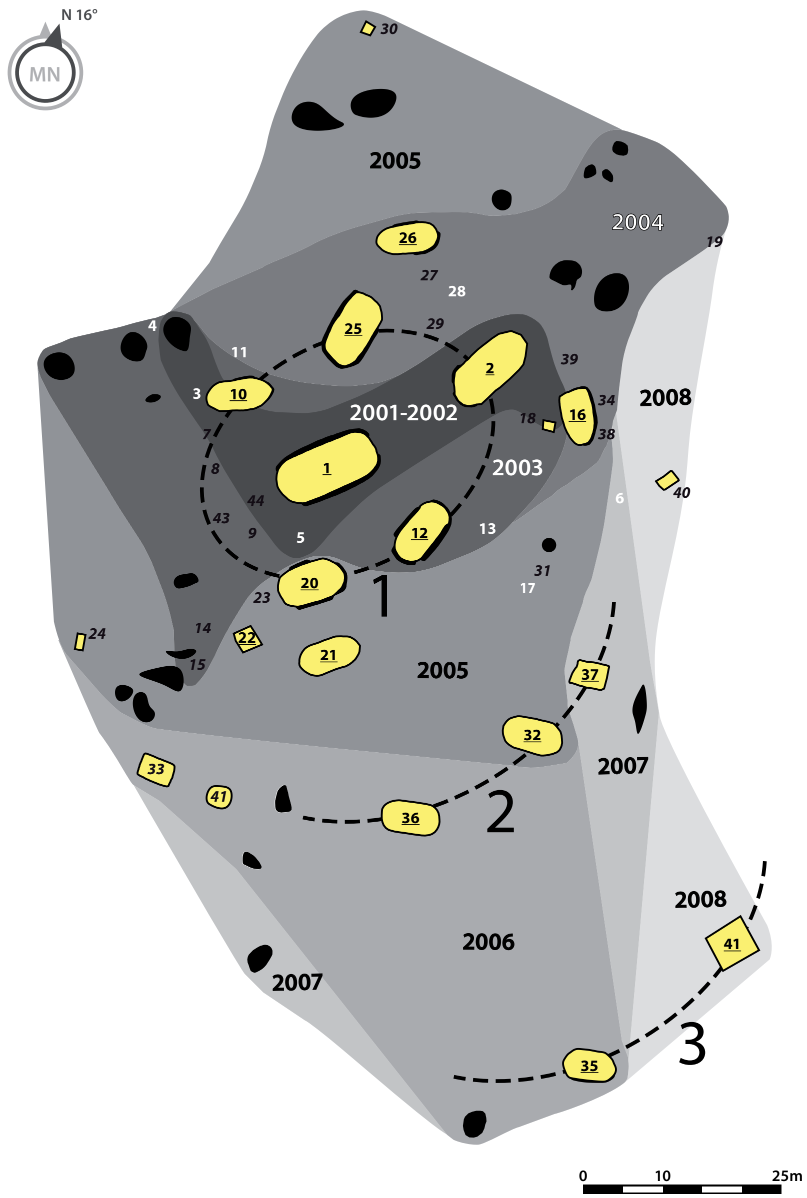


Fig. 4.17: The village layout and the related isochrones.

chaeological site, see Geijskes 1960 in Versteeg 1980:41). Another settled close by the Guyanese military camp called Tigri (the village is called also named 'Cashew island' or Casuela), and a third family settled down on another well-known archaeological site (see Versteeg 2003:87-95) which is located below the Wonotobo falls and is now called Arapahtë's village or Wanapan. Almost all seem to be positioned on previously inhabited sites.

In the late 1990s captain Paneshi (AMO-01) moved from Kwamalasamutu to Casuela and stayed there looking for a suitable spot in Pehkëtë. He found just that near the airstrip of Amotopo. Later his step-brother Pepu (RUS-01) and a grandson named Aterie (AMO-12) arrived from Kwamalasamutu and together they moved to the new spot. They decided to live in the wooden building that was already there,[119] while constructing a garden 100m further away. Starting off with only a small garden, they had no manioc at all but on occasion received some of it from the people of Casuela. When the first manioc was ready to be harvested in 2001, their wives Toke (RUS-02) and Apëhpïn (AMO-02) moved to Amotopo, together with Pepu's daughter-in-law Konsita (RUS-06). Firstly a camp structure (ST-5) was built. Next the communal structures (ST-01 and ST-02), a kitchen structure and several dog kennels were constructed in the garden (see Fig. 4.17, also for the structures mentioned below). Slowly, a village clearing started to emerge. After one year Aterie returned to Kwamalasamutu and a second-cousin of Apëhpïn, Erijam Numephë (AMO-19), came to Amotopo. Erijam was on his way to visit his mother (SAN-09) in the Trio village Sandlanding. In Amotopo he helped with extending the boundaries of the garden and the village. In the end, Erijam stayed for two years before continuing his journey.

In 2003, the household group of two nuclear families was expanded with another nuclear family, that of the eldest son of Paneshi, Atinio (AMO-03). He constructed a house for his nuclear family (ST-12). In 2004, Apëhpïn´s stepbrother Putu (SAN-04) arrived in the village. The latter started the construction of a house (ST-25, and a kitchen, ST-26) for his widowed sister Sarawa (AMO-20) who arrived in 2005 together with Putu's wife, Pesuwi (SAN-05) who is also Sarawa's daughter. In that same year, two more nuclear families came to Amotopo. The first nuclear family was that of Mereo (AMO-05), Paneshi's eldest granddaughter with husband Ande (AMO-06) and her son Erinalse (AMO-07) who constructed a house in the second ring (ST-32). The second nuclear family was that of Mepi (AMO-16), Paneshi's youngest son, and his wife Sarita (AMO-17). They arrived in Amotopo to stay in the house of Mepi's parents (ST-20) who subsequently moved their hammocks to the south-western extension

119 An old BWKW-building dating from the 1970s was built for the purpose of hydrological prospections in aid of the construction of a dam in the Corentyne River, known as the West-Suriname project.

of the communal house (ST-01). Also in 2005 one of the founding nuclear families, namely that of Pepu (RUS-01), his wife Toke (RUS-02) and their daughter-in-law Konsita (RUS-06), moved out of the village. They founded their own village, called Lucie (T: *Rusi*), on an island in the Corentyne River, 5 km downstream from Amotopo. In 2006, Aterie (AMO-12) returned to Amotopo and started constructing his own house in the third ring from the communal house (ST-35).

In 2007, Putu (SAN-06) and his wife Pesuwi (SAN-05) left the village for the Trio village of Sandlanding in the north. Sarawa joined them in order to collect her social security money and to visit her second daughter (SAN-09). During my second fieldwork it was not yet clear if she would return although ST-25 is still considered her house. In 2007, another nuclear family, that of Paneshi's second son, Petinia (AMO-10), his wife Senairë (AMO-11) and their children, arrived in Amotopo. Paneshi started to build a house for them (ST-36). Petinia himself was looking for gold in the east and arrived one year later. In 2007, two other nuclear families (the family of Mepi (AMO-16) and the family of Mereo (AMO-05) both went to live in Kuruni for a year. Both Mereo and Sarita (AMO-17) were pregnant and Kuruni is the nearest village that offers governmental health care. In 2008, they both returned to Amotopo. In 2008, the nuclear family of the captain's second son (AMO-10) left to visit family in the Trio villages in Brazil not knowing when and if they would return. In 2008, Erijam (AMO-19) returned after visiting his mother in Apura and started work on a new type of house (ST-42) he had seen in Apura, in the third ring next to Aterie's house.

It becomes clear from this diachronic description that not all the inhabitants of Amotopo are in residential stasis as they move back and forth between different localities (see Fig. 4.18). Whereas a roughly concentric village lay-out could be distinguished in 2008, it became clear that only

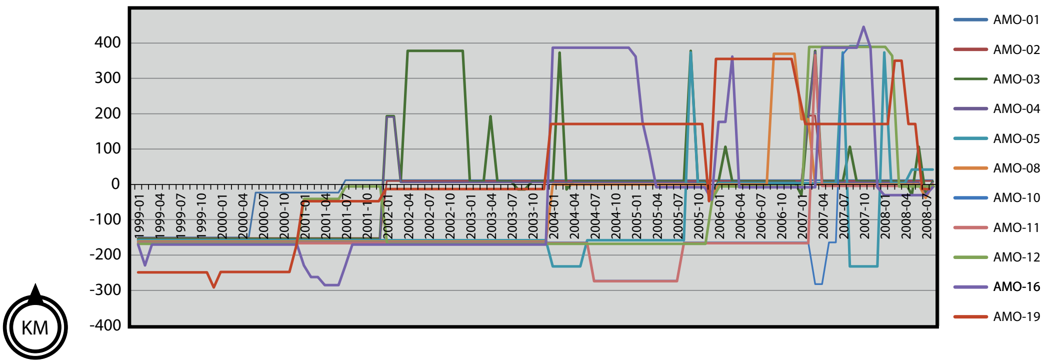


Fig. 4.18: Reported movements of ten Amotopoans. (The X-axis represent months and years [1999-2008], the Y-axis represents kilometers north [+] and south [-] of Amotopo).

part of it was inhabited. As new residents were building new structures in the second and third circle around the communal structure, some residents of the first circle might already have left. During the early years of the village the human flux is reflected in a horizontal accumulation. The outline of the village in 2008 should therefore not be seen as the material representation of the 17 residents, but as the sum of its human flux over eight years which in this case is that of 24 residents.

4.4 Conclusion

> *"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, analysed in terms of how these goods flowed through the exchange network and how their meanings were transformed through such channels."* Howard 2001:234

> *"The fundamental gender difference is not in terms of spatial spheres, or an opposition between a female, domesticating inside and a male, predatory outside, but rather between two different types of movement: whereas men are centrifugal, women are centripetal. Men physically spread themselves along networks which take them to diverse environments such as the city or the forest, thus exposing their bodies at a distance from the socialised centre of the village. Women, in turn attract external influence to the core."* Grotti 2007:181-182

The focus of the present chapter was on the *mobilia* of Amotopo. Having discussed the necessary material setting of the village in Chapter 3, here the focus was to perceive this static material setting of 2008 as the temporary outcome of all village movements. In order to facilitate archaeological divisions into this sum of trajectories, this total was divided into three spheres of movements which could be correlated to the material setting of Amotopo. These spheres are those related to subsistence *mobilia*, to exchange *mobilia* and to residential *mobilia*.

Subsistence *mobilia* are procured on a daily basis, are mostly collected within a day's range from the village and their remains end up on the refuse heaps of the village within several days (see 3.6.4, Fig. 3.31). Within this category of mobilia there exists a sharp division between acquisition of subsistence *mobilia* by men and by women. From what I could observe women most of the time move in the cultivated area from which they extract firewood, fruits and root crops. On the other hand men move outside of this sphere into an area that is their daily range in which they catch fish and game, and acquire fruits and construction materials. For the women I have marked this 'cultivated' area as the village, the adjacent gardens and the area including the bathing place. For the men it concerns the area in which they go fishing and hunting. These are not fixed spaces, but permeable ranges around the total of space they have 'delineated' themselves with through their daily movements. This gender mobility division is not always as black and white as I have observed it.[120] Occasionally women do accompany men on fishing or forest trips beyond the cultivated area.

The second sphere of movement is: the exchange *mobilia*. Social network tools were applied in order to visualize the movements of objects within the village. Instead of speaking of a 'network' it was considered more apt, however, to adopt the Ingoldian term of 'meshwork'. The reason was that the focus here was not necessarily on the power relation between nodes, but more specifically on the movements of objects between them. Two exchange meshworks were visualised for Amotopo: (a) actual observed exchanges and (b) reported movements of accumulated objects. Both meshworks indicated that the trajectories of the exchange *mobilia*, like the subsistence *mobilia*, presented us with a gender division in movements where women predominantly tend to accumulate and redistribute within the confines of the village and men predominantly move the goods outside and to the village. The temporary accumulations of exchange *mobilia* in the Amotopoan structures should be considered to be the material possessions of women, which in turn signify the actual exchange movements of the men.

In addition, a distinction could be made between the exchange of perishable and durable goods. The perishable goods (predominant in observed exchanges) seemed to reflect more short-term face-to-face exchanges. Part of the accumulated total of durable goods (predominant in the accumulated exchanges) on the other hand also represented previous exchange networks formed in preceding villages. It needs further investigation to ascertain if these previous exchange networks eventually become overrepresented in the totality of discarded exchange durables. As observed above the majority will probably end up in the toss-zone (see 3.2.7, see Fig. 3.31) surrounding the village where ultimately only durable fragments of these exchange *mobilia* will remain (cf. Siegel & Roe 1986). In that instance we no longer speak of meshworks. The object's movement becomes 'inverted' into a spatial immobile node.

Last, but not least, let us discuss the sphere of the residential *mobilia*. Although it may sound odd, the Amotopoans themselves are the main residential *mobilia* who in 2008 were still all *in flux*. When one of them passes away and is buried near or in the village, the body of the deceased will turn into residential *immobilia*. Its immobilisation will mark its final

120 It is reported that strict gender task divisions in general are gradually loosening in many Amerindian groups in Suriname and outside of Suriname too. (Boven 2006: 27).

residential move. Fortunately no Amotopoan has as yet deceased; we will further explore the trajectories of human *mobilia* in Chapter 5 where a longer term perspective is adopted. However, traces of residential *mobilia* are formed within the confines of the Amotopoan village too. A house or a structure is made during a brief period of time marking the residential move or moves of its first owners. The actual residential *mobilia* here consist of the posts that are used for the construction of the structure. Nevertheless, as to archaeology, we will hopefully identify these structures mainly thanks to their traces such as postholes, postmolds and ditches.

As demonstrated, above, the village Amotopo was not founded as a result of a group migration, in a literal strict sense of the word. People moved in, while others had already moved out of the village. Every family, however, contributed to the built environment. Whereas the end result might appear to be a concentric village in plan view, it does not mean that the houses in this concentric village were lived in at the same time. While a house in the centre might already be abandoned, a newcomer builds a new house outside the existing circle of houses. In this way, the residential movement of one individual affects the movement of another through the material traces it leaves behind.

Chapter 5

A history of Trio movements (1907-2008)

> *"One of the most important elements in the Trio world is that we are constantly living in a state of flux, few things being constant. In the words of Rivière (1994), the Trio live in an transformational world where nothing is as it appears to be, where appearances are deceptive, and everything can change. (…) For the Trio, egocentric knowledge and one's 'insight' are central in successful communication."* Carlin 2004:299

In the present chapter we will venture beyond the village of Amotopo and reflect upon a 100 years (1907-2008) of Trio movements in the Sipaliwini basin. It is my goal to compare the Amotopoan spheres of *mobilia* with the spheres of other archaeologically documented historical villages of the Trio of this period. However, since no such description is available I chose to compare and contrast the Amotopoan data set with the spheres of *mobilia* as could be distilled from historical sources.

The reasons for focussing on the period between 1907 and 2008 are: (a) it is within this time frame that we encounter the densest period of reported knowledge concerning the Trio of the Sipaliwini basin in which specific individuals are named. The oral histories of the Amotopoans and those of other Trio, as well as written reports from contemporary anthropologists up to the earliest expeditions are available, Moreover, upon seeing the names of their relatives in Peter Rivière's book (1969), the Amotopoans themselves have expressed the wish that I should further report on their social history (see 2.2); (b) from an archaeological perspective, the period covering 100 years can be considered a blind spot which seems just out of scope of the archaeologists. Restricted by our instruments we either focus on the reconstructions of activities on a site-level or speak of periods spanning over one century. Herein interpretations can more confidently be based on archaeological data such as ceramic styles and radiocarbon dates (as to the present archaeological resolution, see 1.1). The present centennial perspective will provide us with the opportunity to investigate Trio movements on this in-between temporal scale from an archaeological viewpoint.

Instead of presenting a continuous Trio history from the earliest Trio-European encounters in the Sipaliwini basin up to the present, I decided to divide the above-mentioned century into three periods. These are treated in a counter-chronological direction thus following the natural asymmetry of perception and its correlated inevitable analogical direction (see 1.2). In each of the three periods a specific Trio village takes centre stage: Amotopo (2000-2008), Alalapadu (1963-1964) and Anapi (*c.* 1907-1911).[121] For the latter two villages the spheres of *mobilia* are distilled from the reported sources and should be treated as prognoses. The above villages will be introduced and contextualised in terms of their particular state of movement. In some occasions, the degree of time depth will also allow for an elaboration on the sphere of residential *mobilia* which was not feasible in Amotopo.

The above three villages have not been chosen randomly but are all linked to the Amotopoan family. Let us firstly begin with contextualising Amotopo as a village that has recently split off from Kwamalasamutu (5.1). In the past decades a number of families have set off in a northwesterly direction now together forming the Western Trio Group. A more regional perspective will instruct us further with regard to the human *mobilia* that make up this group. Secondly, the missionary village of Alalapadu village is discussed, introduced and contextualised as the fusion of a Trio village (5.2). Paneshi (AMO-01), the present-day captain of Amotopo, arrived in the village of Alalapadu as a young boy. He was married in this village and his eldest sons were born here too. The third and final village to be discussed is the one led by Anapi. According to the historical sources he was Paneshi's great-great-grandfather. Anapi is mentioned in the reports of the earliest Dutch expeditions into the Sipaliwini basin, but his village was never visited. These and other early (reminiscing) descriptions of the Trio in the pre-fusion era will serve to sketch the supposed spheres of *mobilia* of the heuristic village 'Anapi' (5.3).

In 5.4, the spheres of *mobilia* of the various villages are compared and discussed as analogical interactions.

5.1 Amotopo: a fissioned Trio village (2007-8)

In the present section I no longer need to introduce the village Amotopo and its spheres of *mobilia*. The village of Amotopo is here regionally contextualised as part of the recent Western Trio Group which is the consequence of the splitting off of a large Trio village, Kwamalasamutu. In addition, the individual residential movements of the people of the entire Western Trio Group as perceived by the Amotopoans will be discussed along archaeological parameters. It will provide us with a regional insight

121 These dates refer to the period during which observations and reports were made on these villages: my personal observations took place in the village of Amotopo during 2007 and 2008, Peter Rivière's observations of the village Alalapadu date from1963-1964 and the reported information on Anapi provided by Claudius de Goeje date from 1907. Conrad Käyser's observations took place in 1910-1911.

into the trajectories of human *mobilia* (the sphere of residential *mobilia*) over a larger stretch of time which could not yet be discussed in Chapter 4.

5.1.1 Leaving Kwamalasamutu

The foundation of a new village by the Amotopoans implies the abandonment of another. As stated in 4.3, a part of the present Amotopoans had left Kwamalasamutu during the late 1990s to head to the northwest. The Amotopoans were not the only family to abandon Kwamalasamutu. The main reason for a number of captains to leave Kwamalasamutu with their families was that their Granman Asongo Alalapadu had asked them to do so. His reasons for the request were twofold. Kwamalasamutu, originally founded in 1975 had grown from 580 inhabitants to approx. 1000 during the 1990s (van Mazijk 1978:12; taking the high estimate of Carlin 1998:7; see also Carlin 2004:2). Pressure was rising on its environmental resources. In the course of the late 1990s the men regularly had to venture far out, staying away for one or two nights at a time in order to encounter game or to find a rich fishing spot. Moreover, their former gardens located far from their houses could no longer be allowed to lay unattended for a long time, as this would slowly lead to impoverished fields (Heemskerk & Delvoye 2007:32). In sum, the families who moved out of Kwamalasamutu probably also felt a desire to found their own village away from problems associated with places where too many people live together.[122]

In addition, the splitting off of the village can partly also be seen in the light of the indigenous land right discussion. Evolving in Suriname during the 1970s, this issue has yet to be legally resolved. As it remains an unsettled matter, an increasing number of non-Amerindian investors are finding their way into the interior. For example, gold miners in the east, but also entrepreneurs in ecotourism in the west who are constructing more and more tourist lodges on former Amerindian sites. Ever since these non-Amerindian entrepreneurs started encroaching on the territory of the Amerindians of the interior, the Trio seem to have realized that they could no longer back down. Learning how to play that game, establishing new Trio villages can also be seen in the light of the reclamation of their threatened land (see also Carlin 1998:8,34-5). In 2008 the villages founded by families leaving Kwamalasamutu were: Sandlanding, Wanapan, Lucie, Amotopo, Casuela, Kuruni, Kamani, Kutari, Sakuru, Alalapadu II and Kaikui Tëpu. The most marked of these moves culminated in creationing the Western Trio Group.

122 In Kwamalasamutu conflicts began to rise increasingly amongst the people living here. Atinio (AMO-03) stated that his children were often hungry and sick during in the last years that they lived there (pers. comm. Atinio Panekke 2007).

5.1.2 The foundation of the Western Trio Group

The oldest village of the Western Trio Group is situated in the Middle-Corentyne agglomeration in the mid-west of Suriname on an island in the New River (in the politically disputed south-west triangle). Its name is Casuela (also written as 'Kasuelen' by Heemskerk & Delvoye 2007:32 or 'Cashew Island' [Kasjoe Eiland] by Vereecke 1994:2). This place was first inhabited by the Mawayana-Trio from Kwamalasamutu before 1994 (Vereecke 1994:2; see also Carlin 1998:8,34-5). Alemán describes that when she returned to the area in 1997 a family of the Waiwai village of Akotopono had moved to *Camp jaguar* (Alemán 2005:2-3). This camp is a Guyanese military post and a former Surinamese military camp ('*Tigri*' as it is still referred to in Suriname).[123] This Waiwai family subsequently moved to live with the Mawayana-Trio in Cashew Island [124] which is located just south of *Camp Jaguar*.[125]

Kuruni was the second place in mid-west Suriname to which people from Kwamalasamutu moved as early as 1995. Initially Kuruni was a military post and airstrip which saw a great activity during the political land dispute over the Southwest triangle. Up to this day this political matter has not been resolved, although the Surinamese military has left the camp. Koroni (KUR-03), a Sakëta-Trio, informed me he had started working for the interior aviation service based at Kuruni in 1995 (Koroni, pers. comm. 2008, see also Carlin 1998:6). He now lives at Kuruni with his parents, brothers and their families. His father called Santana is the village leader. Their families have moved into the present Bruynzeel houses (prefab houses on stilts). Their cooking facilities and other structures are built surrounding them. Apart from this extended family three other nuclear families moved here. The fathers of two of these families moved to Kuruni, because they could found employment carrying out maintenance work on the airstrip. The mother of the third family now runs the only medical post in the area. In terms of number of inhabitants this village is the largest in the Western Trio Group: 41 villagers were counted in 2008.

The Trio that settled most to the north-west was the extended family of captain Arapahtë, an Aramayana-Trio, who decided to found his village below the Wonotobo Falls in 1998 (*basja* Jan (WAN-07) from Wanapan, pers. comm. 2008; Heemskerk & Delvoye 2007:32; see Fig. 5.1). Its name

123 The Sranantongo word *tigri* or the Dutch word *tijger* in Suriname refers to the jaguar (T: *Tïmenuren kaikui*, L: *Panthera onca*).

124 This seems to be confirmed by the fact that the Horniman Museum & Gardens (London) acquired seven Waiwai objects from Cashew Island on the New River in 2003.

125 Whenever inhabitants of Casuela travel to meet up with the Amotopoans near the Frederik Wilhelm IV Falls, Guyanese soldiers escort them. More information on the village of Casuela is currently unavailable due to the fact that the Guyanese military would probably not have allowed me to enter their country without the required travel documents.

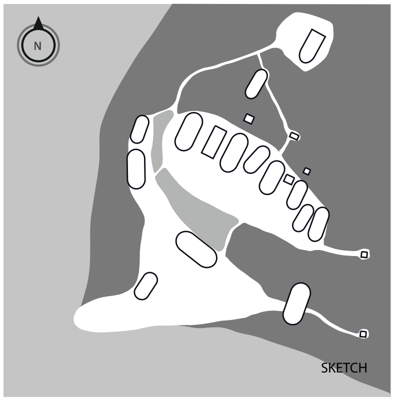


Fig. 5.1: The village of Arapahtë (Wanapan) in 2008.

is *Arapahtë ipata* (meaning, the village of Arapahtë) or Wanapan, which denotes the area near the Wonotobo Falls (see also Boven 2001:41). The Trio occupation was not the first to take place in this sandy place. In the recent past it had been occupied by the Dutch government. It left behind visible traces such as concrete floors and an abandoned car (see also Heemskerk & Delvoye 2007:32). Recalling the deeper past, this location is also known as an important archaeological site, harbouring the most easterly continental South American presence of Saladoid ceramics (Versteeg 2004:81,86-95). An ecolodge has been constructed in the vicinity of Wanapan. On the other side of the river-*cum*-border lies a Guyanese logging camp. Wanapan was inhabited by the Aramayana-Trio at the behest of Granman Asongo (*basja* Jan, pers. comm. 2008).

However, Wanapan lacked a medical post or a school. The children were sent off to school in Apura, further north. This village is larger and inhabited by approx. 3000 people, mainly of mixed Lokono and Warao stock. It is the most southern village to be connected with the town of Nickerie by road. Nonetheless the freight boat was still the most common mode of transport to access it in 2008. Within a short period of time a Trio satellite village called Sandlanding was founded on the southern outskirts of Apura. The people of Sandlanding and Wanapan form a single community. Several inhabitants have constructed a house in both places. The other members prefer to stay predominantly in the same place. Sandlanding and Wanapan together form the lower Corentyne Trio Agglomeration.

The final two Trio villages in the Western Trio Group are named Lucie and Amotopo. They belong to the Okomoyana-Trio family of the above-mentioned stepbrothers Pepu (RUS-01) and Paneshi (AMO-01). The Granman also requested them to move to the north-west as to recommence habitation of their ancestral Okomoyana land (called Pehkëtë). Paneshi claimed to have lived in Casuela for one or two years while exploring the area around Amotopo (see also Carlin 1998:6, 34-5). Paneshi and Pepu subsequently moved into an old wooden building near the airstrip of Amotopo. This building, an airstrip and a road (leading all the way from Apura to Amotopo) was originally constructed in order to facilitate hydrological research (BWKW [*Bureau Water Kracht Werken*]) on the Corentyne River (Heemskerk & Delvoye 2007:32).[126] Shortly after the Trio had moved into the wooden BWKW building, one of the pilots asked them to leave as it had been stated that the building belonged to someone else. At first the Okomoyana heeded the request and moved further downstream to construct a new village on the island of Lucie located opposite to the confluence of the Lucie and the Corentyne Rivers. However, when the Granman heard that the Okomoyana had been sent off, he demanded that they return to Amotopo and to not occupy the old building, but to construct new houses a short distance from it. They began this task in 2001.[127] After spending the initial years in Amotopo, the oldest stepbrother, Pepu, (RUS-01) decided to return to Lucie while retaining a house in Amotopo (ST-02).[128] Thus there are now two villages only 5 km apart. Around the time of their foundation, construction started on a new ecolodge located 20 minutes upstream from Amotopo in the vicinity of former Amerindian sites (SUR-15 and SUR-338, Versteeg 2003:243). As stated earlier, a number of Amotopoans maintain the airstrip for the owner of the ecolodge. In return they can fly to Paramaribo free of charge whenever a aeroplane seat is empty.

A seemingly valid observation as to almost all villages in the Western Trio Group is: locations for villages have been selected whenever traces of former occupations occur (see 2.4.3). This selection can be seen as pragmatic. The location has clearly been approved of in former times and it is less work to open up a plot of secondary forest. In addition, some useful plants can potentially be encountered here. This eases the difficult initial beginnings with regard to life in a new village and in a new area.

5.1.3 Human mobilia of the Western Trio group

Let us now provide a regional perspective which should be considered a small side step. In it we will reflect on the trajectories of the human *mobilia* of the Western Trio Group. This should be considered an elaboration on the discussed sphere of residential *mobilia* from Amotopo (4.3). However,

126 The original intent was to build a dam in the river (*Nieuw Suriname* 1976:3). However, after only a few years, the civil war (1986-1992) broke out and these plans were never concretised. The research, the building and road were indeed abandoned.

127 These new houses were probably built in the garden clearing they had already created there.

128 The reason for this return to Lucie is that Pepu preferred to live in a village closer to water. Ironically, due to the heavy rains, the village of Lucie was completely flooded in 2008. Next he decided to found a new village higher up.

here the scope is expanded towards a regional perspective including all the residential movements that together have formed the Western Trio Group. In this instance we chose not to focus on the structures of the built environment, but on the people who have moved their bodies to new places.

I did not ask each and every individual from each and every village about his or her residential movements myself. The following data therefore rely totally on the reported knowledge regarding the Amotopoans. In recording the movement data I employed a simple human mobility division (place of birth and current place of residence). It can be paired conceptually with the local/non-local distinction in the stable strontium isotope methodology as known to the science of archaeology (see Ericson 1985; Bentley 2006:135-6). Together with archaeologist Jason Laffoon I conducted the subsequent test hypothesizing along the following parameters.

The isotopic signature of the area where somebody grows up is 'captured' in the human skeleton by means of the element of strontium (Sr). By drinking local water and consuming local food an isotopic value is stored in the skeleton that can be matched with geological features. After comparing this skeletal isotopic signature with the isotopic signature of the location where this skeletal material is subsequently found, a distinction can be made between the 'source' of this material and its final deposition. If it is congruent there is a great possibility that this person was probably born and raised in the same (isotopic) area. Whenever these two signatures differ, one can state that this person came from another (isotopic) area to live in the place where her or his skeleton was ultimately found.

In total I recorded 101 individuals living in six villages (see Appendix J), the places of birth of whom the Amotopoans were familiar with.[129] Based on this information a comparison was established between geological locals and non-locals and actual locals and non-locals in the various areas.[130] Three *caveats* need to be considered when interpretating the results: (a) the information applied with regard to this hypothetical case is entirely based on Amotopoan perceptions; (b) it must be stated that geological formations are not the same as isotopic areas and as to the hypothetical purpose of this section (5.1.3), however, these are considered to be one-on-one; (c) no member of the Western Trio Groups has yet passed away, except for one individual in Kuruni. Here once again an artificial freeze of the flux of human *mobilia* is implemented. It should be considered to represent an immobilisation process halfway.

129 Only those inhabitants of the Western Trio Group were selected if a clear village of origin was provided by the Amotopoans which could subsequently be positioned on the map. Of 134 inhabitants counted in these six villages (see Appendix G), for 101 this was possible (see Appendix J).

130 The geological information applied in this test derives from Delor *et al.*2003; Kroonenberg & Roever 2010.

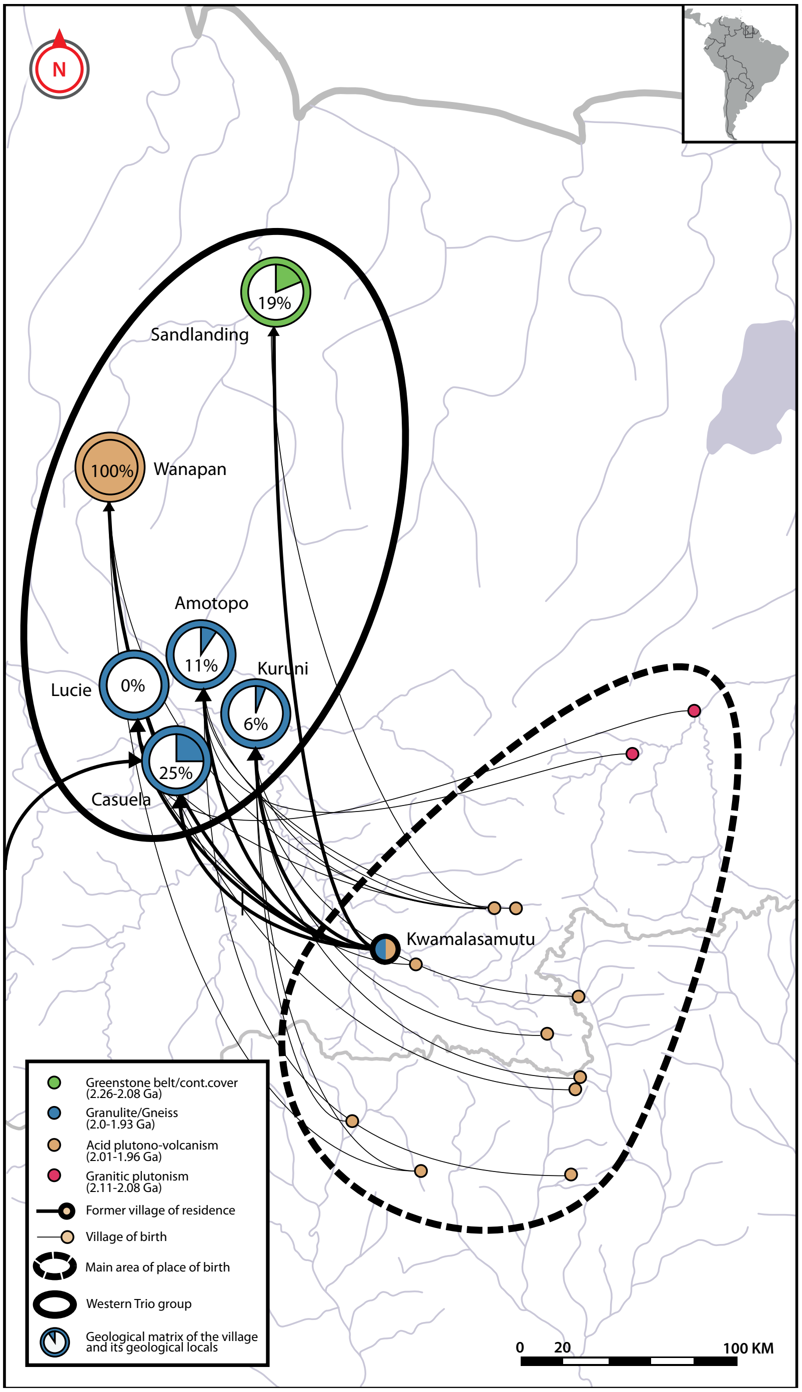


Fig. 5.2: The individual residential movements of the Western Trio Group (geological information from Delor et al. 2003; Kroonenberg & Roever 2010:13).

A relatively high number (51%) of all members of the Western Trio Group was born in Kwamalasamutu. These are predominantly the people younger than 33 years old minus some of the youngest born into the Western Trio Group.[131] Kwamalasamutu lies on the border of two geological matrices. This implies that the results can be interpreted as supporting one of two different scenarios. The first scenario regards Kwamalasamutu as situated in another geological matrix than the Middle Corentyne Agglomeration (as in Fig. 5.2), namely in the Uatumã suite formed during the Late Trans Amazonian plutono-volcanic event (2.01-1.96 Ga) (see 2.2.2; Delor *et al.* 2003:218; Kroonenberg & Roever 2010:13,15). In this case the 'geological' locals (23%) of the Western Trio Group seem to correspond roughly to the number of actual locals (14%). As to the village of Amotopo specifically, the geological local percentage corresponds exactly to the percentage of the actual locals (10 %). The only 'mismatch' in this perspective is the village of Wanapan. Here all inhabitants are geological locals (100%) in contrast with the number of actual locals (50%). This has to do with the fact that Wanapan and Kwamalasamutu, although far apart, fall within the same geological matrix in this scenario.

The second scenario envisages Kwamalasamutu as falling within the same geological matrix as the Middle Corentyne Group. Namely in the Central Guiana Granulite belt formed during the Late Transamazonian event (2.05-1.81 Ga)(see 2.2.2; Delor *et al.* 2003:218; Kroonenberg & Roever 2010:13,14). In that case the number of geological locals is high (59%) compared to the number of the actual locals (14%). As to the village of Amotopo, and the rest of the Middle Corentyne Agglomeration, this scenario also presents a problem since the percentage of the geological local would be inflated from the actual percentage of 10%, to one of 71%.

When applying the isotopic methodology a problem rises as to the acquisition of a local isotopic proxy which is sometimes derived from the most common occurrence of the analysed skeletons. Apparently, in the case of a founder population it seems best not to take the local isotopic proxy from the inhabitants, which in this case would predominantly represent the isotopic signature of the former village (pers. comm. Laffoon 2010). It would be better to take this proxy from the youngest deceased in the village. It must be recalled here that we are dealing with a freeze frame of an immobilisation process. Diving deeper into the past it will become clear that the present-day Trio have dealt with several residential moves in their lives (for an Amotopoan example, see Mans 2009:83).

131 They were actually all born in the medical post of either Apura or Kuruni. Here a scenario is assumed in which the infants are born in either Kuruni or Apura, villages with medical posts, to return to their villages with their parents shortly afterwards.

This small case study suggests that, from a Trio perspective, in which all except for the youngest ones should be seen as actual non-locals, the appearance of a large number of geological locals should receive extra attention. In a number of scenarios linked to this particular case, this can be explained by a large incongruence of the number of geological locals with the number of actual locals (for example, see Wanapan in Fig. 5.1). Whenever this inflation is overcome, an interpretation for an encountered geological local could be: this individual would have indeed spent his or her life in the same region, say in a time when residential moves were only short or circular (see 5.3). Or: an elder could have returned to his place of birth later in life. Age can therefore be an important variable when interpretating the isotopic values of the skeletal archaeological remains (pers. comm. Laffoon 2010).

5.2 Alalapadu: the fusion of a Trio village (1963-1964)

Before a village splits off there is also time of fusion. The present section will begin with a contextual discussion of the process of fusion into the large missionary village of Alalapadu where Paneshi (Captain of Amotopo) arrived as a young boy in *c.* 1961. Anthropologist Peter Rivière conducted part of his fieldwork in this village (1963-1964) the data from which the spheres of *mobilia* could be distilled. However, before the spheres of *mobilia* of Alalapadu are discussed the period of fusion resulting into the village of Alalapadu is sketched (1942-1964). As will be demonstrated below the Trio already started to fuse into the small village of Panapipa, the village of Eüjari, the grandfather of Paneshi. This fusion subsequently continued into the missionary village of Alalapadu. We will therefore commence this section with a brief reflection on the village of Panapipa before discussing the spheres of *mobilia* of Alalapadu.

5.2.1 The beginning of a fusion sequence: the village of Panapipa

In the period justly preceding Alalapadu the village of Ëujari (see Fig. 5.4 L), also referred to as Panapipa (Schmidt writes *'Panapikpan'* 1942:58, Rivière writes *'Panapipa'* 1969:213) appeared to be the first place where people from other villages started to converge beyond average proportions. To get a sense of the 'average' proportions of the Trio in the pre-Alalapadu era we will briefly reflect on Schmidt's expedition report. *Baas* Lodewijk Schmidt van Gansee had extensively visited a number of Trio villages in both Suriname and Brazil during the early 1940s. The purpose of his expedition was to acquire a clear picture of the lives and villages of the Amerindians who lived near the southern border of Suriname as well as of the connections, e.g. paths, between their villages (Stahel in Schmidt

1942:5). On his journeys Schmidt also visited the village of Panapipa. In his report he states that this village consisted of seven men, seven women, five boys and six girls. This total of 25 people was near the calculated average of 26 inhabitants for a Trio village during the early 1940s.[132] However, Schmidt does not provide much more specific information on the material dimension of the village.

While this village was initially one of the few average Trio villages, it would later gain importance. As Rivière describes "A good and strong leader will tend to attract people to his village, and Eoyari's (62) village of Panapipa was given as an example of this" (Rivière 1969:233). Since it was not his focus, Rivière had not paid much attention to this village. During an interview I asked Pepu (RUS-01), assisted by Paneshi (AMO-01) and his wife Apëhpïn (AMO-02), to reflect on the movements of the people recorded by Rivière. For his kinship study he had inventoried all the people of Alalapadu who were seen as 'inclusive' by Iyakëpon (Rivière writes *'Iyakəpo'* 1969:292). Iyakëpon was Pepu's father's brother[133] and the brother of Ëujari's first wife Tawiruye, the grandmother of Paneshi.[134] With a little help from Paneshi (R-33) and Apëhpïn Pepu (R-22) was able to remember 146 of the 299 recorded persons (49%).[135] Of these 146 he could recall, I asked him to tell me their place of birth and their places of residences thereafter, too, which he then went on to do.

The answers resulting from this interview offered the perspective that of these 146 persons as many as 96 had passed through Panapipa as place of residence (see Fig. 5.4). This means that 66% of all the people Pepu could remember (which is 32% of the people listed by Rivière as inclusives of Iyakëpon in 1963-1964) had first lived in Panapipa before moving

132 The average number of inhabitants as recorded by Schmidt was 38 inhabitants per Trio village in Suriname and 24 inhabitants per Trio village in Brazil (Schmidt 1942:49, 50-1). It is due to miscalculations (the inhabitants of village Joeloe were counted twice: both under 'Paloemeu' and under 'Sipaliwini') that these averages appear to be incorrect. The Surinamese Trio average number of inhabitants of a village is 33 and the Brazilian number should be 23. In addition, it should be noted that in the Surinamese number the fusion of two villages (Joeloe and Jetite) had just occurred. Schmidt had calculated them as one village, otherwise the Surinamese average would have been 28. Taking the fusion as it happened, the Surinamese and Brazilian Trio villages taken together (based on 21 villages), the average number of inhabitants of a Trio village during the 1940s was 26.

133 Pepu immediately recalled him as 'jeetï' meaning, 'my uncle'.

134 Ëujari considered himself to be of Pïreuyana descent, which translates as the 'Arrow' people. This was one of the subgroups that would merge into the Trio. In Alalapadu the Trio identity in general was emphasised. From Kwamalasamutu onwards, Paneshi came to stress his Okomoyana identity, which was also that of his grandmother (Tawiruye, the wife of Ëujari, who allegedly came from Pehkëtë). His stepbrother, Pepu, is Okomoyana too. Their father Sipi (Paneshi's stepfather) was also an Okomoyana. His mother, Paruparu, was said to have lived in Pehkëtë before coming to Panapipa (see Appendix J, see Riviere 1969:22).

135 Rivière applied index numbers when referring to the Trio. Pepu (RUS-01) was referred to by '22' and Paneshi (AMO-01) by '36' (Rivière 1969:309-311). I will know utilise these numbers to refer to the individual Trio wherever applicable.

to Alalapadu. The question now rises: What does this figure represent? As Pepu was a direct relative of Iyakëpon it is not a great surprise that he was able to remember so many of his relatives as well. According to Pepu, Iyakëpon (R-52) had come from Pehkëtë, prior to arriving in Panapipa, located just below the rapids of the present day Frederik Willem IV Falls and is considered the ancestral grounds of the Okomoyana (see Appendix K). According to Rivière, the missionary village of Alalapadu had been the first large sedentary Trio village to bring all the small Trio villages together. The mentioned flux of 96 persons could however imply that this process had already started earlier in the village of Panapipa. This number does indeed seem to indicate that this village had already been larger than the Trio average as based on Schmidt's data. The *caveat* should be raised here that we are speaking of a number of flux and not a static number of inhabitants.

We pursued the interview with the question where according to Pepu the Panapipans themselves originated from. Of the 96 Panapipans, 32 were said to have been born in Panapipa, like Paneshi who had also been born there. For those who born elsewhere, the following villages and regions were mentioned: Pehkëtë, Tapanani, Paikarekahpë, Kakaimë Eeku (where Pepu was born), Inkapiru, Samuwaka, Tukuimïn, Pono Eeku, Karamiri Eeku, Torononi, and Makuimë. Of these villages and regions several could be traced and located on the map after comparing them with other sources. Pehkëtë had already been introduced as the aforementioned ancestral grounds of the Okomoyana. The name 'Tapanani' refers to the larger Tapanahony River and thus incorporates a larger region.[136]

Numerous villages could be traced, too. Paikarekaphë refers to a creek, and the village situated here was named after its leader Akandé ('*Village Paikalakapö or Akandé*' in Schmidt 1942:33,58). Kakaimë Eeku (*eeku* means creek) was named by Schmidt as *'Akame-oekoe'* or the village of captain Akakoe (Schmidt 1942:59). Pepu mentions the village of Inkapiru on several occasions, but it seems not to have an equivalent in Schmidt's or Rivière's writings or maps.[137] However, this village is also marked on the recent ACT map that deals with Trio land use of the Sipaliwini River. Tukuimïn and Makuimë could also be traced on the ACT map. The vil-

136 This broader geographical reference in itself seems to reflect a greater social distance.

137 The nine Trio) mentioned by Pepu as having lived in Inkapiru prior to Panapipa and Alalaparu (R-123, R-130, R-165, R-169, R-173, R-175, R-189, R-216 and R-237) are mentioned neither in Rivière's report of people from Alalapadu nor in Schmidt's village data of the early 1940s (1969:105-8). However, there is one person (Siwiri, R-237) who was listed by Schmidt to have lived in Nelli (or Maraka Eeku) which is located nearby Inkapiru, at that time (Schmidt 1942:59).

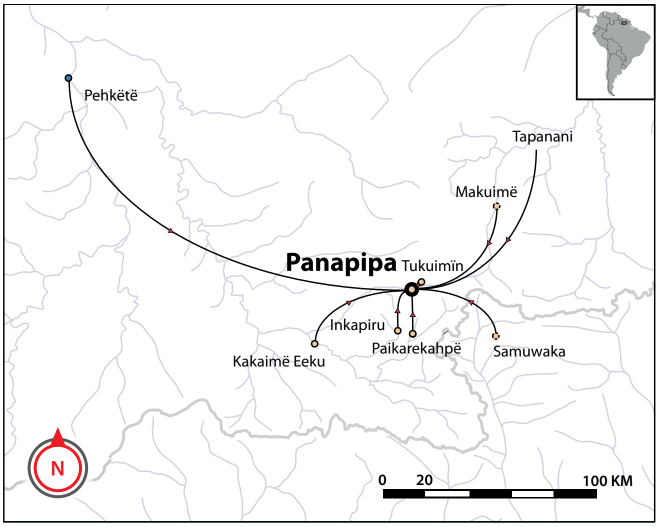


Fig. 5.3: The fusion to the village of Panapipa, c. 1942-1960.

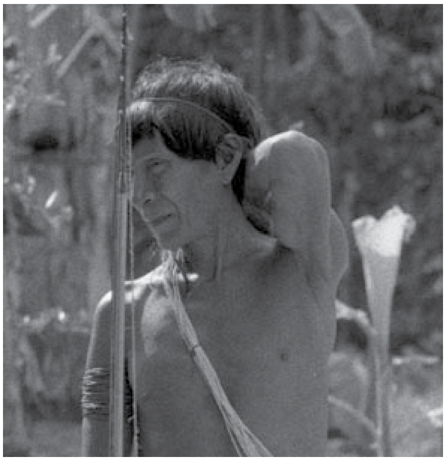


Fig. 5.4: Ëujari (L), the village leader of Panapipa, and his successor, Pesaihpë (R). (Rivière's Photo Collection 1963-1964, Pitt Rivers Museum, Oxford).

lages of Pono Eeku, Karamiri Eeku and Torononi, however, could not be verified.[138]

138 The Amotopoans said they did not know the exact location of the Brazilian-Trio places; these cannot be verified. Therefore, only the Surinamese-Trio places were mapped. Moreover, although Schmidt claimed that rivers, creeks and mountains retain their Trio names over time, this in contrast to the names of the villages (Schmidt 1942:19). These names however appear not always to endure through time. Giving names to creeks is in most cases relational. This led to the situation that several names of creeks and rivers on the ACT map of the Middle Corentyne River appeared not to corroborate the names given by the Amotopoans. The Trio names of mountains seem to be most consistent.

After his son had passed away, Ëujari temporarily left the village of Panapipa to found the village Matïtïkiri. His reason for leaving Panapipa was the death of his son and his reason for choosing the location of Matïtïkiri was because he desired access to the Brazil nuts which grow abundantly there. After some time Ëujari returned to Panapipa. Pesaihpë (R-93, see Fig. 5.4 R) later succeeded Ëujari to become captain of Panapipa in the 'more energetic activities' marking the years before moving to Alalapadu (Rivière 1969:233).

5.2.2 The move to the missionary village of Alalapadu

> *"More than one child of the Trio now lived among the Waiwai. One of them, part Trio, part Mawayana, volunteered to take his wife and son and go with Kron [the missionary Claude Leavitt], now at another station, to the Trio people. Though Kron and his family had left Kanashen [a Waiwai village in southern Guyana), their influence lingered. A number of Christian Indians made the arduous trip to Kron's new place to demonstrate to the Trio tribe how Christian faith had brought welcome changes into their lives."* Dowdy 1963:231-232

Peter Rivière studied the social relations between the Trio living in in Alalapadu and in Palumeu. These two villages were the first missionary posts in the deep south of Suriname. Missionaries were able to access the interior through the infrastructural outcome of the new development plan which the Dutch government had instigated towards the end of the 1950s. This development plan was divided into a long-term project and a short-term project. The long-term project, operation 'Tortoise', intended to provide the colony with road connections to British Guiana in the east and French Guiana in the west. This has since been accomplished and is nowadays called the 'east-west connection' (D: Oost-West verbinding). Secondly, roads were planned in order to provide access into the deep interior. This process would be slow because the budget was limited. In addition, the organisation contracted for the road constructions also took on the task of training new Surinamese road constructors (Butner 1961:2).

As the road constructions slowly started on the east-west connection, the opening up of the interior demanded a quicker short-term solution enabling easier expeditions to map Suriname's resources. An operation called 'Grasshopper' entailed the construction of seven airstrips in the interior. The airstrip in the Sipaliwini Savanna and the one in Palumeu were located either near or inside Trio territory (see Fig. 5.5). With governmental permission, missionaries were also allowed to land on the airstrips and to then convert the Trio. Rivière began his research in these villages shortly after they had been built and describes how these mission stations had attracted Trio.

Rivière states that in 1963 upon his arrival in Alalapadu a turbulent period for the Trio had just transpired. Having gained permission from the Surinamese government in 1959, the Door-to-Life Gospel missionary Claude Leavitt had made first contact with the Trio near the Sipaliwini airstrip during the spring of 1960 to return more permanently in August 1961 (Rivière 1969:14-5). In the past, this missionary had lived among the Waiwai in Guyana for a period of ten years. He had brought with him a number of Waiwai from Guyana to help him with his work in Suriname. One of his Waiwai assistants, Japoma, had lived in Guyana for several years. He was in actual fact a Mawayana (meaning, 'frog people'; they speak an Arawakan language). His foster mother was a Trio. Having spent years in Brazil and Guyana Japoma felt a growing desire to return to his mother's Trio land in Suriname (Findlay 1976:230-1). The Waiwai were of great help to Claude Leavitt and his missionary work.

For a long time the Trio have looked up to the Waiwai because of their knowledge, skill in creating handicraft and large gardens with a large variety of crops (Grotti 2007:115-6; Brightman 2007:115). The mediation of the Waiwai must have facilitated the Trio to become convinced by Claude Leavitt ("Koron") to visit his village and later to be converted to Christianity (see Fig. 5.6). The Trio had not come across many white

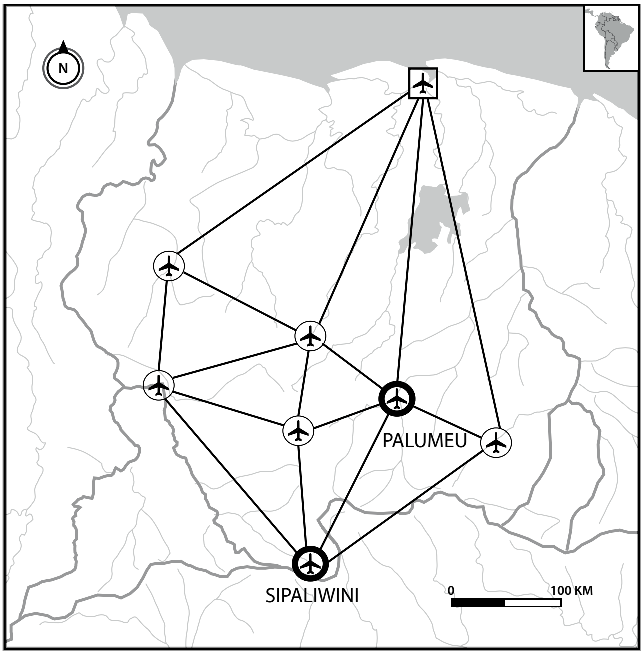


Fig. 5.5: Two of the seven airstrips of Operation Grasshopper where missionaries started their work amongst the Trio (Map from Butner 1961, with Palumeu and Sipaliwini highlighted).

Fig. 5.6: Claude Leavitt either baptising the Granman Pesaihpë in Alalapadu or demonstrating it (Rivière's Photo Collection 1963-1964, Pitt Rivers Museum, Oxford).

men prior to the 1960s. Rivière describes that during one of Leavitt's visits to the small Trio villages he was told by an older Trio man that, so far, he had only seen three *pananakiri* (E: *white person, townsperson*), namely Lodewijk Schmidt and the two Americans who were looking for the pilot Paul Redfern who had disappeared after his plane had crashed in the area of the Kutari (Rivière 1969:13-4;pers. comm. Carlin 2011).

In 1960, during his first short visit to the Sipaliwini River, Claude Leavitt made contact with the Trio village Aaro. On his return one year later he became acquainted with Ëujari, leader of the village of Panapipa (Boven 2001:27). Interestingly he spoke with Ëujari and not with Pesaihpë. According to Rivière, the latter Trio was considered the leader of Panapipa during its final days (Rivière 1969:233). Frikel asserts that the first mission station was actually in Panapipa to later move to Alalapadu (Frikel 1971:19). The question arises: did Leavitt chose the location of Alalapadu himself or was he assisted in this choice by the villagers of Panapipa and/or Aaro? The village of Alalapadu is situated in a Brazil nut grove, a desired place for the Trio to be in the vicinity of. Not much earlier Ëujari had founded a temporary village Matïtïkiri in the neighbourhood, on the Kuruni river near the mouth of the Araraparu creek.

Ëujari might well have suggested to Claude Leavitt to establish his village here. Findlay describes that once the village area of Alalapadu had been cleared, and the first houses had been built, the village numbered

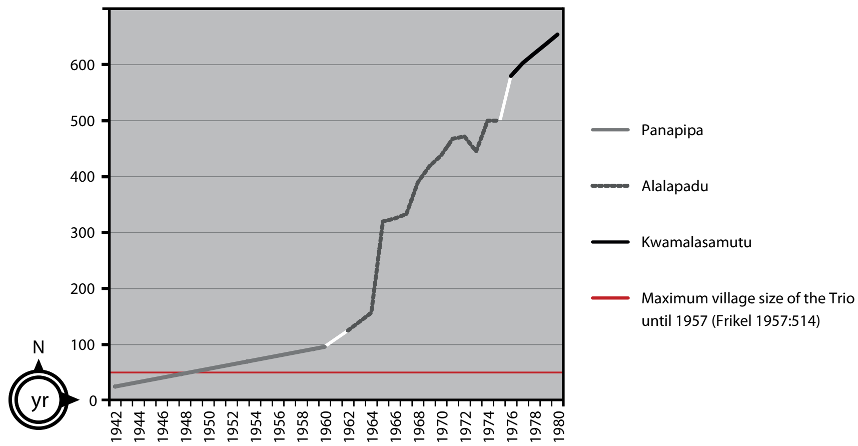


Fig. 5.7: The growth of the Trio village population in the Sipaliwini River basin. In sequential order from Panapipa (from 25 to 96), Alalapadu (from 125 to 500 [van Mazijk 1978]) and Kwamalasamutu (from 580 to 650 [van Mazijk 1978]).

125 Trio whereby the Trio inhabitants of Aaro and Panapipa were probably merged. To the present day it remain unclear whether the airstrip of Alalapadu determined the founding of the mission at that location or whether its construction followed the foundation of the mission. Healy's publication suggests that the latter is the case: Leavitt flew to the Sipaliwini savannah and held a meeting in the Trio village of Aaro. With Japoma's help, he convinced the Trio to settle in a single village. The location at the Araraparu creek was then selected for the founding of this village (Healy *et al.* 2003:39).

When Rivière conducted his fieldwork in Alalapadu between July 1963 and January 1964 this village had been in existence for only two years.[139] As previously done for Panapipa I will now in the same vein shed some light on the residential mobility of the inhabitants of Alalapadu. Of the 299 inclusives of Iyakëpon as recorded by Rivière in Alalapadu, 164 were alive and, thus, inhabitants of Alalapadu. As mentioned earlier, the residential movements of 146 inhabitants during the early days of Alalapadu could be remembered by Pepu (RUS-01) who was assisted by Paneshi (AMO-01) and Apëhpïn (AMO-02). It appeared that a large group (96) in Alalapadu had come from Panapipa. There were 44 others, who as Pepu recalled, came from other villages (see Fig. 5.8). We can confirm that these first villages that fused into Alalapadu almost all came from the Sipaliwini basin. Rivière mentions that towards the end of the 1964-1965 dry season, Trio fused into Alalapadu from their respective villages along the Brazilian

139 Immediately after his fieldwork in Alalapadu, Rivière moved to Palumeu (January - April 1964) as his second location for fieldwork (Rivière 1969:128).

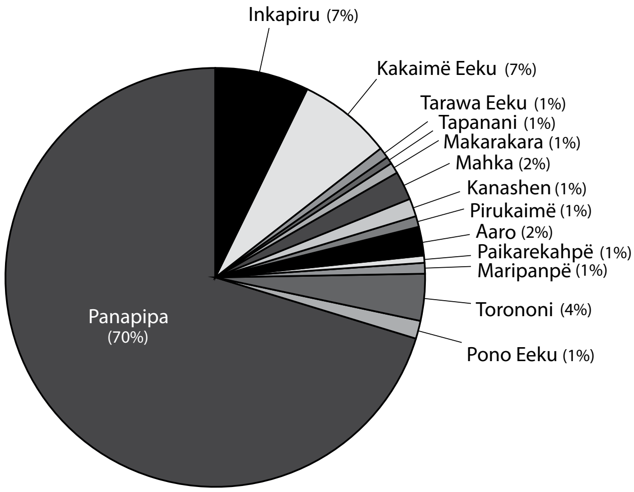


Fig. 5.8: Former villages of 146 of the inhabitants of Alalapadu during 1963-1964. As perceived by Pepu, Paneshi and Apëhpïn in 2008.

West-Paru and the Marapi. Trio from the Brazilian Anamu River also moved to Alalapadu in 1965. Rivière considers this considered the last migration wave that fused Trio into this missionary village. [140]

Two other sources mention that more villages have fused into the missionary village of Alalapadu. Recently, Healy *et al.* presented the following villages of origin for Alalapadu: *Aropo, Inka Perunpe po,* the large village of *Panapipa, Mahka, Aparakare*, a village at the mouth of the Wiumi creek and *Pahpaman* along the Kutari (Healy *et al.* 2003:39). Another, earlier source is a publication by Frikel. He states that the following villages fused into Alalapadu: *Matetekori, Ariwe-imo, Mampakampo, Maha, Panapipa, Tarawa-egu, Makuima, Awara, Iwatapurupo, Aro*, a village (name unknown) near the mountain *Parapohte* on the river Api-egu. From Brazil Trio came from the villages *Wurapa Iwepatafo, Kurapina* and in 1966 the Brazilian villages *Tuhka, Parapoto* and *Tunawapu* (Frikel 1971:38-40; see Fig. 5.9). Next to the fusion of these villages into the missionary village of Alalapadu, Trio from the Tapanahony River, but also from the Brazilian East-Paru River, likewise fused into the Palumeu missionary station. The new Brazilian Catholic mission situated near the headwaters of the West-Paru drew the least Trios from its own area. All in all, Trio demographic

140 These are the residential waves that brought the Sakëta and the Aramayana to Alalapadu. This is presumably also the moment when Apëhpïn (AMO-02) moved to Alalapadu. She was born in a Brazilian Trio village (Waananpë) situated on the Marapi River. The Kuruni elders also seem to have come from the Marapi. Several Wanapan elders, on the other hand, appear to originate from the Anamu (Pëname) (see Fig. 5.9).

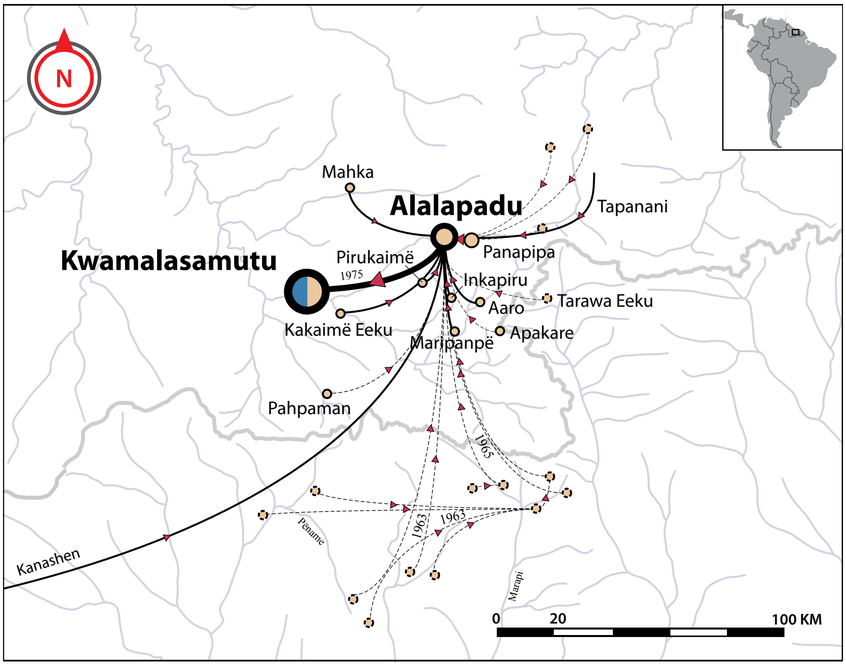


Fig. 5.9: The fusion to the missionary village of Alalapadu and the subsequent move to Kwamalasamutu. According to Pepu, Paneshi and Apëhpïn reflecting on Rivière's kinship data (solid lines). Excluded are the mentioned villages of Makarakara, Torononi and Pono Eeku for which no location could be verified. The former village of Aaro seems to be situated on the ACT map where on Schmidt's map the village Paikarekahpë was situated (see Fig. 5.3), so the latter was excluded here. Added (dashed lines and villages) are the Trio movements to Alalapadu between 1963 and 1966 as mentioned by Frikel (Frikel 1971:39,41) and the villages Pahpaman and Apakare mentioned by Healy et al. (Healy 2003:39).

centre of gravity shifted from Brazil to Suriname (Frikel 1972:38) during a short space of time.

After 14 years of living in Alalapadu, in the course of which the population grew to *c.* 500 villagers (van Mazijk 1978:12; see Fig. 5.7), the decision was made to move to Kwamalasamutu, 'the place of bamboo and sand', situated downstream along a larger stretch of the Sipaliwini River. Here the population grew even further and peaked during the mid-1990s after which people started to leave Alalapadu again. However, it is a large village even today coexisting next to small villages that have recently split off from it.

5.2.3 Human immobilisation in Alalapadu

The actual immobilisation of the human *mobilia* is envisioned in this section. While reflecting on the movements of their former co-habitants, before and after Alalapadu, Pepu (RUS-01), Paneshi (AMO-01) and Apëhpïn (AMO-02) indirectly provides us with an insight into the lives of those who passed away at Alalapadu. They could only reflect on those people present in Alalapadu during the first years (1961-1963), as Rivière had conducted his fieldwork in 1963-1964. Although this image is therefore not complete it does give us an insight into the final phase of the immobilisation process of the human *mobilia* the simulation in 5.1.3. could not provide.

Where 146 of the former residents have passed through Alalapadu 15 others passed away and were probably buried in Alalapadu (see Fig. 5.10). Although most were actual non-locals in this village, geologically 14 (93%) would show up in a hypothetical analysis (considering the earlier given *caveats* in 5.1.3) as being local, while the true locals were only two in number (13%). The two actual locals representing the latter percentage were both young boys who passed away (R-133, R-180). Again it seems that the two young deceased provide the most certain local proxy as was already noted in 5.1.3. Although the 13 others were actual non-local in the strictest sense, their villages of origin were not that far from Alalapadu apart either. Besides for two individuals (R-61 from Pehkëtë and R-116 from Kanashen in Guyana), the origins of the others (73%) seem to fall within a 50 km radius from Alalapadu.

In addition, it is interesting to notice that two individuals are said to have lived in Alalapadu twice. Since a decade Alalapadu II has been founded in the very same locality as the former eponymous village (Heemskerk & Delvoye 2007:32). The two elders who had lived in Alalapadu during the 1960s have recently returned to the newly founded Alalapadu village where they subsequently passed away (see R-6 and R-29 in Appendices K and L).

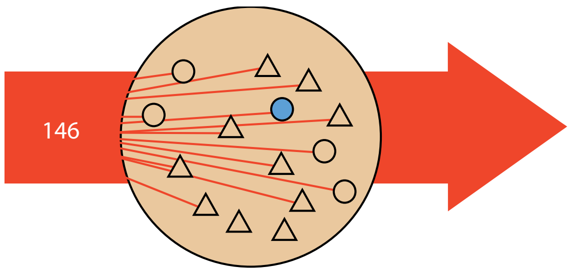


Fig. 5.10: Part of the human immobilisation process at Alalapadu. Data derived from Pepu (RUS-01), Paneshi (AMO-01) and Apëhpïn (AMO-02) reflecting on Iyakëpon's inclusives (Rivière 1969:309-318).

5.2.4 Alalapadu's spheres of movement

Now the Alalapadu context and its preceding fusion sequence has been provided, we can now tune in with the village level of Alalapadu by distilling the spheres of movement from Peter Rivière's findings (1969). As conceptualised in Chapter 4, the description will follow the division into subsistence *mobilia*, exchange *mobilia* and residential *mobilia*. Since Rivière's central focus concerned the social dimension of the village, and not necessarily the material village, the strands of data he provides (on occasion inevitably quoted at great length) are further contextualised by referring to the contemporary German missionary Protásio Frikel's publication on the aspects of the material culture of the Brazilian Trio (1973).

5.2.4.1 Subsistence mobilia

> *"In the reply of an informant when asked if anyone had ever stolen his bow or arrows: 'Why should anyone take mine? They can make their own."*
> Rivière 1969:41.

Several distinctions could be made on the basis of subsistence procurement thanks to observations recorded in Amotopo e.g. between (a) men who hunt and fish and who collect construction materials and fruits, and (c) women who predominantly move around the cultivated area procuring root crops and fire wood. As to Alalapadu during the early 1960s, Rivière reports that "the smallest viable economic unit is the partnership of a man and woman. The combination of an adult of each sex is theoretically capable of existing alone because between them they should know every technique of the traditional culture which the Trio use for exploiting the resources of their environment"(Rivière 1969:55). This remark suggests, strengthened by the head quote that items were mainly produced by each partnership independently.

As to terms of daily, logistical movements Rivière observes that the

> *"dietary items are normally collected by either sex as the opportunity arises, but both men and women will make special journeys to collect certain types of food. In the case of raw materials collection is usually restricted to the sex who will process it; a man will go to fetch material for weaving or making a house, but does not go to collect pottery clay, which is done by a woman as she needs it"* (Rivière 1969:47).

In relation to the procurement of raw resources he remarks that "raw materials which are used in the manufacture of every item in the Trio's traditional culture are mainly collected as required, and the range of such materials is immense" (Rivière 1969:46).

In the above statements Rivière mentions elements that require some elaboration. Although Alalapadu gourds of different sizes and ceramic pots and griddles were used, metal pots and pans were increasingly seen in Alalapadu too (e.g. Rivière 1969:40,210, Plate 8,11). Rivière adds that Trio possessions were few in number. Women had slightly more possessions (cooking utensils, implements required for the processing of the root crops) than men. A man's possessions in Alalapadu were all the items needed when hunting (bow and arrow, the occasional gun), fishing (hooks and line, knife), garden clearing and house construction (axe, machete). A man's or woman's possession is related to the gender-related task division (Rivière 1969:40). Rivière later forwarded the hypothesis that such a dividing of task contains a dichotomy between soft-female/hard-men which recurs in Trio oral narratives (Rivière 1969:261-263; see also Rivière 1995:196).

All of the above seems to have a number of implications with regard to the spatial spheres of daily movements. The spatial spheres of the men appear similar and potentially larger than those of the Amotopoan village. On the other hand, the women's spatial sphere also seems to have encompassed a part of the river for the provenance of clay. As this material usually derives from the river, this could well have been close to the bathing place which is considered to be part of the cultivated space in the Amotopoan case too. Father Protásio Frikel, while at the Brazilian Trio missionary station of Missão on the Brazilian West-Paru during the 1960s, observed a number of Trio making long-distance logistical moves in order to obtain the correct type of clay (T: *tawá*, see Frikel 1973:140). The Trio (Tiriyó) from the Brazilian West-Paru had to acquire their clay in the river Iriki which was approx. two day's travel away. According to Frikel this was not a particularly exceptional situation. He had observed a similar situation in the Trio villages of the Brazilian Pëname River. It is not clear if the women accompanied the men on such far trips. Amotopoan men do team up with the women when collecting seeds.

In general it can be stated that as the providing of raw resources was a task for each economical unit independently in Alalapadu, their spatial subsistence movements must have been more numerous when compared with those of the inhabitants of Amotopo where raw materials were also derived from the sphere of exchange. In addition, it should be noted that according to Rivière canoes were seldom found in Alalapadu during the early 1960s. Tree-bark canoes were hardly utilized as they are difficult to navigating on the shallow creeks and rivers especially in the dry season. During the early 1960s there were only two large dug-out canoes in Alalapadu. One was made by a Mawayana for the missionary Claude Leavitt, the other one by a Trio who had learned this skill on the Tapanahony River. In the course of his fieldwork Rivière had only once seen a canoe put to use (Rivière 1969:50). The majority of the movements beyond the village and its gardens were on foot. This must have resulted in a different spatial, and hence temporal, radius than when compared with the village of Amotopo.

5.2.4.2 Exchange mobilia

> *"Concepts of property are poorly developed with regard to traditional objects since these are available from the boundless resources of the environment. However, this is not true in the case of women, who more than any other resource are vital not only for the survival of the individual but for the existence of the society at any level."* Rivière 1969:269

The next group of *mobilia* to contrast with Amotopoan situation is the group of exchange *mobilia*. Since Alalapadu had converged all the smaller villages in the wider region, predominantly intra-village exchanges were observed by Rivière and hence inter-village mobility observations are few. As stated, western goods were already available early on in Alalapadu. However, these only seemed present in small quantities and occurred alongside gourds, calabashes, basketry and ceramic griddles and pots. The gourds and calabashes were grown in their own gardens. The larger specimens served as water containers and the smaller ones to keep pigment, vegetable oil or, for instance, dried peppers in (Rivière 1969:40). Due to the heavy reliance on own procured items it seems that inter-village exchange of objects was not so apparent in Alalapadu. The larger hypothesised spatial subsistence spheres referred to in 5.2.4.1 could partly be the consequence of an inversion of the exchange movements in Alalapadu.

Rivière, however, does define two spheres of exchange which he could observe within the confines of Alalapadu. The first sphere concerns the exchange of women. It is also closely related to the exchange of game and food. Here human *mobilia* become exchange *mobilia*. This relation is based on the earlier stated inter-dependence of men and women. This does indeed start early on in life, as Rivière explains, through the example of a young boy who presents his first catch to his mother. Later in life, either "through death or delegation", the unmarried man will subsequently come to form an economic bond with his sister whom he will provide with game. In return she will provide him with processed food and beer. When his sister marries, his 'economic' loss has to be compensated by the return of another wife (Rivière 1969:180). In this way alliances are forged consisting of a pair of families that provide each other with wives. This exchange also comes with the obligation to provide services on the part of the man and the wife to their respective in-laws (Rivière 1969:163-4,208-9,269-270). With the focus on the material dimension, these services can subsequently surface over time as gifts of food and objects. Through the fusion of villages these dynamics unfolded in Alalapadu within the confines of the village.

The second sphere of exchange concerns the hunting dogs. According to Rivière the hunting dog is the most important animal for the Trio, perhaps because it is also the most valuable trade item. The hunting dogs are normally cared for by men, but their partners also help. Rivière makes a distinction between dogs and hunting dogs. The latter will be valued on the basis of their willingness to chase game and the former will not be taken care of to the same extent (Rivière 1969:41). The best hunting dogs are placed on a dog table in the house or in a kennel, elevated from fleas and other insects. The Trio say that a good hunting dog has a curly tail. Now and again they lend nature a helping hand by curling the young puppies' tails (Rivière 1969:53). The Trio trade their dogs with the Maroons during short trade visits. Rivière once witnessed a hunting dog being sold "for two axes, two machetes, a big knife, a metal canister with padlock, a litre bottle of salt, two mirrors, a pair of scissors, and a metal basin" (Rivière 1969:53). Needless to say the Maroons were important for the Trio in Alalapadu. Besides the missionary, the Maroons were the only providers of manufactured goods, although the Trio expressed their dislike concerning the Maroons for driving hard and unfair bargains. The acquired goods served to facilitate their daily tasks (Rivière 1969:54).

5.2.4.3 Residential mobilia

> *"It seems likely that there will be minor comings and goings for some time, if not always, but unless there is a further radical change in the influences at work on the Trio the traditional settlement pattern is unlikely to reappear, and the small scattered villages have been permanently replaced by large but more widely separated settlements."* Rivière 1969:16.

The material dimension of the missionary village is only known through a single map that Peter Rivière drew of Alalapadu (Rivière 1969:135) and his collection of photographs.[141] In this section I will focus on a number of his observations concerning the village layout and the various structures. When looking at this map and the photographs of the Rivière Collection, three main observations distinctly contrast with the Amotopoan image. These are the shorter distance between the structures, the presence and absence of various types of structures and the changes within the structures. As we can see in Fig. 5.11 (see below), the occupied area in both villages is almost similar. The difference consists mainly in the density of structures

141 The Rivière Collection was acquired by the Pitt-Rivers Museum (Oxford) in 2001.

in the villages. The flux of inhabitants into the eight-year-old village of Amotopo is 24. The flux of inhabitants in Alalapadu up till 1964 was 149 during a period of a few years.

Next to the difference in space, the differences in structures are apparent too. In the plan view of Alalapadu we see a total of 38 structures: 8 round structures and 30 rectangular ones. The main difference between the plan view of Alalapadu and Amotopo, is that that of Alalapadu features mainly habitation structures. In contrast, Amotopo contains only 8 habitation structures. In 1964 Rivière calculated five individuals living in each house, while reflecting on the Trio villages of both Palumeu and Alalapadu, although he also stressed that this may be an overrepresentation due to the high influx of people. This number is also influenced by the fact that the missionaries were persuading the Trio to live in each house as one nuclear family (Rivière 1969:38). Although communal cooking structures were present in Alalapadu (pers. comm. Rivière, 2011; Rivière 1969:39), most cooking took place in the structures which were also used for habitation. The same applied to the dog sheds as mentioned above. Kennels did exist, but dogs also rested on dog tables in the houses.

One could say that the structures in Alalapadu were more multifunctional when compared with the structures in Amotopo. Therefore the types of structure also differed. The floors of the round and rectangular structures were all at ground level. This seems directly linked with the ability to cook in a safe environment. The cooking and habitation structures in

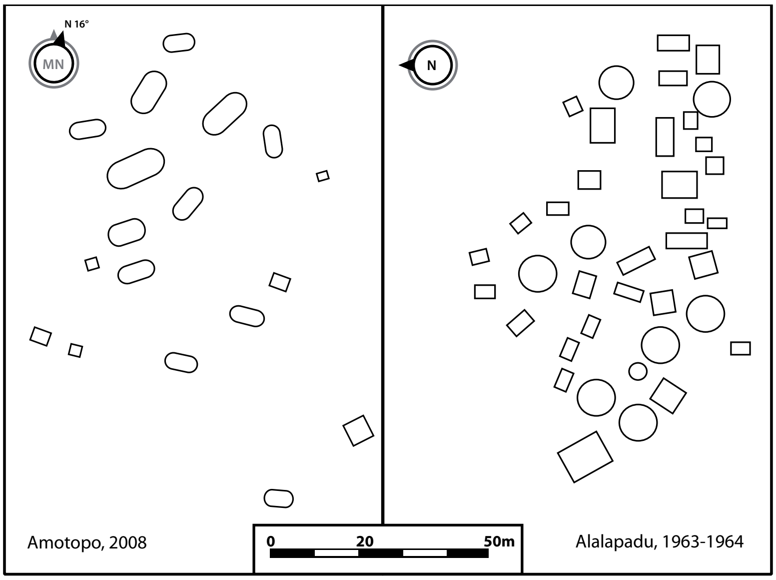


Fig. 5.11: Comparison of inter-structure distance differences between Amotopo and Alalapadu (adapted from Rivière 1969:135).

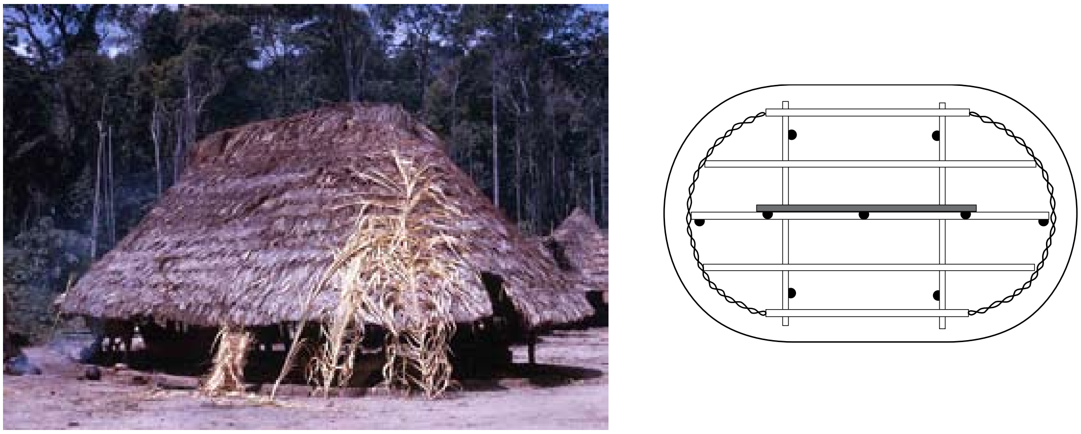


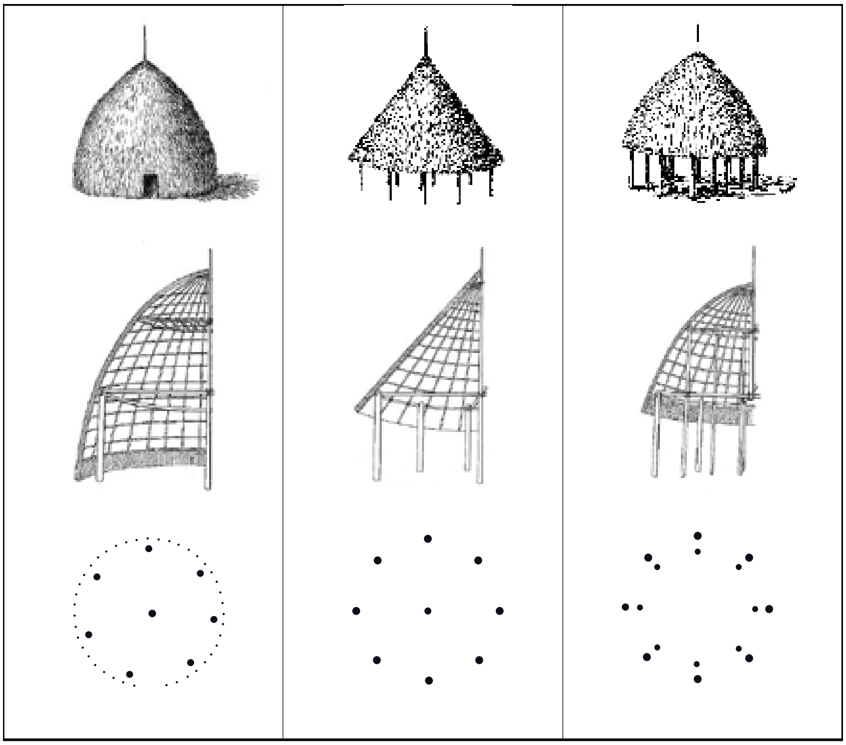
Fig. 5.12: A paiman house type in Alalapadu (L, Rivière 1963) and a plan view (redrawn from R, Frikel 1973:281).

Amotopo seem to be of the same type as the rectangular and elliptical habitation structures of Alalapadu (see Fig. 5.12) the difference being that the habitation structures in Amotopo have elevated floors and are a bit wider. During the early 1960s, Rivière could already witness some Trio houses on stilts, which he perceived as a very recent development potentially in imitation of the missionary house and airfield houses, but also noted similar reported house types among the Galibi of Cayenne and the Wayãpí. Frikel calls this (non-elevated) house type the *páima* (Frikel 1973:21) which I came to know as the *paiman* (see Fig. 5.12). Frankly, the Amotopoans called only the communal house the *paiman* and the habitation structure *pakoro* (*i.e.*, the generic term for 'house', Rivière 1995:190). However, its structure and that of the kitchen structure is of the *paiman* type.

The round houses which appear in the plan view and photographs of Alalapadu are not present in Amotopo. The traditional Trio house (Rivière 1995:192,196) was considered to be a specific type of the round houses and referred to as *mine* (see Fig. 5.13). This beehive-like structure was characterised by its circular shape, being thatched all the way to the ground, and harbouring a single door opening in this thatch (Frikel 1973:18-9, refers to this structure as '*müne*'). According to Paneshi (pers. comm. 2009) the thatch of the *mïnnë* down to the ground serves to keep the warmth inside. According to Rivière it might also bear a ritual connotation in the sense of concealing what is inside. Although he has no clear evidence for this, it is a given that the same structure, albeit smaller, was utilized by the shaman as a place to conduct his séances. In this structure the shaman can be invisible from the outside, implying he is in a state of travelling to one of the layers of the invisible cosmos (Rivière 1995:196).

Their architectural plan shows us a circular build-up of several roof-bearing posts. In order to arrive at a circular house plan, the Trio utilised a piece of liana in order to measure a perfect circumference from the centre (pers. comm. Rivière 2011). Next to the *mïnnë* another type of round structure could be observed in Alalapadu (pers. comm. Paneshi Panekke 2009). This circular structure was similar to the *mïnnë*, with the important difference it had no walls within its essential structure and was referred to as *tïmahkatë* (‘*tímakötö*’ in Frikel 1973:20; see Fig. 5.13). A final type of round structure known to the Trio in other villages, but not present in Alalapadu, was the *tukusipan* (‘*tukúxipá*’ in Frikel 1973:20-1). This structure was also open, but came with a more bowl-shaped appearance due to the utilisation of flexible rafters and an extra ring of roof bearers in its plan.

According to Rivière, the general Trio outline of a settlement is a clearing (*anna*) surrounded by the structures. Whenever the structures do not encircle the *anna*, it can be found in front of the structure where collective activities take place. Garbage is deposited behind the structures on a plot of half-cleared land between the village and the forest (Rivière



Fig, 5.13: From L to R: A müne, a tímakötö and a tukúxipá (Adapted from Frikel 1973:278-280).

1995:192). The *anna* is visible on the map of Alalapadu (Fig. 5.11), albeit as a small narrow stretch because there is very little space between the houses. According to Paneshi, this close proximity between structures was something of the past. After a number of fires, the Trio had decided to leave more room between the houses (pers. comm. Paneshi Panekke 2009).

Rivière also stressed that most structures were short-lived. After several wet seasons the majority of the roofs had become infested with insects. In general this did not drive the Trio to create a new thatch roof, but rather to construct an entirely new house elsewhere. Besides the functional reason for erecting a new structure, another reason could be the desire to inhabit a new place free of 'misfortune'. Misfortune, seen as the result of a disease or death of a family member, could become associated with the location (Rivière 1995:197). This increased the motivation to build a new house or to found a new village. One question remains unanswered to me: how long did this tight village plan of Alalapadu exist once several houses were abandoned and new ones were created, presumably outside this tight village plan?

5.3 'Anapi': A state of deep Trio fission (1907-11)

> *"...the watershed region became a retreat area where the remnants of a number of different groups settled, some of whom had possibly suffered already from European contact. Whether or not there was an earlier or indigenous population is not important, but the population density was almost certainly higher than it is now. Mainly as a result of exotic sickness and disease, this population became gradually depleted. The survivors, their attitude to strangers tempered by their unfortunate experiences with them, turned in upon themselves to find security among their kin and co-residents."* Rivière 1969:19

The last period to complete our centennial focus represents an era of deep Trio fission. For this period there is no detailed micro-resolution information concerning one particular Trio village, as was the case (see 5.3) on the village of Alalapadu. It was therefore chosen here to allow one village to serve as a symbol (a heuristic village) for the pre-fusion period that characterizes the first half of the 20th century. Being an ancestral village of the Amotopoans, the village of Anapi, Paneshi's great-great-grand-father, was chosen to be this symbol. The village of Anapi allegedly existed during the first decade of the 20th century as testified Dutch explorers testified in the course of their earliest expeditions in the headwaters of the Sipaliwini basin; it was sadly never visited by them. However, their reports of the small neighbouring Trio villages of Anapi have served to reconstruct the spheres of *mobilia* for this period. Due to this twist it becomes clear that we are losing grip crossing the boundary of reported and inferred knowledge (see Fig. 1.1).

The contextual information for the present chapter originates both from oral Trio history and from the aforementioned early Dutch and Surinamese expeditions. The Dutch expedition reports set the anchor points for this chapter, because they shed light on specific time period regarding the first-hand documentation of specific Trio individuals and their villages. This is not to say that Trio history starts with Dutch sources. The Trio have orally passed down their histories which are full of human movements. This information is contextually of great significance. Although it is unclear to which temporal period is specifically referred to, the oral histories suggest that fusions into large multi-ethnic villages predate first Trio-European contact and that the village which is here contextualised, 'Anapi' (1907-1911) in fact represents a state of deep Trio fission. Therefore, I will start the following section with accounts from Trio oral history that precede the first Trio meetings with the Dutch explorers.

5.3.1 Oral histories: the Samuwakan diaspora and the Okomoyana[142]

I will now focus on some oral histories of the Trio as they have been recorded in the past decades. The Trio discuss their own movements in the past that preceded contact with people from the coast in these histories. Although these accounts are being renegotiated every time they are told, there are some recurring elements and details that are of interest. As will become clear, these accounts should not be attempted to be placed in one linear history. The selection of oral histories begins with the legendary village of Samuwaka as one of the numerous stories Tëmenta (R-482) told to Cees Koelewijn (Koelewijn & Rivière 1987:260).[143] A later and shorter version was documented by Karin Boven (Boven 2001:18-9). The account is complemented with certain additions and variations provided by an-

142 The first oral account of Tëmenta (Koelewijn & Rivière 1987) followed by Pepu's account (Appendix M) are paraphrased at great length and are complemented by information from Pesaihpë (Findlay 1976) and Tëmenta's second account (Boven 2001).

143 In answer to Koelewijn's question as to what to say in the preface to his stories, Tëmenta replied spontaneously: "What about the Trio? Don't they have roots, don't they have a past and a future? No, we have ties with both! We have fathers, we have mothers, we have always had ancestors, and now we have sons, daughters, grandchildren. Therefore we have ties with past and future." However, the Trio youth had lost interest in these oral traditions. Instead they have oriented themselves increasingly towards city life. Tëmenta took the opportunity of documentation "to pass on his valuable knowledge from Trio history through the permanence of writing rather than through the ephemerality of speech" (Koelewijn in Koelewijn & Riviere 1987:XI).

other short account on Samuwaka as told by Granman Pesaihpë (R-93) to Claude Leavitt (Findlay 1976:1). It is followed by Pepu's account that is specifically on the Okomoyana (see Appendix M).

The story of the large village of Samuwaka, as told by Tëmenta, seems in time to have preceded the Trio's first encounters with the Maroons and their later contacts with the white people (Boven 2001:17). Pesaihpë estimated the expanse of Samuwaka 'village' to equate the distance between Panapipa and Alalapadu, which *c.* 18 km (Findlay 1976:1). It is unclear if this refers to an actual location, or an agglomeration or cluster of smaller villages, or that Pesaihpë just meant to say 'very large'. The location of Samuwaka is known and can be located near the Kantani (the *inselberg* Pico Ricardo Franco) in the Paru savanna close to a creek of the Brazilian West-Paru River (Boven 2001:17; for a location of the Pico Ricardo Franco see also Bubberman 1973: Fig.8).

The oral accounts on Samuwaka depart from a situation in which this large 'village' had already come into being. According to Tëmenta Samuwaka was the contextual setting of the story of the young boy Aturai[144] who was kidnapped by the Akuriyo and the Okomoyana (Koelewijn & Riviere 1987:253-61; Boven 2001:18). The Akuriyo and the Okomoyana at the time were trading partners, had intermingled with each other and lived on the upper Tapanahony near the Arakamïn Mountain (Boven 2001:18). They were considered to be fierce by the Trio. The Trio ('Tirijo'), on the other hand, were the allies of the Aramayana, the Pirëujana and the Akïjo.[145] They lived together in the area of Samuwaka. One day the father of Aturai (the Pïreuyana Sohpiripi who was also one of the leaders of Samuwaka [Boven 2001:18]), had taken the family on a trip to the upper reaches of the Kuruni River near the Tukuimïn Mountain. While the men were hunting and the women were collecting firewood the little boy Aturai and his younger brother were kidnapped by the Akuriyo in an unguarded moment when they were left alone playing in a creek.

Years went by and the two young brothers were raised among the Akuriyo. After quite some time their stepmother, who cared for her Trio foster children as if they were her own, warned Aturai that her people and the Okomoyana were planning to kill and eat him and his brother. Aturai was also warned by his girlfriend who advised him to escape and return

144 Pesaihpë instead speaks about the son of Aturai (Maruwaikë [Boven 2001:18]) being kidnapped and not Aturai himself (Findlay 1976). In another brief account by Rivière, Aturai is kidnapped by the Okomoyana (Rivière 1969:263).

145 In the various accounts there seems much confusion regarding the name 'Akïjo'. In one account the name represents a group, both as an ally of the Trio (Koelewijn & Riviere 1987:253) as well as an enemy group (Boven 2001:18). In another context the name refers to the leader of the Akuriyo at the time of Samuwaka (Findlay 1976). In another report it also represents a Wayana leader during Trio-Wayana wars in the post-Samuwakan era (Koelewijn & Rivière 1987:262-264).

to the Kantani Mountain where his people came from. Although warned, Aturai's younger brother did not escape. While the latter's body had already been painted with patterns and tied up 'like a tortoise' on the village square (where he was to be ritually slain [Boven 2001:18]), Aturai escaped to make his way to the Kantani Mountain and back to Samuwaka.

Aturai decided to take revenge for the death of his younger brother. The Trio of Samuwaka then attacked the Akuriyo and the Okomoyana in their own villages (one of their leaders was Werehpai [Boven 2001:18]). One village was located near the mountain *Arakamïn*, one near the *Ëmërijatë* creek, one near the *Siminatë* creek and one village was called *Awarerupo*.[146] Here all the men and women had gone except for a few children. Aturai captured a little boy named Maritïikë at *Awarerupo*, who turned out to be a very intelligent and strong. He was not an Akuriyo, however, but a Pianakoto whom Aturai later adopted as his subordinate. Subsequently they set off for the mountain on top of which the Akuriyo were waiting for them armed with their bows and arrows. Here the Trio allegedly surrounded the mountain and fought a final battle with the Akuriyo killing them all (Tëmenta in Koelwijn & Rivière 1987:260).

In Pesaihpë's account[147] and Tëmenta's second account as documented by Boven, the Trio wars against the Akuriyo and Okomoyana did not stop there. A number of the Okomoyana had fled to the Sipaliwini (Tëmenta in Boven 2001:18). Here Pepu's account on Okomoyana movements blends in. The Okomoyana who had already moved their villages further northwest in the Sipaliwini basin (see Appendix M), were attacked with clubs by the Trio leaders Aturai and his son Maruwaikë. According to Pepu, this took place in the Okomoyana village of *Kurere Ahkëtëhpë* which is situated near present-day Kwamalasamutu (see Fig. 5.14). In Tëmenta's second account, this encounter took place near Makuiwaka [Boven 2001:18][148] which in turn is one of the Okomoyana villages mentioned in Pepu's

146 Of these only the mountain reference can still be found. The names of the creeks and village are no longer known or have changed. However, the *Awarape* creek could have given its name to the village *Awarerupo*. According to Frikel Tëmenta ('Temetá') was the village leader of '*Awara-po*' during the late 1950s which Frikel situated Awarapo near the *Awarape* creek (as mentioned on the ACT map). Tëmenta's village was described as one of many of which the inhabitants moved to Alalapadu (Frikel 1971:38).

147 In Pesaihpë's version this final attack actually followed upon several revenge attacks by both sides. Ultimately, however, the Trio ambushed the Akuriyo in the savanna to the east of the Kantani mountain. Here the Akuriyo found themselves surrounded by numerous Trio and were eventually slain. This site is even today called '*Akijo Aminiemieri pipie*', the place where the Akuriyo were fooled (Pesaihpë in Findlay 1976:3-4).

148 The Trio also attacked a group of Okomoyana near Kïnoro waka which is situated at the headwaters of the Tapanahony (Boven 2001:18). It is unclear if this is the same Okomoyana group as the one encountered in the Sipaliwini basin who according to Pepu's account, were moving in a northwesterly direction. There could also have been two separate Okomoyana groups.

account). The Trio killed almost all the Okomoyana except for a small number who fled further northwest, to Pehkëtë.

According to Pesaihpë's account, as documented by Findlay, the war with the Akuriyo and the Okomoyana had caused the Trio to consider living in a single large village as too dangerous (Findlay 1976:4). Moreover, there were too many people in Samuwaka and there was not enough meat to feed everybody (Koelewijn & Rivière 1987:262). It is also stated that many tensions emerged due to the problems with the redistribution of the game that hunters brought to the village (Findlay 1976:4; Boven 2001:18). The village leaders counted how many people there were by providing everyone with a small piece of meat from a large bamboo skewer. Next the people left in various directions. The large-scale fissioning of the village now took place dividing the people into subgroups. They named themselves either after their leader or after a certain characteristic (Pesaihpë in Findlay 1976:4). Several groups went to the Palumeu, the Tapanahony, Okomokï, Wanamu, the Paru and the Marapi Rivers (Koelewijn & Rivière 1987:262; Boven 2001:19).[149]

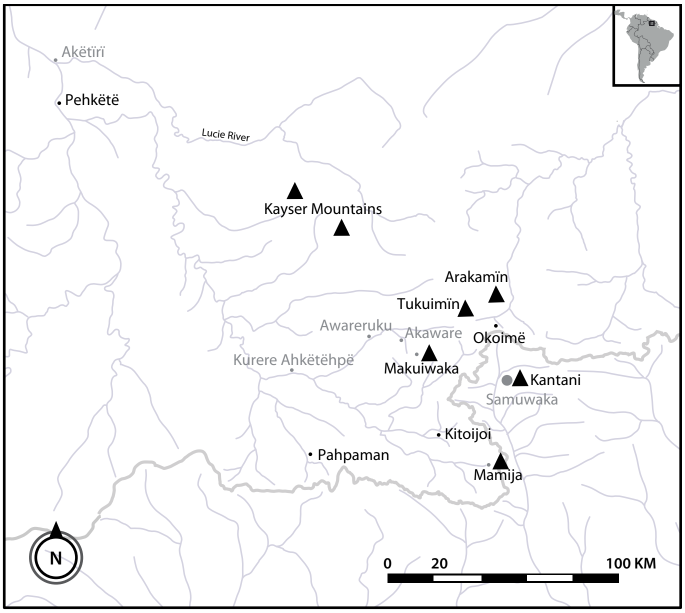


Fig. 5.14: Villages and mountains mentioned in the oral histories (The estimated localities indicated in grey could not be verified with the ACT 2003 & 2004 map).

149 In his first account, Tëmenta also added the Okomoyana as scattering from Samuwaka, moving back to the Sipaliwini basin when the large village had split off. The Okomoyana are no longer mentioned in his second version.

Let us now continue with Pepu's account concerning the Okomoyana, who had been decimated by the Trio and had fled to the northwest, to Pëhkëte. There the number of Okomoyana started increase again. They lived not far from where the village of Lucie is presently located.[150] The leader of that Okomoyana village was *Akëtïrï* who had two sons, *Siikim* and *Kasipara*. *Siikim* firstly travelled up the Lucie River (as far as to the Käyser Mountain) and then moved to the Wonotobo Falls (Wanapan) before returning to *Akëtïrï*. His brother Kasipara moved upriver to the Kutari tributary to reach the village of Pahpaman where many Okomoyana allegedly lived. Afterwards they returned to the mouth of the Kutari River and moved further upstream on the Kuruni River to the Araraparu creek. The local Okomoyana leader here was Eemainan. The Okomoyana moved further to the mountain of Mamija and then to the mountain of Kujari Oota. There was a village here too. Next they moved to the village of Kitoijoi (the same place where later Apikollo was located, see Fig. 5.14 and 5.15). Here the Okomoyana met up with Trio from Samuwaka again. The Okomoyana leader at that time, *Suriwa*, moved to the village Okoimë where the Okomoyana and the Trio shared wives and started living together in Samuwaka. According to Pepu, the Trio and the Okomoyana subsequently fought against 'the Akïjo' on the Kantani Mountain. Once this battle had run its course, the Okomoyana had convinced the Trio and the Akïjo to lay down their spears and clubs (see Appendix M).

As becomes evident, Pepu's account discusses the village of Samuwaka twice. The account on Samuwaka seems hereby to be brought full circle as a true drawing by M.C. Escher. Firstly he deals with the large village of Samuwaka as home to the Trio heroes, Aturai and Maruwaikë, who chased the Okomoyana away after they had slain and devoured Aturai's brother in the company of the Akuriyo. Many residential movements of the Okomoyana later, travelling through a wide extent of the Corentyne River, the Okomoyana arrived at the village of Samuwaka. Here they came to live together with the Trio. Both fought the Akïjo on the Kantani Mountain, but eventually laid down their weapons. It should be made clear that references made to groups and events in oral traditions are renegotiated every time they are told and should be seen as constantly being appropriated to current contexts. They are not meant to be placed in linear sequential order.

However, several Trio oral traditions do tell historical events that sync with information we know from expedition reports. Some are truly historical, some have become myths, others are myths containing historical events (Rivière in Koelewijn & Rivière 1987:303-4). In other words it could well be that the Okomoyana and the Trio have lived together

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in a village 'Samuwaka' in more recent times. This does not mean that 'Samuwaka' in Pepu's second statement also refers to the legendary large village of Samuwaka. It could also refer, for instance, to a more recent and probably smaller village in the same location as that of the legendary large village of Samuwaka, namely the Paru Savanna near the Kantani Mountain. This would explain Pepu's remarks that certain people on Rivière's list had also lived in 'Samuwaka' (see Appendix K).

5.3.2 Dutch expeditions in the Sipaliwini basin (1907-1942)

Let us now look into the earliest Dutch and Surinamese expedition reports. Explorers from the United Kingdom were the first to establish a borderline between British and Dutch Guiana towards the end of the 19th century (Schomburgk 1845; Barrington Brown 1877).[151] As a result of these expeditions, the western borders of the present-day Surinamese territory were initially determined. However, the Surinamese interior itself had remained largely unexplored ever since the Dutch had claimed the territory as their colony. The reasons for this neglect might have been due to the fact that the earliest prospection in the interior appeared to suggest that there were no riches to be found in the deep interior only more impenetrable forests and infertile ground. In other words, the myth of El Dorado had become clear to the colonizers. From this moment on the forests in the south were perceived as a barrier isolating Suriname from the rest of the South American continent. The focus shifted to the plantations in the coastal area rendering a large part of Suriname a *terra incognita* to the Dutch from the 17th till the early 20th century.

Interest in the interior was rekindled in the course of the 19th century.[152] In 1897 an idea was born at a meeting of the *Vereeniging voor Suriname* (the *Suriname Association*) to scientifically and systematically explore the interior of Suriname where only a handfull, in some places not even a sin-

151 The first visit by a European to a Trio village has to be ascribed to Schomburgk. In 1843 on a border exploration he visited a small 'Drio' village at the head of the Anamu River (near the Kutari River) describing it as a sister tribe of the Pianaghottos (Schomburgk 1845:84,86). An interesting remark by Schomburgk is that the 'Drio' were decorated with incisions (Schomburgk 1845:85). In addition, he reported that both Pianaghottos and Drios were friendly with the Surinamese Maroons to the East although they complained that these Maroons were difficult to negotiate with when trading glass beads (Schomburgk 1845:87). For a discussion on early European explorers in the border area of Suriname and French Guiana, see Duin 2009:78-85.

152 It is beyond the scope of this dissertation to investigate what the reason for this renewed interest could be. In order to postulate a hypothesis: after the abolition of slavery in Suriname in 1875, the plantation industry could perhaps no longer leech off Surinamese agriculture to a maximum profit. Former slaves became paid labourers and labourers from China, British India and the Dutch East Indies were contracted. The Dutch interest in the Surinamese interior was born out of the potential new resources that could be found there as plantation profits were waning (see Buddingh 1995:212-72).

gle European, had ever set foot (Van der Wijck & Bosboom in Bakhuis 1902:1). This Dutch idea regarding expeditions appeared an expensive affair. To be able to succeed in such a costly enterprise the *Maatschappij ter Bevordering van Natuurkundig Onderzoek in de Nederlandse Kolonieën* (the *Society for promotion of Physical Research in the Dutch Colonies*) was requested to contribute, as was the *Koninklijk Nederlandsch Aardrijkskundig Genootschap* (the *Royal Dutch Geographical Association* [henceforth abbreviated KNAG]). The most important party to involve was the Dutch Government.

The primary reason of the KNAG expeditions was the exploration of the colony of Suriname and not so much to learn about its inhabitants. Firstly the Coppename River was explored, then the Saramacca River and finally Maroni River in the course of which encounters with the Wayana people were documented. During this third expedition First Lieutenant Claudius de Goeje officiated as the second geographer. Besides the actual objectives of the expedition, de Goeje also took great interest in the Amerindian inhabitants. He learned to speak the language of the Wayana on the basis of linguistic notes recorded by the French explorer Crevaux. They would help him to communicate with the Wayana people (Franssen Herderschee 1905a:113). Our attention is mainly drawn to the de Goeje's two subsequent expeditions (the 1904 Tapanahony expedition and the 1907 Tumuc-Humac expedition) which brought him to Trio territory with the help of Wayana scouts.

The first encounter between de Goeje and the Trio was instigated by the Wayana scout called Toewoli. He guided the Dutchman to the village of Majoli located at the headwaters of the Palumeu River (a tributary of the Tapanahony) in 1904. De Goeje describes the first meeting with the Trio in the eponymous village of leader Majoli where his eye soon "fell on a bunch of squatting men, who stared at the strange visitor distrustingly. The red and black [painted] figures on their faces and the clubs they were holding in their hands, gave them a fierce appearance" (de Goeje in Franssen Herderschee 1905b:937-8). He was welcomed there by village leader Majoli who wore jaguar teeth around the neck. De Goeje remarks how close the houses stood together and that they were full of barking dogs. Their loud presence forced him to sleep in a camp outside the village. Having continued his journey hoping to come across the Brazilian Trio in the headwaters of the East-Paru River, he did stumble upon Trio villages the inhabitants of which had all fled.

De Goeje returned on a subsequent expedition, the Tumuc-Humac Expedition, in 1907. This time he penetrated further into Trio territory visiting several Trio villages. This expedition brought him as far southwest as the Trio village of Apikollo. In 1910-1911, an expedition to the Corentyne River took place. Lieutenant Conrad Käyser now approached the Trio area from the other side, namely from the Corentyne in southeast direction. Käyser also visited a number of Trio villages and went as far east as the village of Apikollo, which in the mean time had been deserted. Both de Goeje and Käyser were informed about other Trio villages situated along a path between the villages of Langóe in the east and Sikima in the west. Both men, however, did not have enough time to travel further along this path.

One of these villages was the one of leader Anapi (see Fig. 5.15). I will briefly explain the link with captain Paneshi from Amotopo. Paneshi's great-grandfather appeared to be Sawirapo (Rivière 1969:311), also referred to as Tunawaka ('Toenawakka' in Schmidt 1942:39). Sawirapo's father was called Anapi. Anapi's village was situated near a mountain called Tukuimïn ('Toekoeimoeni' in Käyser 1912:46). Both de Goeje and Käyser had heard about this village, but did or could not visit it. The village of Tukuimïn, located near the eponymous mountain, is the village where Ëujari was allegedly born (see Appendix K). Together the reports of de Goeje and Käyser (de Goeje 1908; Käyser 1912) represent the earliest first-hand information on the Trio of the Sipaliwini basin dating from the first decade of the 20th century.

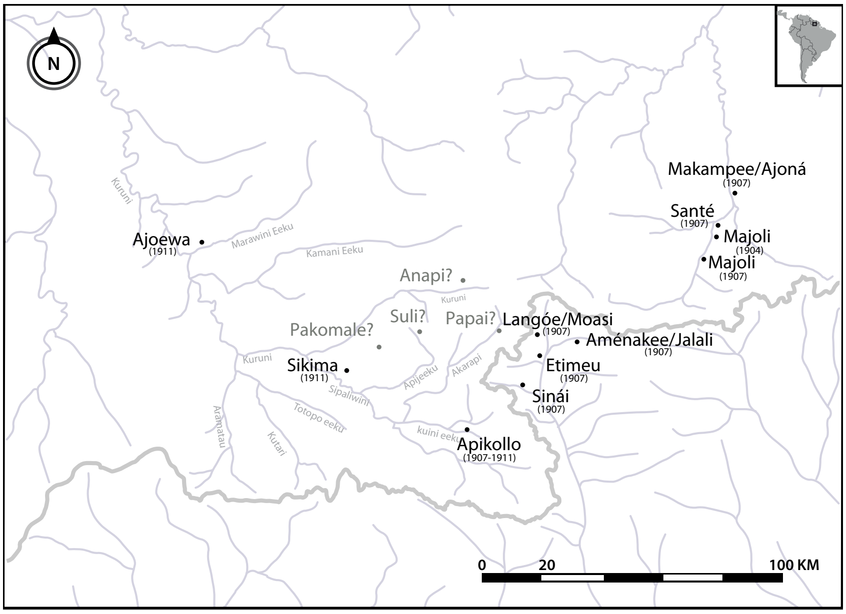

Fig. 5.15: Trio villages visited by de Goeje (1904, 1907) and Käyser (1911). The approximated Trio villages indicated in grey were reported to de Goeje and Käyser, but not visited.

After the above-mentioned expeditions, another three followed approaching and entering the Sipaliwini basin, namely 1913-1916 expedition led by William Farabee (Farabee 1924), the 1926 expedition led by father Willem Alhbrinck and Gerold Stahel (Ahlbrinck 1927), and the 1933-1938 expeditions which focused on the mapping of the southern border with Brazil (van Lynden 1939). Farabee stated he encountered a Kumayena village (probably Okomoyana) built on an eastern creek (called Karape) of the Kutari tributary (Farabee 1924:214; Rivière 1963:173).[153] Ahlbrinck and Stahel's 1926 expedition did not travel up the Sipaliwini tributary but remained on the Corentyne River and her Kuruni, Kutari and Aramatau tributaries. They came across a large number of camps and a few gardens situated along these tributaries. All but one but one camp along the Kutari tributary was deserted. Here the Germans briefly encountered a small group of frightened Amerindians. Unfortunately, Ahlbrinck could not find to which group these people belonged. However, he assumed that they potentially had their proper villages on the Sipaliwini tributary (Ahlbrinck 1927:112). The camp structures and the objects were documented in detail (Ahlbrinck 1927:114-39). In the course of the 1930 border expeditions that focussed on the Corentyne River, they merely encountered certain Amerindian traces and a small number of travelling Trio (van Lynden 1939:817-8). [154]

The aforementioned *Baas* Lodewijk Schmidt provides us with a final first-hand source for the comprehension of the fission context in the Sipaliwini basin. Since the boundaries of Suriname had been established, there was no sound notion as to the Amerindian inhabitants during the interior 30 years after de Goeje's expedition. For this purpose it was not considered necessary to go for an expensive expedition. Thus Schmidt departed on a one-man venture. During the course of three journeys (1940-1942), he visited 20 Trio villages of an informed total of 25 (Stahel in Schmidt 1942:5), yielding a new overview of Trio villages in Suriname and Brazil (see Fig. 5.16; but see Frikel & Cortez 1972:38-9). Likewise,

153 Farabee found the Kumayena village by encountering some sunk bark canoes tied to a branch on the river bank. They followed the nearby path for three hours to the village, where they encountered five men, five women and two children. The village which was not in good condition (the worst he encountered on his expedition), was composed of several houses which he describes as "tumbled down shelters in an old grown up field". The people were described to have no stored food except for some nuts. Farabee implies they did not have more possessions besides "ragged breech cloths" and "fragments of aprons" (Farabee 1924:214).

154 Of the multiple expeditions of the latter, the focus here lies mainly on the first expedition on the Corentyne River which approached the Sipalwini basin. An exception should be made as to the expedition member named Rombouts and as to Art Williams (the English Border Commissioner). Together they set out to investigate the disappearance of the American pilot Paul Redfern whose plane had vanished somewhere in this region a few years earlier. They went up the Sipaliwini River and also briefly visited a Brazilian-Trio village (Alapité). No further details on this visit have been published (van Lynden 1939:819; Schmidt 1942:24).

he inventoried all the villages writing down the names of the Trio who lived there or who were said to live there. As mentioned above, Ëujari was village leader of the eponymous village ('Ojalè' also called 'Panapikpan' [Schmidt 1942:58]). It was probably located not far from the village where he was born (Tukuimïn) nor that of his grandfather Anapi. As stated in 5.2.1, during Schmidt's time (the early 1940s), the village of Panapipa had not yet started to grow out of proportion, still resembling the size of its small neighbouring Trio villages. Besides the static inventory as composed by Schmidt, the three separate journeys also allowed for observing changes in the spatial settings of localities visited earlier, even in such a short period of time.

The first-hand reports presented by de Goeje (1905; 1908), Käyser (1912) and Schmidt (1942) combined provide us with a solid basis for the construction of the spheres of movement for a heuristic Trio village ('Anapi') representing a deep state of fission.

5.3.3 'Anapi' spheres of movement

The accounts of oral history show that the 1907-1911 context of 'Anapi', our heuristic village which is also the village of Paneshi's great-great-grandfather, should be seen as one of fission. The Dutch first-hand sources have now been introduced and provide us with the pre-fusion data set from which the spheres of movement can be distilled. Besides these reports an additional source will be called for. Peter Rivière had interviewed numerous Trio in Alalapadu and Palumeu how life had been in the days before they had come to the missionary village. These snippets of oral history are of assistance when constructing the spheres of movement of 'Anapi'. Once again, the description will follow the division into subsistence *mobilia*, exchange *mobilia* and residential *mobilia*.

5.3.3.1 Subsistence mobilia

On returning from his journey that had aimed making contact with Brazilian Trio, de Goeje visited the Surinamese-Trio village of Majoli on the way back in 1904. Since the Trio felt less and less afraid and more confident in the direct vicinity of this white man, they started to interrogate him about his belongings. De Goeje writes how they started to inspect his clothes and other belongings. They then asked him, for instance, why he was wearing gaiters, what purpose did they serve and had he made them himself? After denying he had made his gaiters himself, they then asked: did you perhaps made your own jacket? They were greatly confused after realizing that this white man did not make any of his own belongings at all (de Goeje in Franssen Herderschee 1905:957).

This interesting interaction, if interpreted correctly by de Goeje, implies that a great part of the possessions among the Trio in that region were procured and/or produced by their owners. De Goeje subsequently described that labour division mainly followed the gender divide in Trio society, as we could already observe in the aforementioned Amotopoan and Alalapadu examples. The Trio men created a clearing for the garden to then in collaboration with the women start its cultivation. The women subsequently did the harvesting and processing. The men hunted and fished, created dance adornments and the majority of the utensils for daily use. The women produced pottery, wove hammocks and looked after the children (de Goeje in Franssen Herderschee 1905:957).

On several occasions de Goeje remarks on the pragmatic mode of hunting, fishing and collecting of the Trio. Several Trio had served as guides on his expeditions. They had got to know each other well during their long journeys together. De Goeje had a goal to reach on a given day, whereas the Trio took full advantage of chance encounters. De Goeje was forced to wait for hours whenever his guides (including Maroons) had once again encountered honey, a spider monkey or went fishing (de Goeje 1908:1040, 1060, 1078-9). This pragmatic way of moving about, to spot what is out there, touches greatly upon the temporal dimension too. Whenever you drift away from your village, opportunities for chance encounters are to be exploited even if you have set off for an entirely different reason.

The fact that this flexibility also translates into easy movements between villages regarding the fulfilling of subsistence needs should, therefore, not come as a surprise. Rivière was informed by the Trio that, before they started living together in one village, they "went to that village to hunt, that one to poison fish, and another to collect Brazil nuts. Secondly, some Indians said they had several villages and a garden at each one"(Rivière 1969:57). This remark sheds light on the situation de Goeje encountered in 1907. On his way westwards from Majoli he passed through several Trio villages. In the village of Aménakee (see Fig. 5.15) he came across only a few Trio, namely a Trio named Atotoli, his wife and their children. They stated they were only there temporarily and it appeared they would soon be leaving the village. This was made clear by the holes in the roofs of the houses, by the weeds that had already started to 'recarpet' (Mentore 2005:59) the village clearing. In addition, the house where this family was staying was the only one with domestic utensils (de Goeje 1908:1051).

The de Goeje expedition team had to acquire food in the subsequent village (called Langóe) before continuating the expedition. Certain Maroon guides were no longer willing to participate; therefore, de Goeje also needed new bearers. They found a number of Trio in the village willing to help (de Goeje 1908:1064). Now they had to wait for the villagers of Langoé to dig up manioc and for the subsequent production of cassava.

The manioc in their gardens, however, was not yet fully grown. Although this was not a very advantageous situation for the villagers, the prospects of receiving manufactured trade items made up for this. In the meantime, it had appeared that this village was barely capable of feeding the entire expedition team (de Goeje 1908:1054).

As soon as the cassava was ready the team continued its journey to the third village, called Apikollo, passing the deserted village of Etimeu along the way. Upon arrival its members received a large quantity of sugarcane and bananas from the villagers. De Goeje states that it was clear that this was a village of abundance. In his view this was the reason why there were so many people present in this village. He easily counted 50 persons, knowing that that there were also people still out in the gardens, on a hunting trip or in hiding (de Goeje 1908:1062).

5.3.3.2 Exchange mobilia

The village of Apikollo was situated on the very spot where the Okomoyana village Kitoijoi was formerly located (Pepu 2008 [Appendix M]). Ironically, this is also the place where de Goeje briefly met up with an Okomoyana. He writes that

> *"there was (…) a young man present, who according to Silowá belonged to the tribe of the Okomoyana. I did my utmost best to make this man talk in the hope of documenting some of his language. Some books were brought, a stack of white buttons (one of the most desired exchange items)- nothing worked. The man did not understand Wayana, gave up on my trade dialect and my pointing to the sun, sky and earth, body parts and garments only made him respond in sound Trio. To my regret the man soon disappeared and I never saw him again."* (de Goeje 1908:1063).

The fascinating aspect of the above passage is that this man did not understand the trade dialect, as was the case with certain other men in Apikollo, too. This pidgin dialect was spoken between the Maroons and the Trio for exchange purposes. Although the Ndyuka guides ('Joeka' Maroons) were no strangers to the village leader Apikollo, it was also clear that Trio-Ndyuka exchanges did not occur that often in these parts. When de Goeje later expressed the wish to continue further south to the land of the "feared Saloema [Saluma]" neither Trio nor Ndyuka guides responded, implicitly expressing the wish to return (de Goeje 1908:1065). The Trio village of Apikollo should perhaps be considered a barrier where neither Maroon nor Trio would tread beyond, or at least not with this white man.[155]

De Goeje also observed the Trio hunting dog exchange between the Trio and the Ndyukas. According to de Goeje the Trio also exchanged hunting dogs with the Aluku Maroons ('Boni') by means of the Brazilian Paru and Yari Rivers. In this manner the Trio received manufactured goods such as axes, knives and fishhooks (de Goeje in Franssen Herderschee 1905:942). In addition, he states that the Trio also acquired a number of these exchange goods from Brazil through the mediation of the Saluma and the Sikïiyana who allegedly lived in the upper-Trombetas (de Goeje in Franssen Herderschee 1905:941-2, 1906:16). Both the Trio and Saluma were known for raising good hunting dogs. De Goeje also mentions how he met up with the Wayana Sukuma ('Soekoema') in the Trio village of Majoli who allegedly was returning from a dog exchange with the Saluma (de Goeje in Franssen Herderschee 1905:956).

More than three decades later, Schmidt reports how the Trio-Saluma contacts had turned sour in the time between de Goeje's visit and his own (Schmidt 1942:38-9). Akaku ('Akakoe'), a self-proclaimed Pianakoto ('Pianagotto'), describes how the Trio (including himself) had had an argument with the Saluma during the early 1930s. This row had taken place in a village on the Pëname tributary, on the very spot where the Trio village Maisa was said to be located in 1942 (see Fig. 5.16). This disagreement was about the exchange of hunting dogs. Having returned to his village, Akaku decided upon revenge. He gathered a group of Trio men[156] and set off for the Saluma village which was situated somewhere near the confluence of the Kafu and Pëname tributaries. They attacked the village at night killing eight Saluma. One Trio was killed during this attack. The raid bounty included a number of hunting dogs, six women and a few children (Schmidt 1942:39). In the course of Schmidt's previous expedition six months earlier, he had met up with the village leader Sipoti and one of the abducted Saluma women called Tuta ('Toeta'), whom Sipoti had taken as his second wife, and Tuta's daughter Makabula ('Makaboela'). Sipoti did not mention the raid but regretted that even several years after this incident no peace had been made. This meant he could not acquire

155 Although de Goeje and his team were provided with an abundance of food upon arrival in the village of Apikollo, it should be stated that the villagers were not at all satisfied with the arrival of these white men and argued heavily with the Maroon guides for bringing them to their village. Apikollo himself requested the expedition team to leave and did no wish to colloborate on any further guidance on their journey (de Goeje 1908:1061-4; see also 1065-6).

156 Among them four men from Sipoti, the village leader Nelli [younger brother of former village leader Apikollo] and Tunawaka ['Toenawakka'] who was Ëujari's father (Schmidt 1942:36,39; but see also Rivière 1969:233), and thus Paneshi's great-grandfather.

the elaborate Saluma basketry and dance attributes on which he was quite keen (Schmidt 1942:25).

5.3.3.3 Residential mobilia

In contrast with the subsequent period of Alalapadu, this period is marked by a high frequency of residential moves. When de Goeje returned to the Trio village of Majoli on his second journey (1907) into the interior, he was informed that village leader Majoli had moved his village 8 km to the north in a former garden. The reason was that a villager had died and several others had fallen ill (de Goeje 1908:1023-4). Continuing on his journey, de Goeje encountered more deserted or abandoned villages. The village of Apikollo where de Goeje encountered the highest number of Trio (de Goeje 1908:1062) in 1907, was found abandoned by Käyser's expedition in 1911 (Käyser 1912:49). At a day's march away from former Apikollo, Käyser had come across a camp that had more recently been abandoned, as the smouldering remains of a fire indicated. Nearby he found a small shaman's structure (see also 5.2.4.3) and a freshly dug grave. Käyser inferred that the shaman's efforts had apparently not helped (Käyser 1912:50-1).

One of the Trio villages de Goeje also visited was the village of Langoé. More than 30 years later, Schmidt encountered the people who allegedly claimed to be the former villagers of Langoé, but who were now living in the village of Koelawaka. That same year (1941) Schmidt paid a second visit to the village Koelawaka. The villagers had now chosen a new captain named Piké. On his third journey, Schmidt discovered that Piké's village had been built in a new location.[157] According to Schmidt the previous inhabitants of Langoé, since de Goeje's visit, must have moved between six and eight times already. The name of the village must have changed a few times too. Schmidt concluded that only rivers and mountains retain their names over time, serving as the sole anchors for spatial orientation (Schmidt 1942:19).

Schmidt presents us with slightly varying observations as to residential *mobilia*. In the course of his third journey he had witnessed a spatial transition of villages belonging to the same captain on three occasions. The first case concerns the already familiar village Ëujari. When Schmidt arrived at a junction of footpaths near the Kuruni River his guides informed him that one path led, by way of a day's march, to the second village of Ëujari, and the other footpath led to the current village of Ëujari. Schmidt

157 Piké informed Schmidt as to the main reason for moving his village. A visiting Maroon from the village of Drietabbetje with a coughing disease had wished to acquire a hunting dog from the villagers of Piké. When this was refused, he spat angrily into the fire as a mark of protest. The Trio considered this curse of death concerrning all the villagers. Abandonning this village became the only option (Schmidt 1942:32).

described Ëujari, the village leader, as a young and robust but very friendly man (Schmidt 1942:34). He also mentions Ëujari's son, named Malatin. This must be Paneshi's father, since it appears from Rivière's data that Ëujari had only one son.[158] Ëujari and his son Malatin escorted Schmidt to Nelli since Ëujari had to go there to pick up hunting dogs that were to be exchanged with the Maroons in the east.

When Schmidt arrived in the village of leader Nelli (as told by his guides), it appeared to have been abandoned recently. According to Schmidt this could have been due to the fact that there was no freshwater available since the adjacent river was dry. They walked on for several hours and arrived at a second village of Nelli which had apparently been abandoned even longer. Continuing their journey the next day along the foot-

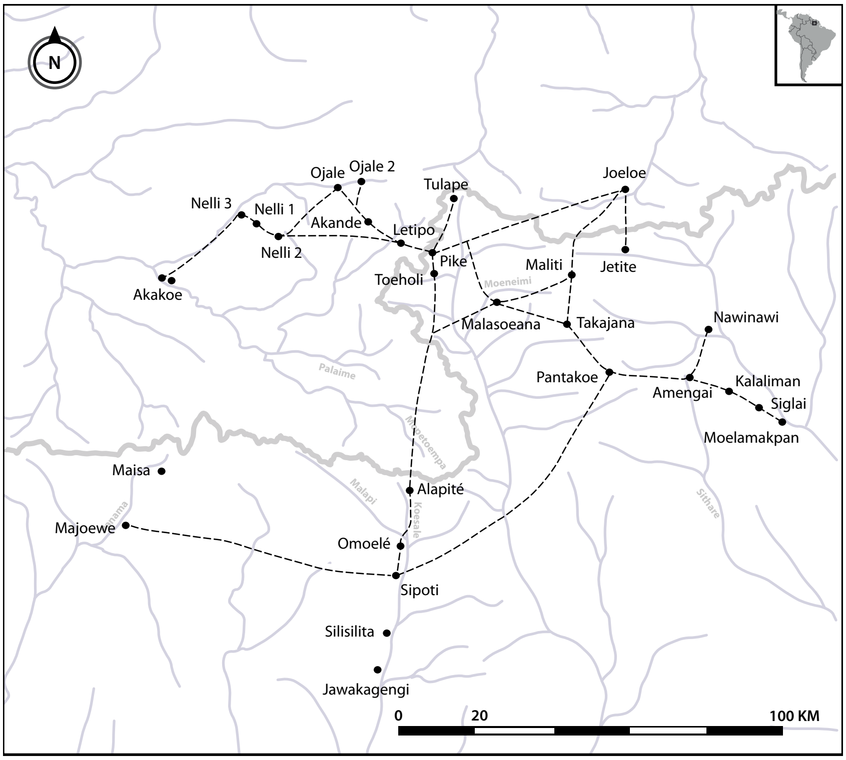

Fig. 5.16: The Trio villages and roads during the early 1940s (the village Moelamakpan in the east was a Wayana village; adapted from Schmidt (1942).

158 Rivière writes Ëujari as 'Eoyari' and gives him the index number 62. Utilising index numbers I will refer to them as '(R-62)'. Ëujari's son is named '*Kurumuku*' (R-35) which literally means *'young man'* in Trio (see Rivière 1969:173) . The son had already passed away before they moved to Alalapadu. Paneshi (AMO-01) is referred to by R-36 and Pepu (RUS-01) is referred to by R-22 (Rivière 1969:309-11).

path, they firstly passed an, once again, empty hunting camp of Nelli, and after walking for half a day, they finally arrived at a recent clearing. Here the Nelli villagers had just started building a new roundhouse (Schmidt 1942:35).

During their stay at the next village they came across a similar situation. After arriving at a garden, it took them almost a day to arrive at the village of Akakoe. This village was fairly new, the clearing was recent and two round structures were in the process of being constructed. The adjacent new garden was awaiting the rainy season. This village was not far from the former abandoned village of Akakoe. However, after walking for half a day and an additional 200 m to be travelled in a bark canoe, they arrived at the current village of Akakoe (Schmidt 1942:38). This could indicate that the Trio villagers were frequently moving collectively at the time. In this perspective these 'village' movements were no further than half a day's march from the abandoned village. Another interpretation, as Rivière suggested, could be that several small villages, some half a day apart, together formed a single community or agglomeration (Rivière 1969:52,57) potentially with a single community leader. Both interpretations do not exclude the other.

In terms of structures it has been suggested that certain Trio houses encountered in the course of de Goeje's and Schmidt's expeditions were larger than those of Alalapadu. Schmidt remarked that in comparison to the Wayana "the Trio all sleep together in a large round house" (Schmidt 1942:25). De Goeje took a photograph of type of round house found in Apikollo, called '*timákitti*' (see Fig. 5.17; de Goeje 1908:1062-3). The ethnohistorian Gerrit Bos stated that this may well have been the last Trio communal house ever, although it is also possible that this example was an acculturated Saluma house type as suggested by Frikel (Bos 1973:159; see also Fig. 5.15b). Moreover, it is difficult to determine on the basis of these photographs alone if the portrayed houses were actually larger (in terms of floor area) than those in Alalapadu or Amotopo.

The sources also tell us something about the immobilisation of human *mobilia*. A significant reason for village abandonment, according to Schmidt, was the death of a village leader (Schmidt 1942:19). Schmidt describes how captain Alapité of the eponymous village had died and was buried. His son-in-law had dug a grave (110 cm long, 53 cm wide and 114 cm deep) inside the former captain's house in which he was placed. His bow and arrow were also interred after being cut in half. A fire-fan and a cassava mat were positioned on the deceased, too. The entire grave was covered with boards made of wood from the 'palissade' palm (Schmidt 1942:26). Soil from the hole in the ground was placed on top of the grave. It was said that this village would soon be abandoned and that his son Apuka ('Apoeka) would establish a new village. He would become the new

Fig. 5.17: 'Timákitti' house type in the village of Apikollo (de Goeje 1908:1062-3).

captain (Schmidt 1942:27). Schmidt asserted that a village on average would exist between three and six years. According to Schmidt, a village was also abandoned when nearby gardens lost their fertility or when leaf-cutter ants defoliated the crops (Schmidt 1942:18-9).

The high number of residential moves in the early 20th century are most probably also instigated by influenza or the 'cough disease'. Influenza was spreading among the Trio causing many fatalities. However, the Trio did not consider disease to be a natural phenomenon. It was caused by strangers who sent evil spirits (Rivière 1969:238). In this light, the influenza epidemic must have spread paranoia among the scattered Trio villages, brought about by a deep fear for strangers. Rivière was informed on several occasions that the reason why the Trio lived so far apart from each other during the pre-Alalapadu era was because of their fear for strangers (Rivière 1969:238).

Rivière reports Ëujari informed him that during a distant travel he once had visited a village where he was refused food. Its inhabitants had accused him of putting a curse on their village and had subsequently threatened to kill him. From that day on, as Rivière states, Ëujari (grandfather of Paneshi) stayed in his village behaving fierce to visitors. Perhaps as a resulting consequence, Ëujari became well-known for his experience in *nokato* (*i.e.*, a strong form of ceremonial dialogue) (Rivière 1969:236-7,239). This type of dialogue served to find out who the visiting stranger reallly was, and hence what his real intentions were. Over time this inter-village tension seemed to have increased. This must also have affected the sphere of exchange *mobilia* as the Trio-Saluma incident of the 1930s demonstrated (5.3.3.2). The fear of strangers felt by the Trio had already been mentioned in the reports of the earliest Trio-European encounters (Schomburgk 1845:85,88; Brown 1877:338-9; Crevaux 1883:275-6; de Goeje 1908:1063-4).

In order to conclude our focus on the immobilisation of human *mobilia*, we may consider an example reported by Rivière. During the early 1960s when he asked the Trio how a person ought to be buried in a conventional manner, it was stated that the property belonging to the deceased should be destroyed with the exception, however, of the goods that were difficult to acquire or of those that took considerable time to produce. Rivière's report goes on to say that often only a token destruction took place. For example, whenever a woman died, the implements she had used for processing manioc and her pots would generally speaking be shattered. This would not be the case with her ceramic griddle - the young Trio women of the 1960s were no longer capable of making such a griddle (Rivière 1969:222). During the pre-Alalapadu days, presumably when Trio women still knew how to make them, the griddle's large size (ø 75-100 cm) and its brittleness rendered it an object that probably moved only once in life. After being moulded and dried for two weeks, the leather hard and brittle griddle was lifted and placed on three stones for firing. The Trio considered the griddle as an object that would be abandoned whenever a move to a new village occurred (Rivière 2004).[159]

5.4 Discussions

Due to the lack of excavations of (proto)-historical sites within the Surinamese interior, it was decided to contrast the Amotopoan data with information distilled from ethnographic and historical sources. A century of Trio history was divided into a sequence of three villages highlighting three discrete periods. Firstly, the village of Amotopo (Mans 2007-8) represents process of fission from Kwamalasamutu. Secondly, the village of Alalapadu (Rivière 1963-1964) representing a process of fusion. The third focus was set on the heuristic village of 'Anapi' (de Goeje 1907-Käyser 1911) representing the period of deep fission that preceded Alalapadu.

Here the three villages and periods are contrasted in the following discussions: (a) in which Alalapadu (1963-1964) is contrasted with Amotopo (2007-2008) and (b) in which Anapi (1907-1911) is contrasted with Alalapadu (1963-1964).

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159 Peter Rivière donated a collection of Trio ethnographica to the Pitt Rivers Museum (Oxford), for which he also wrote the entries. This information came with the smaller-sized ceramic griddle with inventory number 1964.8.4B.

5.4.1 Amotopo-Alalapadu discussion

In Amotopo a clear division regarding spheres of subsistence movements can be established between those relating to men's tasks and those relating to women's tasks. The same goes for Alalapadu. A postulated contrast posed by the village of Alalapadu is that the men probably had to go further afield in order to catch their fish and game. In a similar vein it can be postulated that the women probably also had to venture further afield in order to reach their gardens. Another reason for the women to leave the cultivated area of the village was to collect clay from certain spots in the river with which to produce their pottery. However, as Rivière had observed, the production of pottery as well as the production of gourds and calabash containers gradually diminished. In due course it was replaced by a new range of durable items (pots and pans made of plastic or metal).

Concerning the latter Rivière stated that

> *"although these new possessions have not changed the basic pattern, since at a man's death objects such as his knife may still be destroyed, the greatly increased amounts of wealth in exotic goods which an individual can accumulate through trading has had a number of consequences, not least of which is the strengthening of the system of inheritance"* (Rivière 1969:222).

The Trio women had considered the production of gourds, calabashes and pottery as a matter of personal procurement (subsistence *mobilia*). Ever since Alalapadu, however, these objects had increasingly become part of the sphere of exchange *mobilia*. This also has its effect on the various movements of men and women as could be observed in Amotopo (see Mol & Mans 2013).

The spheres of exchange that could be observed in Amotopo could be divided into observed exchange (a large part of which consisted of food) and the accumulated exchange of durable *mobilia*. The spheres of exchange, as described by Rivière for the village of Alalapadu, concerned those of women and dogs. In his view, the exchange of women also materialised within the sphere of food exchange. In Alalapadu this sphere of exchange was restricted to the confines of the village. Several decades later, however, as a consequence of fission helped by quicker modes of transport, it has become a pronounced part of Trio exchange over large distances (in this respect see also Grotti 2007).

Another above-mentioned element is the trade of hunting dogs. The Maroons desire these exchange items up to this day. In Alalapadu the hunting dogs were probably raised in the village and traded with the Maroons during the early 1960s. In Amotopo in the course of 2007-2008, the function of the Trio as middle-men comes into play. Not only hunting dogs, but also resin and manioc graters, are obtained from the Waiwai. These items are subsequently traded further north and east by the Amotopoans.

Goods are acquired in the city. In turn, metal pots and pans, pieces of clothing, fishhooks and lines, etc. are scarce in the far south. The exchange of these goods in this respect has become crucial for young men to gain prestige (see also Mol & Mans 2013). Interesting in this light are the village specialties (e.g. Amotopo as provider of fish and manioc) that have come into existence in the Western Trio Group.

As to the sphere of the residential *mobilia*, it can be stated that Amotopo is characterised as a small village situated within a group of other small villages. This village is headed by a captain and houses a variety of structures (communal, habitation and cooking facilities). In contrast Alalapadu was a large village with one Granman. It had converged all small villages in the vicinity resulting in a void periphery. The second contrast is formed by the structures. In Alalapadu several types of habitation structures could be found the majority of which have no elevated floors. Although communal cooking structures were present as well, domestic cooking was probably done in the habitation structures. As a third contrast it becomes evident that the houses in Alalapadu were built in closer proximity. Captain Paneshi of Amotopo stated that after Alalapadu the villagers started to build their houses further apart from each other, because of fire hazard.

These contrasts backfire to Amotopo. Besides the difference in space between between structures in Alalapadu and Amotopo, we also see over time that after Alalapadu is chosen for the *paiman* type of habitation structure on stilts and for externalised domestic cooking structures and dog kennels. This in turn explains the large number of posts and stakes as observed in Amotopo. Since the women now possess their own domestic cooking structures, they provide an opportunity for a large accumulation of durable exchange *mobilia*. Moving from a context of one large village to one of several smaller villages, also results in an increase in competition between the villages. Although he does not play a role in the exchange of goods, Paneshi does seem to play his part regarding the residential movements to his village when he attempts to attract others to come and live in his village. If people learn of the good life in his village (nice and tidy village, an abundance of manioc, game and fish, good leadership, etc.) mouth to mouth advertisement might follow. His village may thus potentially expand.

5.4.2 Alalapadu-'Anapi' discussion

As abovementioned the subsistence *mobilia* of Alalapadu were brought in by both men and women leaving the village in order to collect the necessary resources for their task related production. Although there is no reason to assume this differed as to the early 20th century, there is a contrast. In the time of Anapi, people were living in small villages near to each other and the Trio easily moved to other villages for instance for their subsistence needs. The Trio, reflecting on the pre-fusion days, informed Rivière that certain people had different houses in different villages and that they would travel between them to fish in the one and collect Brazil nuts in another. It led Rivière to postulate that before Alalapadu it was probably more apt to speak of an agglomeration as an economic unit, instead of regarding the village as an economic unit (Rivière 1969:52).

As a result of this situation, together with the remark that possessions were few in the early 20th century and easily carried from one village to the other (Rivière 1969:41; see also Franssen Herderschee 1905:953), it was possible for many people to be present in one place making other places appear deserted. It seemed an institutionalised form of dealing with seasonality and sharing of means of subsistence in which no strict village territories were recognized. In addition, the role of feasting and dance festivals in this respect should not be underestimated. It would have a considerable effect on the immobilisation of large quantities of subsistence *mobilia* in a certain village in a short time (Rivière 1969:241-58; for a Wayana example see Duin 2009:270-452). Reflecting back on Alalapadu, this flexibility was lost during the 1960s. The men had to venture further out in order to collect the same variety, although in contrast with 'Anapi' the remains of this variety probably all ended on Alalapadu refuse heaps.

Due to the fusion to the large village of Alalapadu most exchanges (food and women) seemed to play out within the confines of the village. During the 20th century the Trio appeared to play an important role as middle-men in the exchange of hunting dogs as well as objects between the Saluma in the South/Southwest and the Maroons to the Northeast. They received durable manufactured goods from both sides. The Trio of Alalapadu, however, were still exchanging hunting dogs with the Maroons, although it is unclear if they bred them themselves or obtained them from the Waiwai. As to their plastic and metal pots and pans they received all of them via the Maroons and, in part, probably via the missionary in the village too. Not many other exchanges have been reported for Alalapadu.

Further contrast with Alalapadu is formed by the 'negative' exchange reported among the Trio of the early 20th century. The Trio abducted Saluma women, children and dogs on the Brazilian Pëname River during the early 1930s forcing the Saluma to retreat to the south. Hence the Trio regretted the fact they no longer had access to the Saluma trade items. Negative exchange thereby led to residential movements away from one another. Another dark side of exchange was presented in the form of disease. As explained earlier, the Trio consider disease and death to be a curse, and to a certain extent still do. The spread of an influenza epidemic during the pre-Alalapadu period probably resulted in raising suspicion. This has probably also caused the greater inter-village distances and barriers to visit other villages. Since the process of fusion to Alalapadu these negative exchanges no longer seemed to have occurred.

As to residential *mobilia* it can be stated that the people of Alalapadu all lived together in one large village in which nuclear families dwelled in various types of habitation structures positioned close to each other. The 'Anapi' villages of the 20th century contrast with Alalapadu by being small and short-lived villages. Schmidt observed that the Trio stayed even closer together, namely that they slept together in large round houses, which could be interpreted as residing in communal structures. Another report mentions that the Trio moved between villages for their means of subsistence. Moreover, certain Trio owned multiple houses and gardens in different contemporaneous villages. Here subsistence and residential spheres of movement merge. These subsistence/residential movements during the 20th century therefore probably resulted in a higher number of structures built in varying localities and belonging to the same group of people.

The larger immobilisation of residential *mobilia* in the 20th century can also hypothesised to be an indirect result of influenza epidemics. As early reports have shown, the death of fellow-villagers, but also disease and infertility of the land have been described as valid reasons for the Trio of the early 20th century to found a new village. When, during the deepest period of fission in the Sipaliwini basin, epidemics of influenza resulted in great fear and suspicion within the Trio group, this probably further increased the already high rate of residential moves. This period also led villages to become further removed from one another. When the Trio moved to live in a larger village disease and death would still be a reason to move house, but this time within the confines of the village and not necessarily to found a new village.

Chapter 6

Discussion and conclusions

> *"It was rather like a mountain chain of tall peaks poking through an impenetrable cloud bank of terra incognita. The peaks represented a few one-by-ones (or at most two-by-twos, the proverbial 'telephone booths') stretched all along the Amazon and its tributaries. In those days it was easy to see stylistic and other connections between even far-flung peaks because of the paucity of data. (…) Now, as the cloud bank is slowly lifting the topography between the peaks is becoming much more complex and convoluted, and the similarities seen between peaks lessen, and the ranges diverge."* Roe 1994:195

> *"The life of a person is the sum of his tracks. The total inscription of his movements, something that can be traced out along the ground. And the life course of a people, the totality of their ways, conventions, and conventionally encountered situations, is the sum of its 'tracks', the trails over its country along which experience is measured out."* Wagner 1986:21

In this thesis I set out to examine the movements of individuals and objects in the contemporary Trio village of Amotopo (2001-2008). This resulted in a movement terminology which helps to advance the interpretation of archaeological movements on a micro-level. This movement terminology was subsequently applied to shed light on a temporal blind spot in archaeology, namely a century of dynamics. Besides serving a conceptual purpose for the archaeology of the wider Caribbean-Amazonian region, the investigation of a century of Trio dynamics also met a local request. Light was shed on the ancestral trails of the Amotopoans. Moreover, the Amotopoan case study can potentially serve as a specific baseline from which future local archaeological excavations of post-1492 sites can ultimately be contrasted.

In the first section (6.1) the methodological considerations for the adopted approach are briefly revisited. These will explain the backbone of this thesis. In the second section (6.2) the results from the investigations in the village of Amotopo are discussed. The observed and reported movements in this village have been conceptualised into three spheres of *mobilia*: namely the spheres of residential, subsistence and exchange *mobilia*, respectively.

In the third section (6.3), the results will be presented from the reflection on Trio dynamics over the course of a century. The formulated spheres of movement in Amotopo have been contrasted with those of two others, namely that of the Trio village Alalapadu during the early 1960s and that of the village of Anapi during the first decade of the 20th century. Besides increasing our understanding of Surinamese-Trio history, these reflections also placed the observations in present-day Amotopo in a new light.

In the final section (6.4) this thesis is evaluated and concluded, and some future research avenues and questions are put forward.

6.1 Methodological considerations revisited

To reason from human movement rather than from material culture as a point of departure in archaeology turns out to be problematic. This is due to the fact that archaeology can be seen as the antonym of movement; archaeology *becomes* because matter no longer moves. In order to observe and conceptualize human movement, archaeologists therefore need to study the present. Some scholars have highlighted both explicitly and implicitly the unethical underpinnings of archaeological studies in the present which have a sole focus on 'sourcing' contemporary people for a research target that is in no way beneficial to them (e.g. Gosden 1999:9; Buchli & Lucas 2001:4; Meskell 2005:82). Although this study initially started out as an ethnoarchaeological study, I came to sympathize with the aforementioned line of thought.

However, I did feel uneasy with the reverse side of the coin. Implicitly these scholars also severed the analogical ties from their archaeological interpretation entirely and instead aimed to reason in a contextual manner. To me, however, archaeological interpretation cannot exist without a source-target construction of analogies. As I see it, those who deny this simply avoid referring explicitly to their sources for interpretation. Instead, contextual archaeologists rely heavily on anthropological literature and theory for their archaeological interpretations (see van Reybrouck 2000:46-7). On the other hand, the criticism that archaeological studies in the present should also be beneficial to the people amongst whom these studies are acted out is well-placed.

It became all the more apparent on my arrival in Amotopo. Observing all of the plastic and metal objects in their village, I asked Atinio how things used to be in the past for the Trio and if there were any oral histories they could tell me. These naïve questions were immediately corrected: "We are no longer like that anymore, we are the New Indians." He was completely right and I am glad he corrected me. This remark came to convene with a larger issue in Amazonian archaeology in which the Amazonian past had been tyrannized for a long time by the present. During my second fieldwork period I brought Rivière's book *Marriage among the Trio* in which the names of many of their older relatives were documented. The Amotopoans were fascinated by it and wanted me to investigate this social history further. I sought a way to combine both Amotopoan remarks with an archaeological interest in human movement.

I therefore geared this Amotopoan 'source' study to be primarily oriented to a connection with a preceding local or regional historical archaeology (see Fig. 1.2). The target therefore was not primarily a different people in a different past. Instead the target was set on the history of the people where the archaeological study in the present took place. Cultural continuities were to be expected, previously legitimizing the subsequent conduct of analogies into their pasts. Here, however, instead the differences have been sought after explicitly. Such difference appears when an analogy from the present, or from historical sources, is confronted with sources of the past that contrast with this projection. This analogical interaction *cuts both ways*: it yields an image of the past that is different from the present, as much as it makes the present differ from the past.

Likewise, in Amazonian archaeology the recent attitude has been to no longer allow the ethnographic present to tyrannise archaeological interpretations. The academic canon that has arisen in recent times speaks up for a different archaeological image than that of the Tropical Forest Culture that for decades has clouded the view of the archaeological past of the tropical lowlands of South America. Through its contrast with the present dominant image, the archaeological image became an independent entity (see also Rivière 1966-1967:305). However, I hold the opinion that this would not have been possible without the initial projection of a present or historical image that had to be corrected. I therefore came to see archaeological data as negative text which can be 'read' when contrasted with projected analogies that provide its necessary initial interpretative visibility. It is in this contrast that archaeological theorising begins.

6.2 Spheres of mobilia and the Amotopoan immobilisation process

In conducting an archaeological study in the present, much information appeared to be of interest, as one is able to observe all the actions and perceptions in which the material spheres are involved. Therefore it was necessary to restrict the unit of observation in order to archaeologically filter all this information. Parameters had to be sought in order to facilitate an archaeological source-target construction which made the recent past connect with preceding local periods. The first step was to equate the unit of observation with that of other archaeological periods. Therefore the choice was made to adopt a single village approach.

I decided to focus on Amotopo, a small Okomoyana-Trio village in the mid-west of Suriname, a village captained by Paneshi Panekke. In this village I came to advance knowledge of archaeological mobility on a micro-level by conceptualising it through archaeological parameters. It starts with the archaeological reality, in which all we encounter (ceramics, lithics, skeletons, etc.) is by essence no longer moving. All constituents of an archaeological site which share the fact that they all once have moved to the archaeological site under investigation can be called *immobilia*. In other words one can say that the archaeological mobility of a certain site is to be seen as the sum of its total of constituents' movements.

In an ongoing context (a present-day village) the most predominant part of its constituents has not yet stopped moving yet, these are the *mobilia*. Coming from this direction both animate and inanimate entities are classed as *mobilia*. Objects in this way are perceived as an entity moving from place *a* to *b*, likewise an individual person is perceived as an entity moving from *a* to *b*. The people themselves are the primary *mobilia*. Next to moving their own bodies, they also transform animals and objects into *mobilia* by bringing them to the village. One can think for instance of bringing game, wooden posts, metal pans or plastic plates into the village. Ultimately all *mobilia* acquire a fixed position in archaeological sites through a process of immobilisation; they become *immobilia*.

The *mobilia* of Amotopo have further been conceptualised along archaeological parameters into spheres of residential mobilia, subsistence mobilia and exchange mobilia. It should be noted that these spheres are not mutually exclusive.

6.2.1 Sphere of residential mobilia

Let us begin with the first group of mobilia. Residential immobilia signify the sphere of residential movements. This group is represented by the structures that were built in the village (and theoretically, by the burials which did not yet exist in the village of Amotopo). The first appears to mark a residential move by a group of individuals. A burial on the other hand marks the final residential move of a specific individual and signifies a lifetime of movement.

In the course of its short life history a total of 24 persons had lived in Amotopo leaving their marks in the built environment. That means that some of the houses that were present in 2008 were temporarily or no longer inhabited (see Fig. 4.1). In that year 17 residents were said to live in the village. Over time these Amotopoan trails of 'built environments' had indirectly also determined the location of structures of newcomers in the outer circle of the village. The building of a new house, however, did not necessarily reflect the arrival of new inhabitants, but could also mean the construction of a new house for current inhabitants. Instead of repairing a house, a completely new structure was preferred in which some posts of the old structures could be reused. The intentional infilling of postholes of older house plans potentially can mark intra-site residential movements. Trio habitation structures can be estimated to last a maximum of a decade or two, before a new house being constructed.

Reasoned from this observed sphere in Amotopo, the presence of traces of many structures does not necessarily mean many inhabitants, but instead points either to a high residential flux or to a high number of intra-site residential movements.

6.2.2 Sphere of subsistence mobilia

Subsistence immobilia signify the sphere of movements necessary to fulfil daily subsistence needs. This group is represented in Amotopo by the 23 refuse deposits that are scattered around the village. The daily refuse, however, was observed to be predominantly deposited on the refuse heap behind the communal cooking structure (RD-1, see Fig. 3.30-1). Day in, day out, waste and remains of food (bones of fish and game, peels of manioc, etc.) were being covered over by communal weed clearings from the village.

Labour divisions in Trio society were strictly gender-related, which also manifested in the observed daily Amotopoan movements and the goods that were subsequently brought into the village. Firstly I observed what the men of the village would bring into the village. Their movements were the most distant from the village (averaging 2834 m) and the items they procured from the surroundings were game and fish (respectively 1.2 and 4.4 *per diem* for the whole village), as well as fruits and construction wood. The same was done for the daily movements of the Amotopoan women, which did not extend beyond the adjacent gardens (averaging 206 m). They brought the largest and heaviest quantities of goods into the village, namely firewood, manioc and sugar cane (respectively 35 kg, 21 kg and 2.8 kg *per diem* for the whole village).

It should be stated that these numbers refer to daily movements during the rainy season, that the catch of game was relatively high thanks to favourable hunting conditions and that due to the heavy rains, there was a relatively low manioc yield during this season.

6.2.3 Sphere of exchange mobilia

Alongside to the procurement of subsistence materials from the surroundings, the Amotopoans also received mobilia through exchanges with non-Amotopoans. The sphere of exchange immobilia in Amotopo is marked by the toss-zone, which was encountered beyond the cleared and maintained village core and the boundary where the actual forest begins.

The temporal sequence signified by this sphere in Amotopo differed from days to decades. From the actual exchanges I could observe in village time, the sphere was dominated by perishable organic materials (58%). In the observed exchanges I could witness that a substantial part of the Amotopoan sphere of mobilia (22% of all the caught fish) left the village as exchange mobilia to relatives in other villages. Moreover, as I could observe in 2007, another exchange specialty of the village appeared to be manioc and its by-products. However, as mentioned above this exchange specialty could not be measured since the manioc yields in 2008 (when I explicitly focused on exchange) were low.

The longer-lived exchange mobilia were those accumulated in the Amotopoan habitation and cooking structures. Needless to say, the durable mobilia (containers and non-containers) stored in the structures were in the majority (74%). From the proportion of the inventoried Amotopoan durable mobilia for which a year of acquisition could be approximated, 25% (n=44) appeared to represent brought exchange mobilia from prior places of residence, signifying former exchange networks. To give an example of the time span, the oldest inventoried object in Amotopo was a metal pot which the wife of the captain had received from a missionary in the village of Alalapadu in 1967.

By adopting a meshwork analysis,[160] a further study could be undertaken to visualize the intra and inter-site movements of both observed and reported exchange mobilia. Here the gender-related task divisions again became apparent in the Amotopoan movements. The flux of the exchange mobilia from and to the village was largely carried out by Atinio Panekke (AMO-03), the eldest son of the captain, whereas the growing collection of the exchange mobilia was temporarily accumulated by his mother Apëhpïn Mami (AMO-02) and his wife Rosianne Inesaahpë (AMO-04) in their respective cooking structures. The Amotopoan women appeared to have a substantial influence on this exchange sphere. The complementarity of gendered movements was clearly signified by the two different meshwork analyses: Atinio performed the actual exchange movements outside Amotopo, and his mother and wife subsequently accumulated the fruits of these exchanges.

160 The term 'meshwork', coined by Ingold (2007:80-2) was applied here instead of 'social network', since the movement aspect was emphasised here instead of the power relations of the different nodes (for a focus on the latter with the same data see Mol & Mans 2013).

6.3 A century of Trio movements

Staying with the theme of the movements in and out of Amotopo, the viewfinder was subsequently expanded to look at Trio movements over a longer period of time. The reasons for doing this were twofold: (a) the Amotopoan interest in investigating their own social history, and (b) the archaeological interest in investigating a longer period of Trio movements. A period of a century was chosen primarily because it was within this time frame that the most detailed reports could be found for individual Trio movements in the Sipaliwini basin. In addition, the period of *c.* 100 years can also be said to represent the archaeological blind spot in Caribbean and Amazonian region.

Between an average site's duration (the determination of which is already a difficult enough task as it is), and the period in which interpretation emerges out of the realms of speculation, there seems to be an archaeological blind spot. The reason for this seems to be both a sequential problem and a contemporaneity problem. Both problems are caused by the fragmentary evidence of archaeological sites, in combination with such coarse instruments as seriation and radiocarbon dating, that make temporal connections between actual archaeological sites speculative and problematic. The data set simply gains more credibility when light is shed on a period of several centuries: in seriation the development of different styles of objects becomes clearer when we are dealing with a period of over a century, and the same goes for carbon dating, which becomes ever more certain when we move beyond the two-σ range of the carbon dates.

Trio oral history and historical reports were bundled to shed light on this century of Trio movements. With the aforementioned spheres of movements in mind, the small village of Amotopo formed our point of departure, from whence we reasoned to the beginning of the former century. In this century three Trio villages were selected (the first being Amotopo) for which high resolution reports were available. The specific villages were determined by having historical connections with the Amotopoans and by being contextualised in a period concerning a specific state of movement. Amotopo is contextualised in a period of fissioning, the sources for which are my own observations in 2007-2008. The second village is the missionary village of Alalapadu which represents a state of fusion. When Paneshi arrived here in this village as a young boy, it was probably the first time he saw white people. The first-hand reports for this village are provided by anthropologist Peter Rivière and cover 1963 and1964. The final village is that of Anapi, an ancestor of Paneshi, which represents a deep state of fission. Both Claudius de Goeje (1907) and Conrad Käyser (1910-1911) were told about this village on their expeditions, but they were unfortunately unable to visit. Reports of Trio oral histories and memories have been referred to in all of the periods and especially in this final period.

These villages were contrasted with each other on the basis of their reported and inferred spheres of mobilia and immobilia. A counter-chronological approach was adopted because of the difference in the justification of knowledge that existed between the different data sets (the asymmetry of perception), therefore preventing conflation of different epistemic data sets. Care was taken to make reports (of lower justification) contrast with analogies from my own observed situations. Paraphrasing the philosopher Black, such an analogy *'cuts both ways'* (Black 1962:38-47; Levine 2009:596). In this way the differences between the three selected villages concerning the spheres of movement could be highlighted and the changes through time became more apparent.

Now the results of this counter-chronological approach and its interactive analogies can be restructured into a brief archaeological overview of the different spheres.

6.3.1 Changes in the sphere of residential mobilia

When de Goeje visited the Trio in the first decade of the 20th century, they appeared to be in a process of fission. In their oral histories the Trio speak of the large village of Samuwaka, allegedly located near the Brazilian Paru savanna and the Kantani mountain, where in an undefined earlier period different groups (now all Trio) formed alliances and lived together. After some time the Samuwakans allegedly started to leave their village, in part because of rising political tensions due to the shortage of game, but also out of fear of attacks by other groups. The Samuwakans dispersed in different directions (Pesaihpë in Findlay 1976:1-4; Tëmenta in Koelewijn & Rivière 1987:253-262 and Boven 2001:18-19).

Much later Claudius de Goeje and Conrad Käyser encountered the Trio of the Sipaliwini basin living in dispersed small villages (in 1907 and 1910-1911, respectively). Anapi lived in one of the Trio villages mentioned to them. He was the great-great-grandfather of captain Paneshi of Amotopo. Of those villages visited in the course of subsequent expeditions, neither was in existence by the time of the second visit. Schmidt, who travelled through the area three times three decades later (1940-1942), had similar experiences. Even on single journeys he could perceive what seemed to be village trajectories, where the abandoned village, the present village and the new village of the same village leader could be witnessed. Schmidt estimated the duration of a Trio village to be only three to six years. An average of 26 inhabitants for each Trio village could be calculated on the basis of his reports.

During the early 1960s the Trio started to live together again in Alalapadu and the quick collective residential movements came to a halt. Due to the missionary influence, houses were built for the nuclear family and a change in house types slowly started to appear. After one more move to an even larger village (Kwamalasamutu), some of the Trio families started founding new small villages. The movements in the early 20th century were on foot and by bark canoes. Later, dugout canoes with outboard engines increased the distances between sequential villages. In these small villages different functional types of structure are observeable, such as individual cooking structures and additional support structures. The quantity of built environment increased rapidly.

In terms of the immobilisation of residential mobilia one could hypothesize the following: residential movements in more lengthily occupied villages (> *c.*15 years) occur within the same locality, which would result in an overlap of different structural layouts. However, in a situation of frequent collective movements, one would encounter only a single phase of structures. In plenty, if not all, of Trio cases villages are founded on former sites. The burials are an interesting feature in the immobilisation process since they mark the end point of human mobilia. Moreover, in the small Trio villages of the early 20th century a burial would probably also be the reason for the subsequent abandonment of the village, as was witnessed by Schmidt and reported by others. How the Trio dealt with burials in more lengthily occupied villages in the past is unclear (cf. Fock 1963:165).

6.3.2 Changes in the sphere of subsistence mobilia

The sphere of the subsistence mobilia of the Trio is the least known of the three from the earlier sources. De Goeje made the first implicit observations on movements concerning men clearing a garden, fishing and hunting. Women, on the other hand, would see to the cultivation of the gardens and the subsequent processing of food. Men would construct the houses and fashion dance attributes and basketry utensils, and women ceramic pots (de Goeje in Franssen Herderschee 1905b:957). Rivière would later emphasise that, in keeping with the gender-related task division, each man and woman was responsible for the provenance of the materials necessary for the production of these items (Rivière 1969:46). Reasoned from my own observations I could add that the Amotopoan women bring large quantities of firewood into the village. The procurement of clay is not necessary in Amotopo since the women from the village no longer make pottery. The women instead collect decorative seeds beyond the cultivated area on trips to other villages or on special trips escorted by men. Since most of these objects leave the village again in the hands of tourists, these objects now largely belong to the sphere of exchange.

The immobilisation of the remains of subsistence mobilia has been observed by Rivière, who states that garbage is deposited behind the structures on a plot of half-cleared land between the village and the forest (Rivière 1995:193). De Goeje's observations and Rivière's reported information strengthened his remark that in the past the Trio would have moved easily between different villages in the same agglomeration, to those places where certain resources were available (de Goeje 1908:1062-4, Rivière 1969:52,57). The hypothesis can be postulated that this could result in a larger than average accumulation of refuse heaps in a certain village (relative to its village size), in which a certain type of subsistence mobilia is overrepresented. In addition, I can add that most communal food remains were deposited on one of the refuse heaps in which layers of animal refuse and manioc peels were alternated with deposits of the frequent weed and soil clearings of the public area (T: *anna*) of the village. Besides this communal refuse heap, which was the largest, refuse of meals consumed in the domestic cooking structures would be deposited on the nearest domestic refuse heap.

6.3.3 Changes in the sphere of exchange mobilia

De Goeje observed several goods among the Trio that they had received from others. From the Ndyuka and Aluku Maroons, the Trio received various manufactured goods such as metal axes, knives and fish hooks. In return they provided the Maroons with hunting dogs and resin, which they acquired from the Saluma. From the Saluma they also received basketry and dance attributes. Later Schmidt described how exchange could also turn sour and mobilia could be obtained through coercion, as exemplified in Schmidt's report on the raiding of a Saluma village (Schmidt 1942:38-9). This seemed to have resulted in residential movements away from the Trio. In that period sickness and curses must have also played a role in stagnating the exchange sphere for several Trio villages. Likewise, it can be postulated that these also led to a higher frequency of residential movements. From then on, these goods probably had to be made by each village or agglomeration itself again, necessitating the revival of former skills (see also Chagnon 1968:101). In this respect objects are derived from a different sphere of movement, namely that of own provenance.

When the Trio started to live together in the larger village of Alalapadu, the exchange movements between villages, like the residential movements, now unfolded within the confines of the village. Instead of moving between the physically separated villages, now a great part of the interaction sphere had now contracted into one village. The sphere of intra-site food exchange between families predominantly signified marital alliances. Slowly, more durable containers such as metal and plastic pots and pans came to replace gourd, calabash and ceramic containers (Rivière 1969:46-7, 222). Since the latter would normally be produced using materials obtained from own provenance, the new objects with the same functionality were derived from exchange movements. In Amotopo the exchange mobilia would be accumulated to even greater proportions by the women in new types of structures. In tandem with the residential movement back to smaller villages, the exchange movements also seemed to receive an impulse. For example, Atinio came to act as a middle-man in performing the exchange movements, the act of which is highlighted in the 'fission' setting.

Not much is known about the Trio immobilisation of exchange items. Whereas in Amotopo the remains of food exchange immobilised quickly, the immobilisation of durable objects was not observed, except for that of some discarded objects in the toss-zone. The durable exchange items can potentially remain in circulation for long periods of time. Some of the items were described as having been deposited in the burials with their owners, with the exception of those items which were difficult to make or to come by through exchange (Schmidt 1942:26; Rivière 1969:222). It can be hypothesised that durable exchange items were only deposited in a burial when there was relatively easy access to similar items.

6.4 Concluding remarks and future research

The archaeological conceptualisation of movement in this dissertation has been strongly guided by archaeological parameters. Instead of following the movement of an object, I initially chose to observe objects moving in and out of the spatial area which is the village. Different categories of moving matter, deposited in different locations throughout the village, were observed to signal different spatial spheres of movement, condensing different temporal periods. Only those human movements which were actually marked by matter in the village were considered in this conceptualisation. Reasoning further from this stance I came to separate spatial spheres of mobilia (different categories of matter moved into a village by humans) from dimensions of mobility. The former hopefully provides an archaeological platform to the latter, which encompasses all human movements regardless of whether these are materially marked at a site or not.

Through the formulation of different archaeological spheres of mobilia, these could subsequently be contrasted with preceding time periods to mark material differences over time, each signalling different movements of their inhabitants. Due to the nature of the oral and historical reports, the material spheres had to be inferred in several cases. As such, beyond Amotopo's timeframe, only archaeological hypotheses and expectations could be postulated for the selected periods, based on the reported observations of the mobilia at hand. In particular, the nature of the historical reports also had the effect that in approaching the earlier periods I increasingly came to lose the situational micro-level perspective on individuals and objects which the conceptualised archaeological mobilia concepts were actually designed to connect. Ideally I would have contrasted the Amotopoan data with data from as yet unexcavated archaeological sites of these selected periods. However, this hurdle was expected and a decision was made to contrast these mobilia concepts as a first test of the counter-chronological approach and interactive analogies. It in fact confirmed the essence of the asymmetry of perception that the interactive analogy had been anticipated to overcome.

In this centennial archaeological focus I was directed by the patrilineal genealogy of the Amotopoans, contextualising their history up to seven generations back. In this diachronic multi-site perspective I abandoned the fixed spatial unit of observation and followed the residential movements of the Amotopoans and their ancestors. From the village leader of Anapi and his son Sawirapo, who lived near the mountain of Tukuimïn in the first decades of the 20th century, to Ëujari's village of Panapipa where his son Malatin and his grandson Paneshi were born, to the missionary village of Alalapadu, birth place of Atinio and subsequently to Kwamalasamutu, where his son Manais came into the world, and eventually, to the small village of Amotopo where the trajectories of the Amotopoans and my own trajectory became entwined. This century, albeit brief period from an archaeological point of view, showed a high dynamicity, with the Amotopoans and their ancestors moving through different sized villages ranging from approximately 20 inhabitants to 1000 inhabitants, during the course of which the material spheres of their villages slowly changed in appearance, along with their identities.

I would propose three directions particularly worthy of further exploration in future research. The first is to continue to broaden the research on the recent archaeology of Amotopo. The second is to extend the counter-chronological approach by exploring the proto-historical archaeology of the Guianese interior (for instance, the excavation of one of the early sites encountered by de Goeje or Käyser) in cooperation with its inhabitants, in order to archaeologically ground the Surinamese-Amerindian history of the interior. The third is to further the development of the concepts of mobilia by broadening and deepening the corpus of regional contemporary and historical observations concerning the spheres of movement. Other spheres of movement could be added to the conceptual corpus. The dynamic toolkit of concepts would aid in interpreting the dynamic micro-level of archaeological sites. This holds for the Caribbean and Amazonian sites in particular, where we are uncertain whether to interpret sites as sequential or contemporaneous, because they are still obscured by the archaeological blindspot. We are again in need of an even higher resolution.

Further collaboration with the Amotopoans has already occurred since 2008. Together with representatives of a Kari'na village, they visited the National Museum of Ethnology (Leiden, the Netherlands) as community consultants in 2009. Here they studied their overseas heritage for several weeks, became acquainted with the Netherlands, the Kingdom about which they had heard so much. And they could finally pay me (NON-06) and my family a return visit!

Appendix A

Amotopoan posts, stakes and features by number and feature code

The feature codes can be consulted in appendix B. The timber codes can be consulted in Appendix C. In several instances iron and stone materials have also been applied. If so, the case it is indicated in the 'timber' column). In some cases two circumferences of a post or stake could be measured. The first number represents the circumference as low down as possible, the second number represents the circumference at man's height (175 cm) or, in case shorter, the highest point possible. The 'slant' should be read as the deviation in cm (from the ground till the highest point up to man's height) and its orientation in degree.

Feature	Code	Circumference	Height	Slant	Timber	Recorded
001	A3	19/16	110	15 cm < 292.5°	TIM-09	2007
002	A4	17/16	110		TIM-75	2007
003	A3	30/27	110		TIM-86	2007
004	A4	11/9	158		TIM-86	2007
005	A4	19/17	120		TIM-75	2007
006	A4	18/18	120		TIM-71	2007
007	A3	23/23	110		TIM-86	2007
008	A2	33/29	180		TIM-86	2007
009	A1	32/26	362	13 cm < 292.5°	TIM-86	2007
010	A2	37/34	183		TIM-86	2007
011	A2	26/28	180		TIM-86	2007
012	A5	34/33	182	26 cm < 52.5°	TIM-41	2007
013	A2	27/24	178	8 cm <70°	TIM-86	2007
014	A1	28/26	382		TIM-75	2007
015	A2	30/28	180	23 cm < 265°	TIM-86	2007
016	A4	18/16	115	7 cm < 67.5°	TIM-86	2007
017	A4	19/16	113	6 cm < 257.5°	TIM-86	2007
018	A2	33/28	186	12 cm < 205°	TIM-86	2007
019	A1	27/21	395		TIM-86	2007
020	A4	42/39	122	13 cm < 330°	TIM-41	2007
021	A4	36/33	122	8 cm < 345 °	TIM-41	2007
022	A5	37/35	120		TIM-75	2007
023	A5	24/24	118		TIM-75	2007

Feature	Code	Circumference	Height	Slant	Timber	Recorded
024	A2	33/31	181	12 cm < 170°	TIM-86	2007
025	A5	21/20	107		TIM-68	2007
026	A3	27/25	140	15 cm < 240°	TIM-75	2007
027	A3	34/27	140	8 cm < 162.5°	TIM-86	2007
028	A3	42/35	140	15 cm < 150°	TIM-86	2007
029	A10					2007
030	A10					2007
031	B4	15			TIM-86	2007
032	B3	35/30		10 cm < 40°	TIM-75	2007
033	B4	17			TIM-86	2007
034	B3	17/15		7 cm < 290°	TIM-33	2007
035	B4	14			TIM-86	2007
037	B4	20/19		15 cm < 270°	TIM-48	2007
038	B2	45/39		10 cm < 317.5°	TIM-86	2007
039	B1	35/27			TIM-86	2007
040	B2	35/31		9 cm < 280°	TIM-86	2007
041	B2	32/29		8 cm < 220°	TIM-75	2007
042	B2	25/26		11 cm < 235°	TIM-86	2007
043	B1	28/25		1 cm < 222.5°	TIM-75	2007
044	B2	35/30		7 cm < 260°	TIM-75	2007
045	B2	41/36		15 cm < 92.5°	TIM-86	2007
046	B1	35/31			TIM-86	2007
047	B2	36/30		7 cm < 180°	TIM-86	2007
048	B3	16/14		9 cm < 75°	TIM-75	2007
049	B4	15			TIM-90	2007
050	B4	13			TIM-90	2007
051	B3	15		10 cm < 15°	TIM-08	2007
052	B3	27/26		6 cm < 217°	TIM-75	2007
053	B7	11			TIM-84	2007
054	B7	12			TIM-08	2007
055	B7	12			TIM-08	2007
056	B7	13			TIM-75	2007
057	B7	10			TIM-08	2007
058	B7	11			TIM-08	2007
059	B7	11			TIM-46	2007
060	B7	12			TIM-46	2007
061	B7	12			TIM-08	2007
062	B7	12			TIM-84	2007
063	B7	15			TIM-61	2007
064	B7	13			TIM-08	2007
065	B7	14			TIM-46	2007

Feature	Code	Circumference	Height	Slant	Timber	Recorded
066	B7	13			TIM-86	2007
067	B7	11			TIM-48	2007
068	B7	12			TIM-61	2007
069	B7	12			TIM-81	2007
070	B7	15			TIM-75	2007
071	B7	17			TIM-75	2007
072	B7	14			TIM-11	2007
073	B7	11			TIM-13	2007
074	B7	12			TIM-75	2007
075	B7	11			TIM-61	2007
076	B7	11			TIM-13	2007
077	B7	10			TIM-13	2007
078	B7	14			TIM-75	2007
079	B10					2007
080	B10					2008
081	C11					2007
082	H1	18				2007
083	H1	13				2007
084	H1	12				2007
085	H1	12				2007
086	H1	17				2007
087	H1	16				2007
088	F1	13	83	9 cm < 17.5°	TIM-56	2007
089	F1	11	80		TIM-46	2007
090	F1	17	87		TIM-70	2007
091	F1	19	78		TIM-35	2007
092	F1	12	132		TIM-08	2007
093	F1	17	175	10 cm < 337.5°	TIM-37	2007
094	F1	16	136	11 cm < 27.5°	TIM-70	2007
095	F1	15	125	8 cm < 147.5°	TIM-37	2007
096	F1	11	123		TIM-90	2007
097	F1	13	229	10 cm < 152.5°	TIM-72	2007
098	F1	11	125		TIM-34	2007
099	F1	12	114		TIM-8	2007
100	C3	40			TIM-86	2007
101	C3	16			TIM-8	2007
102	C3	17			TIM-8	2007
103	C2	38/36			TIM-86	2007
104	C1	20/20			TIM-86	2007
105	C2	20/17			TIM-86	2007
106	C11					2007

Feature	Code	Circumference	Height	Slant	Timber	Recorded
107	C13				IRON	2007
108	C7	11/9		10 cm < 65°	TIM-90	2007
109	C7	12/9			TIM-51	2007
110	C7	12		12 cm < 270°	TIM-51	2007
111	C7	11/9			TIM-75	2007
112	C2	27/24			TIM-86	2007
113	C12	21	45		TIM-86	2007
114	C12	25	45		TIM-86	2007
115	C12	27	45		TIM-86	2007
116	C12	37	45		TIM-86	2007
117	C3	38/38		15 cm < 32.5°	TIM-86	2007
118	C8	29/28	135	21 cm < 87.5°	TIM-86	2007
119	C8	46/40			TIM-86	2007
120	C1	27/20			TIM-86	2007
121	C2	34/35			TIM-86	2007
122	C14	71				2007
123	C11					2007
124	C13	71			STONE	2007
125	C13	71			STONE	2007
126	C13	71			STONE	2007
127	C13	71			STONE	2007
128	C13	11			IRON	2007
129	C13	11			IRON	2007
130	C7	11/9			TIM-75	2007
131	C7	12/15		15 cm < 340°	TIM-53	2007
132	C7	11/10		10 cm < 262.5°	TIM-51	2007
133	C7	13/11		22 cm < 172.5°	TIM-68	2007
134	C7	12/11		18 cm < 210°	TIM-64	2007
135	C10					2007
136	C10					2007
137	F1	15	100	12 cm < 270°	TIM-35	2007
138	F1	24	100		TIM-70	2007
139	F1	16	95	12 cm < 222.5°	TIM-70	2007
140	F1	14	95	11 cm < 225°	TIM-35	2007
141	B3	26/23				2007
142	B3	26/24				2007
143	B2	28				2007
144	B1	20				2007
145	B2					2007
146	B6					2007
147	B6	28				2007

Feature	Code	Circumference	Height	Slant	Timber	Recorded
148	B6	25				2007
149	B6					2007
15	B4				TIM-86	2007
150	B6					2007
151	B6					2007
152	B2					2007
153	B2					2007
154	B6					2007
155	B6					2007
156	B6					2007
157	B6					2007
158	B2					2007
159	B1					2007
160	B2					2007
161	B3					2007
162	B3					2007
163	B3					2007
164	B4					2007
165	B4					2007
166	B4					2007
167	B4					2007
168	B10					2007
169	B10					2007
170	B10					2007
171	E1					2007
172	E1					2007
173	E1					2007
174	E1					2007
175	E3					2007
176	E3					2007
177	E3					2007
178	D1					2007
179	D2					2007
180	D2					2007
181	D2					2007
182	D1					2007
183	D2					2007
184	D3					2007
185	D3					2007
186	D3					2007
187	D3					2007

Feature	Code	Circumference	Height	Slant	Timber	Recorded
188	D3					2007
189	D2					2007
190	D2					2007
191	D2					2007
192	D2					2007
193	D3					2007
194	D3					2007
195	D3					2007
196	D3					2007
197	D3					2007
198	C1					2007
199	C2					2007
200	C2					2007
201	C2					2007
202	C2					2007
203	C1					2007
204	C3					2007
205	C2					2007
206	C2					2007
207	C2					2007
208	C2					2007
209	C4					2007
210	C4					2007
211	C4					2007
212	C11					2007
213	F2					2007
214	F2					2007
215	F2					2007
216	F2					2007
217	F11					2007
218	B3	21/17			TIM-09	2007
219	B3	35/27			TIM-86	2007
220	B3	22/21			TIM-86	2007
221	B2	24/19	223		TIM-86	2007
222	B1	24/21	380		TIM-86	2007
223	B2	28/26	222		TIM-86	2007
224	B6	27			TIM-86	2007
225	B7	12/10			TIM-46	2007
226	B6	29	70		TIM-86	2007
227	B6	34			TIM-86	2007
228	B2	23/21			TIM-46	2007

Feature	Code	Circumference	Height	Slant	Timber	Recorded
229	B6	33			TIM-86	2007
230	B2	26			TIM-40	2007
231	B6	35			TIM-86	2007
232	B6	24			TIM-86	2007
233	B6	35	75		TIM-86	2007
234	B6	27			TIM-86	2007
235	B2	34/27	245		TIM-86	2007
236	B1	27/22	400		TIM-86	2007
237	B2	30/28	238		TIM-86	2007
238	B3	20/19			TIM-56	2007
239	B3	24/20			TIM-86	2007
240	B3	16/15			TIM-72	2007
241	B10					2007
242	B10					2007
243	C3	28/22		7 cm < 140°	TIM-86	2007
244	C3	17/16			TIM-46	2007
245	C2	33/30	170		TIM-86	2007
246	C4	6				2007
247	C1	28/24	350		TIM-86	2007
248	C2	35/29	165		TIM-86	2007
249	C6	10			TIM-68	2007
250	C6	7			TIM-64	2007
251	C6	9			TIM-87	2007
252	C4	8			TIM-42	2007
253	C4	7			TIM-24	2007
254	C4	8			TIM-43	2007
255	C4	8			TIM-29	2007
256	C4	10			TIM-46	2007
257	C4	9			TIM-34	2007
258	C4	9			TIM-15	2007
259	C4	9			TIM-29	2007
260	C4	7			TIM-07	2007
261	C4	15			TIM-84	2007
262	C4	6			TIM-84	2007
263	C4	7			TIM-07	2007
264	C4	20	65		TIM-86	2007
265	C4	25	65		TIM-86	2007
266	C4	29	65		TIM-86	2007
267	C4		65		TIM-86	2007
268	C2			30 cm < 185°	TIM-07	2007
269	C2	30/28	165		TIM-86	2007

Feature	Code	Circumference	Height	Slant	Timber	Recorded
270	C1	26/21	345		TIM-86	2007
271	C2	28/26	168		TIM-86	2007
272	C9	35	110	30 cm < 280°	TIM-86	2007
273	C15				TIM-66	2007
273.1	C15				TIM-66	2007
273.2	C15				TIM-66	2007
274	C15				TIM-66	2007
275	C3	25/26			TIM-86	2007
276	C11					2007
277	E1	30	178	10 cm < 217.5°	TIM-86	2007
278	E1	18	178	7 cm < 12.5°	TIM-86	2007
279	E1		128		TIM-86	2007
280	E1	16	138		TIM-86	2007
281	E2	18	138		TIM-08	2007
282	E2	14	112		TIM-42	2007
283	E2	10		10 cm < 240°	TIM-76	2007
284	E2	14	178		TIM-05	2007
285	E2	12	112	7 cm < 272.5°	TIM-76	2007
286	E2	12	119		TIM-76	2007
287	E2	13	119		TIM-40	2007
288	E4	10	65		TIM-70	2007
289	E4	15	65		TIM-70	2007
290	E4	11	65		TIM-70	2007
291	F1	12	75		TIM-08	2007
292	F1	10	75		TIM-70	2007
293	F1	11	75		TIM-08	2007
294	F1	11	75		TIM-76	2007
295	I1					2007
296	I1					2007
297	I1					2007
298	I1					2007
299	I1					2007
300	I1					2007
301	I2					2007
302	B2	32/28	215		TIM-86	2007
303	B3	31/25			TIM-86	2007
304	B2	37/31	228		TIM-86	2007
305	B1	27/24	400		TIM-86	2007
306	B2	35/32			TIM-86	2007
307	B6	29	60		TIM-86	2007
308	B2	35/33			TIM-86	2007

Feature	Code	Circumference	Height	Slant	Timber	Recorded
309	B6	22	60		TIM-86	2007
310	B6	23			TIM-86	2007
311	B6	17	60		TIM-86	2007
312	B2	25/17	199		TIM-86	2007
313	B6	24	83		TIM-86	2007
314	B1	27/24	405		TIM-86	2007
315	B2	30/30	206		TIM-86	2007
316	B6	26			TIM-86	2007
317	B3	24/22			TIM-86	2007
318	B3	22/21			TIM-90	2007
319	B3	18/16			TIM-33	2007
320	B6	25			TIM-86	2007
321	B3	30			TIM-86	2007
322	B3	23			TIM-86	2007
323	B3	23			TIM-86	2007
324	B3	26			TIM-86	2007
325	B10					2007
326	B5	35/29		50 cm < 85°	TIM-86	2007
327	B5	29/27		15 cm < 310°	TIM-86	2007
328	C3	22/18			TIM-86	2007
329	C4	15	57		TIM-86	2007
330	C4	20			TIM-86	2007
331	C3	12/10			TIM-40	2007
332	C3	13/11			TIM-68	2007
333	C4	11	57	25 cm < 282.5°	TIM-42	2007
334	C2	27/21	163		TIM-86	2007
335.1	C14					2007
335.2	C4	15	57		TIM-86	2007
336	C14					2007
337	C1	26/24	330		TIM-75	2007
338	C5	29/27	150	10 cm < 35°	TIM-75	2007
339	C2	32/19	166		TIM-86	2007
340	C2	31/32	165		TIM-86	2007
341	C8	33		32 cm < 245°	TIM-86	2007
342	C1	24/21	326		TIM-75	2007
343	C5	26/25	147	10 cm < 222.5°	TIM-75	2007
344	C2	26/24	175		TIM-86	2007
345	C3	26/22			TIM-86	2007
346	C11					2007
347	C11					2007
348	C10					2007

Feature	Code	Circumference	Height	Slant	Timber	Recorded
349	C10					2007
350	F1	13	90		TIM-37	2007
351	F1	13	90		TIM-72	2007
352	F1	13	90	15 cm < 82.5°	TIM-37	2007
353	F1	11	90	10 cm < 62.5°	TIM-72	2007
354	E1	18	195		TIM-86	2007
355	E1	18	195		TIM-75	2007
356	E1	17	195		TIM-86	2007
357	E2	11	45		TIM-36	2007
358	E2	13	45		TIM-90	2007
359	E1	19	120		TIM-75	2007
360	E1	19	120		TIM-01	2007
361	E1	20	120		TIM-90	2007
362	F1	11	95	10 cm < 50°	TIM-90	2007
363	F1	11	95	10 cm < 95°	TIM-70	2007
364	F1	11	107	15 cm < 332.5°	TIM-47	2007
365	F1	13	90	15 cm < 270°	TIM-70	2007
366	I1					2007
367	I1					2007
368	I1					2007
369	I1					2007
370	I1					2007
371	I2					2007
372	D2					2007
373	D2					2007
374	D2					2007
375	D2					2007
376	D3					2007
377	D3					2007
378	D3					2007
379	D3					2007
380	D3					2007
381	D3					2007
382	D2					2007
383	B3					2007
384	B3					2007
385	B3					2007
386	B2					2007
387	B1					2007
388	B2					2007
389	B6					2007

Feature	Code	Circumference	Height	Slant	Timber	Recorded
390	B6					2007
391	B6					2007
392	B6					2007
393	B6					2007
394	B6					2007
395	B6					2007
396	B6					2007
397	B6					2007
398	B2					2007
399	B1					2007
400	B2					2007
401	B3					2007
402	D1	20/18	212	7 cm < 147.5°	TIM-75	2007
403	D15	7		7 cm < 307.5°	TIM-24	2007
404	D2	29/21	140	10 cm < 207.5°	TIM-86	2007
405	D15	10		8 cm < 287.5°	TIM-48	2007
406	D2	18/18	135		TIM-86	2007
407	D3	10			TIM-08	2007
408	D3	10			TIM-23	2007
409	D3	9			TIM-46	2007
410	D3	7			TIM-39	2007
411	D3	10			TIM-02	2007
412	D3	8			TIM-23	2007
413	D3	11			TIM-12	2007
414	D3	9			TIM-14	2007
415	D3	11			TIM-79	2007
416	D3	12			TIM-12	2007
417	D3	9			TIM-23	2007
418	D3	10			TIM-75	2007
419	D2	22/21	128		TIM-86	2007
420	D1	21/19	218	7 cm < 87.5°	TIM-48	2007
421	D15	7		5 cm < 302°	TIM-24	2007
422	D2	19/24	139		TIM-86	2007
423	D15	7		7 cm < 220°	TIM-08	2007
424	H1					2007
425	H1					2007
426	H1					2007
427	H1					2007
428	H1					2007
429	H1					2007
430	H1					2007

Feature	Code	Circumference	Height	Slant	Timber	Recorded
431	H1					2007
432	H1					2007
433	H1					2007
434	B3	29/21			TIM-86	2007
435	B2	31/32	210		TIM-41	2007
436	B1	21/17	335		TIM-41	2007
437	B2	36/35	210		TIM-41	2007
438	B14					2007
439	B14					2007
440	B6	30	40		TIM-86	2007
441	B6	36	63		TIM-41	2007
442	B6	26	63		TIM-52	2007
443	B6	28	64		TIM-86	2007
444	B6	28	65		TIM-86	2007
445	B6	26	53		TIM-86	2007
446	B2	30/29	220		TIM-86	2007
447	B2	35/32	236		TIM-86	2007
448	B1	25/26	356		TIM-86	2007
449	B3	31/25			TIM-41	2007
450	B1	31/23	386		TIM-86	2007
451	B2	44/36	269		TIM-86	2007
452	B2	31/24	255		TIM-86	2007
453	B6				TIM-86	2007
454	B6				TIM-86	2007
455	B6				TIM-86	2007
456	B6				TIM-86	2007
457	B2	41/32	267		TIM-86	2007
458	B1		377		TIM-86	2007
459	B2	34/31	275		TIM-86	2007
460	C1					2007
461	C2					2007
462	C2					2007
463	C1					2007
464	C2					2007
465	C2					2007
466	G7					2007
467	G4	30	600		TIM-86	2007
468	G6	7	130		TIM-75	2007
469	G1	8	70		TIM-19	2007
470	G1	7	75		TIM-19	2007
471	H1	13	182			2008

Feature	Code	Circumference	Height	Slant	Timber	Recorded
472	H1	11	221			2008
473	H1	20	314			2008
474	H1	12	202			2008
475	H1	13	178			2008
476	H1	12	182			2008
477	H1	10	192			2008
478	H1	14	244			2008
479	H1	12	197			2008
480	H1	13	172			2008
481	F1	11	87			2008
482	F1	12	87			2008
483	F1	12	85			2008
484	F1	11	82			2008
485	D2	14	169			2008
486	D2	10	255			2008
487	D1	14	182			2008
488	D2	10	262			2008
489	D2	12	169			2008
490	D3	13	78			2008
491	D3	10	76			2008
492	D2	13	272			2008
493	D2	13	168			2008
494	D1	13	178			2008
495	D2	13	169			2008
496	D2	9	231			2008
497	D2		184		TIM-52	2008
498	D2	31	213		TIM-78	2008
499	D2	31	212		TIM-78	2008
500	D2	34	185		TIM-52	2008
501	B2	41	283		TIM-86	2008
502	B2	25	268		TIM-86	2008
503	B2	43	268		TIM-86	2008
504	B2	32	268		TIM-86	2008
505	A5	38	240			2008
506	F3	11	105	9 cm < 17.5°	TIM-75	2007
507	F3	10	127		TIM-68	2007
508	F3	16	190		TIM-75	2007
509	F1	19				2008
510	F1	20				2008
511	F1	21				2008
512	F1	13				2008

Feature	Code	Circumference	Height	Slant	Timber	Recorded
513	F3	13				2008
514	F3	13	182		TIM-46	2007
515	F3	17	125	10 cm < 337.5°	TIM-08	2007
516	F3	15	125		TIM-18	2007
517	F1	19				2007
518	F1	16				2007
519	F1	18				2007
520	F1	15				2007
521	F3	10	90	7 cm < 5°	TIM-69	2007
522	F3	12	113	8 cm < 165°	TIM-08	2007
523	F3	7	106		TIM-23	2007
524	F3	11	111		TIM-01	2007
525	F1	19				2008
526		19				2008
527	F1	20				2008
528	F1	21				2008
529	F1	13				2008
530	F1	13				2008
531	F1	11				2008
532	F1	11				2008
533	C2	35	183			2008
534	C1	51	290			2008
535	C2	35	178			2008
536	C4	13	53			2008
537	C4	10	55			2008
538	C4	12	57			2008
539	C4	13	53			2008
540	C2	23	178			2008
541	C2	42	186			2008
542	C1	31	290			2008
543	C3	27	172			2008
544	C3	14	163			2008
545	C2	28	172			2008
546	C2	29	161			2008
547	C15	16	176			2008
548	F2	23				2008
549	F2	22				2008
550	F15	23	176			2008
551	F15	16	176			2008
552	F11					2007
553	B4	19	125			2008

Feature	Code	Circumference	Height	Slant	Timber	Recorded
554	B4	25	69			2008
555	B4	21	62			2008
556	E15	38	267			2008
557	E15	31	264			2008
558	E15	32	226			2008
559	E15	22	254			2008
560	E15	20	264			2008
561	E15	37	228			2008
562	F15	14	95			2008
563	F15	11	92			2008
564	F3	12	153			2008
565	F15	14	97			2008
566	F15	11	93			2008
567	F15	13	81			2008
568	F15	14	83			2008
569	F15	13	88			2008
570	F15	12	96			2008
571	B15	20				2008
572	B15	22				2008
573	B10					2008
574	B3	29				2008
575	B6	30				2008
576	B6	30				2008
577	B4	23				2008
578	B4	40				2008
579	B3	25				2008
580	C1	27	250			2008
581	C2	42	189			2008
582	C2	22	184			2008
583	C4	8	40		IRON	2008
584	C4	8	40		IRON	2008
585	C4	23	163		IRON	2008
586	C7	21	166			2008
587	C4	19	165			2008
588	C7	12	214			2008
589		18				2008
590	C7	11	256			2008
591	C4	8	40		IRON	2008
592	C4	8	36		IRON	2008
593	C4	24	170			2008
594	C2	22	194			2008

Feature	Code	Circumference	Height	Slant	Timber	Recorded
595	C1	28	249			2008
596	C2	37	185			2008
597	C7	12	184			2008
598	C7	17	195			2008
599	C7	11	269			2008
600	C7	15	207			2008
601	G8	22	250			2008
602	G9	10	300			2008
603	G9	11	300			2008
604	G4		600			2007
605	G8	23	155	35 cm < 292.5°		2008
606	G8	27	130	30 cm < 40°		2008
607	G10					2007
608	G10					2008
609	G5	28	142			2008
610	G5					2008
611	G3	11	180	50 cm < 85°		2008
612	G3	10	180	100 cm < 285°		2008
613	G3	11	190	50 cm < 262.5°		2008
614	G11					2008
615	G3	15	180			2008
616	G3	11	130			2008
617	G5	20	208	40 cm < 150°		2008
618	G5	19				2008
619	G5	21				2008
620	G8	32	222	57 cm < 317.5°		2008
621	G2	8	177	67 cm < 230°		2008
622	G2	10	175	120 cm < 285°		2008
623	G2	9	155	80 cm < 77.5°		2008
624	G2	11	225	130 cm < 145°		2008
625	G2	10	200	120 cm < 245°		2008
626	G1	12	74	40 cm < 245°		2008
627	G1	6	80	50 cm < 320°		2008
628	G1	9	50	50 cm < 325°		2008
629	G1	9	90	70 cm < 142.5°		2008
630	G2	10	190	40 cm < 5°		2008
631	G1	10	87			2008
632	G1	11	95	50 cm < 42.5°		2008
633	G1	7	140	95 cm < 242.5°		2008
634	G1	8	118	49 cm < 145°		2008
635	G1	6	117	45 cm < 115°		2008

Feature	Code	Circumference	Height	Slant	Timber	Recorded
636	G1	13	98	10 cm < 330°		2008
637	G1	6	100	34 cm < 277.5°		2008
638	G1	8	110	35 cm < 157.5°		2008
639	G1	6	90	27 cm < 72.5°		2008
640	G1	8	90	65 cm < 72.5°		2008
641	G1	10	70	38 cm < 185°		2008
642	G1	6	63	54 cm < 185°		2008
643	G2	14	195			2008
644	G2	15	197	95 cm < 105°		2008
645	G1	11	74	47 cm < 7.5°		2008
646	G1	5	105	20 cm < 182.5°		2008
647	G1	6	105	20 cm < 357.5°		2008
648	G1	5	72			2008
649	G12	12	113			2008
650	G12	12	154			2008
651	G12	21	92			2008
652	G12	9	98			2008
653	G2	15			TIM-08	2007
654	G2	10			TIM-01	2007
655	G2	10			TIM-08	2007
656	G2	16			TIM-84	2007
657	G2	14	167			2008
658	G2	15	180	130 cm < 42.5°		2008
659	G2	10	220	170 cm < 85°		2008
660	G2	13	180	120 cm < 95°		2008
661	G2	11	250	190 cm < 82.5°		2008
662	G2	10	240	90 cm < 260°		2008
663	G2	15	175	80 cm < 112.5°		2008
664	F1	10	82			2008
665	F1	10	85			2008
666	F1	9	85			2008
667	F1	9	80			2008
668	G13	9	106			2008
669	G13	8	98			2008
670	G6	14	148			2008
671	G3	22				2008
672	G1	9	144	35 cm < 27.5°		2008
673	G1	12	107	50 cm < 210°		2008
674	G12	8	183			2008
675	G12	9	163			2008
676	G5	14	210			2008

Feature	Code	Circumference	Height	Slant	Timber	Recorded
677	G1	10	80			2008
678	G1	8	80			2008
679	G3	10	165	75 cm < 185°		2008
680	G3	15	128			2008
681	G3	12	180	80 cm < 222.5°		2008
682	G3	13	148	40 cm < 322.5°		2008
683	I1					2008
684	I1					2008
685	I2					2008
686	G3	9	210	90 cm < 192.5°		2008
687	G3	9	150	50 cm < 112.5°		2008
688	G11	8				2008
689	J1					2008
690	J1					2008
691	J1					2008
692	J1					2008
693	J1					2008
694	J1					2008
695	J1					2008
696	J1					2008
697	J1					2008
698	J1					2008
699	J1					2008
700	J1					2008
701	J1					2008
702	J1					2008
703	J1					2008
704	J1					2008
705	J1					2008
706	J1					2008
707	J1					2008
708	J1					2008
709	J1					2008
710	J1					2008
711	J1					2008

Appendix B

Feature Type

Feature codes applied in Appendix A.

A:	**Communal Structures (Paiman)**
A1:	Roof ridge support (RRS)
A2:	Roof support (RS)
A3:	Roof extension support (RES)
A4:	Storage structure support (in-structure storage facility, ISS)
A5:	Hammock post (HP)
A7:	Wall stakes (WS)
A10:	Ditch

B:	**Habitation Structures (Pakoroton)**
B1:	Roof ridge support (RRS)
B2:	Roof support (RS)
B3:	Roof extension support (RES)
B4:	Storage structure support (in-structure storage facility, ISS)
B5:	Hammock post (HP)
B6:	*Floor Support* (FS)
B7:	Wall stakes (WS)
B10:	Ditch
B14:	Hole without intended post (PH)
B15:	Repairing or extra support

C:	**Cooking Structures (Wëtërïhto Pakoro)**
C1:	Roof ridge support (RRS)
C2:	Roof support (RS)
C3:	Roof extension support (RES)
C4:	Storage structure support (in-structure storage facility, ISS)
C5:	Hammock post (HP)
C6:	*Windshield stakes* (GWS)
C7:	*Rain gutter supports* (GWS)
C8:	*Manioc press post* (PP)
C9:	*Sugar cane press post* (PP)
C10:	Ditch

C11: Hearths (H)
C12: Komoi support
C13: Hearth Rack Support
C14: Hole without intended post (PH)
C15: Repairing or extra support

D: Dog Structures
D1: Roof ridge support (RRS)
D2: Roof support (RS)
D3: Floor support (FS)
D15: Repairing or extra support

E: Storage Structures
E1: Roof support (RS)
E2: Elevated level support
E3: Rain gutter support (GWS)
E4: Pot support
E15: Repairing or extra support

F: Drying Racks & Roofed Hearths
F1: Drying Rack support
F2: Roofed hearth
F3: Drying Rack Extra Support
F11: Hearth (H)
F15: Repairing or extra support

G: Isolated posts and stakes
G1: Chili pepper plant support
G2: Cotton plant support
G3: Birdcage support
G4: Antenna support
G5: Clothes line support
G6: Plant Support
G7: Pen
G8: Hammock post (HP)
G9: Bird net support
G10: Barrel hearth
G11: Post or stake removed during fieldwork
G12: Fence support
G13: Boot Hangers

H: Camp

H1 Camp support

I: Lavatory

I1: Lavatory support

I2: Cess pit

J: Refuse Deposits

J1: Refuse Deposits

Appendix C

Timbers used in Amotopo

Timber codes applied in Chapter 3 and Appendix A, and their reference to the Trio and Latin terms [Hoffman 2009 and Teunissen *et al.* 2003])

Timber	Trio name	Latin name	Source
TIM-01	*Aimara ewa*	*Lecythis corrugata*	Hoffman 2009:314
		Lecythis sp.	Hoffman 2009:314
TIM-02	*Akohka (Akoha)*	*Sagotia racemosa*	Hoffman 2009:314
TIM-03	*Akohkaimë*		
TIM-04	*Amopakë ikupuruke*		
TIM-05	*Anaije*	*Cupania* sp.	Hoffman 2009:314
TIM-06	*Arekore Antura*	*Gustavia hexapetala*	Hoffman 2009:314
TIM-07	*Arita*	*Tetragastris panamensis*	Hoffman 2009:315
TIM-08	*Arïtaime (Karapaimë, Përëpun)*	*Trichilia* spp.	Hoffman 2009:315
TIM-09	*Ariwera*	*Eschweilera coriacea*	Hoffman 2009:315
TIM-10	*Awa*	*Protium* spp.	Teunissen *et al.*2003
TIM-11	*Awaimë*	*Tapirira* sp.	Hoffman 2009:315
TIM-12	*Eewa (ëwee)*	*Hevea guianensis*	Hoffman 2009:305
TIM-13	*Ënëhte*		
TIM-14	*Ërï pakoro*	*Rauia subtruncata*	Hoffman 2009:316
TIM-15	*Jaran*		
TIM-16	*Jaranaimë (Jaranoimë)*	*Cupania hirsute*	Hoffman 2009:316
TIM-17	*Kapai Ejamï*	*Duguetia cauliflora*	Hoffman 2009:316
		Duguetia sp.	Hoffman 2009:316
TIM-18	*Karapaimë*	*Guarea cf. kunthiana*	Hoffman 2009:316
		Guarea guidonia	Hoffman 2009:316
TIM-19	*Karosiwa*	*Rollinia exsucca*	Hoffman 2009:318
TIM-20	*Kunumïimë*	*Pouteria* sp.	Hoffman 2009:318
TIM-21	*Kurapë (Kurepu)*	*Tovomita* sp.	Hoffman 2009:318
TIM-22	*Kurepa*		
TIM-23	*Kurija Uru*	*Fusaea longifolia*	Hoffman 2009:318
TIM-24	*Kurunje*	*Rinorea pubiflora*	Hoffman 2009:319
TIM-25	*Kutaka Irepa*		
TIM-26	*Kutanaru*		
TIM-27	*Kutari*	*Candolleodendron brachystachyum*	Hoffman 2009:319

Timber	Trio name	Latin name	Source
TIM-28	*Kwasipita*		
TIM-29	*Mapanu*		
TIM-30	*Maraja*	*Geonoma balculifera*	Teunissen *et al.*2003
TIM-31	*Maripa*	*Attalea maripa*	Hoffman 2009:319
TIM-32	*Maruipë (Maruihpë)*	*Casearia grandiflora*	Hoffman 2009:321
TIM-33	*Mekoro Wewe*	*Ephedranthus guianensis*	Hoffman 2009:320
TIM-34	*Mene, Mene wewe*	*Guarea* sp.	Hoffman 2009:320
TIM-35	*Menuïmë*		
TIM-36	*Meri pono(Meripono)*	*Eschweilera decolorans*	Hoffman 2009:320
		Eschweilera sp.	Hoffman 2009:320
TIM-37	*Merina iputuku*		
TIM-38	*Mikiri*	*Euterpe precatoria*	Hoffman 2009:320
TIM-39	*Miri miri*	*Mouriria* spp.	Teunissen *et al.*2003
TIM-40	*Mowë*		
TIM-41	*Otopïmï*	*Minquartia guianensis*	Hoffman 2009:321
TIM-42	*Pai inpahka (Pai empaha)*	*Psychotria* sp.	Hoffman 2009:321
TIM-43	*Paiphaijo Intaperu*		
TIM-44	*Pakira aphëkë, Pakira Asuwi*		
TIM-45	*Pakirauku wewe (Pakira auku)*	*Sapotaceae*	Hoffman 2009:321
TIM-46	*Paripo*	*Licania* sp.	Hoffman 2009:322
TIM-47	*Paripo Tikorojan*	*Licania* sp.	Hoffman 2009:322
TIM-48-51	*Paripoimë*	*Parinari rodolphii*	Hoffman 2009:322
		Ouratea sp.	Hoffman 2009:322
TIM-52	*Pasisi*	*Goupia glabra*	Hoffman 2009:322
TIM-53	*Pasisiïmë*	*Mouriri* sp.	Hoffman 2009:322
TIM-54	*Pauraran*	*Helicostylis* sp.	Hoffman 2009:322
TIM-55	*Përepun*		
TIM-56	*Petire (Pïtïre)*	*Burseraceae*	Hoffman 2009:322
TIM-57	*Peuraimë (Pïeuraimë)*	*Tovomita* sp.	Hoffman 2009:322
TIM-58	*Pijenje*		
TIM-59	*Pokopoko uru*	*Senna quinquangulata*	Hoffman 2009:322
TIM-60	*Puruma*	*Pourouma* sp.	Hoffman 2009:322
TIM-61	*Raesae(Rasai)*	*Bocageopsis multiflora*	Hoffman 2009:323
TIM-62	*Rapapimë*		Hoffman 2009:323
TIM-63	*Raparapa*		
TIM-64	*Rapupimë (Rapopimë)*	*Pouteria sp*	Hoffman 2009:323
TIM-65	*Sakakao*		

Timber	Trio name	Latin name	Source
TIM-66	*Simajae*	*Cedrela odorata*	Hoffman 2009:323
TIM-67	*Sirenje epu (Sireinje)*	*Tachigali paniculata*	Hoffman 2009:323
TIM-68	*Siri siri*	*Protium apiculatum*	Hoffman 2009:323
		Protium sp.	Hoffman 2009:323
		Crepidospermum goudotianum	Hoffman 2009:323
TIM-69	*Sirisirimë*		
TIM-70	*Sokoi (Sokui)*	*Campomanesia aromatica*	Hoffman 2009:324
TIM-71	Stadhout		
TIM-72	*Taripi Iwesikato*		
TIM-73	*Tëhpaimë (Tëpaimë)*	*Sloanea* sp.	Hoffman 2009:324
TIM-74	*Tepu pisi wewe*		
TIM-75	*Tïikaimë*		
TIM-76	*Tirinemë*		
TIM-77	*Tokiriman*	*Dialium guianense*	Hoffman 2009:324
TIM-78	*Totopo*	*Eperua falcata*	Teunissen *et al.*2003
TIM-79	*Tuhkaimë*	*Eschweilera pedicelatta*	Hoffman 2009:324
TIM-80	*Tumuri*	*Pouteria sagotiana*	Hoffman 2009:324
TIM-81	*Turi (Turi sikiman)*	*Xylopia nitida*	Hoffman 2009:324
TIM-82	*Turi tamiren*	*Xylopia pulcherrima*	Hoffman 2009:324
TIM-83	*Turimë (Turiimë)*	*Anaxagorea* sp.	Hoffman 2009:324
TIM-84	*Wai*	*Licaria cf. chrysophylla*	Hoffman 2009:324
		Licaria sp.	Hoffman 2009:325
		Nectandra spp.	Teunissen *et al.*2003
		Ocotea spp.	Teunissen *et al.*2003
TIM-85	*Waija*	*Licaria* sp.	Hoffman 2009:325
TIM-86	*Wakapu*	*Vouacapoua Americana*	Hoffman 2009:325
TIM-87	*Wanaja Turi*		
TIM-88	*Wapu*	*Euterpe oleracea*	Teunissen *et al.*2003
TIM-89	*Waruma (Warumë)*	*Guatteria punctata*	Hoffman 2009:325
		Guatteria sp.	Hoffman 2009:325
		Ischnosiphon spp.	Teunissen *et al.*2003
TIM-90	*Wataki*	*Geissospermum argenteum*	Hoffman 2009:325
TIM-91	*Wewe Paara (Paara)*	*Moraceae*	Hoffman 2009:321
TIM-92	*Wiri*		
TIM-101	*Isiri*	*Iron*	
TIM-102	*Tepu*	*Stone*	

Appendix D

Photographs of the Amotopoan structures

1. The Communal Structures (CMSs)

ST-1(2007)

ST-2(2007)

2. The Habitation Structures (HSs)

ST-13 and ST-12 (2007)

ST-20 (2008)

ST-25(2007)

ST-32 (2007)

ST-35 and ST-36 (2008)

ST-42 (2008)

3. The Cooking Structures (CSs)

ST-10 (2007)

ST-21 (2007)

ST-26 (2007)

ST-37 (2008)

ST-39, ST-38, ST-16 and ST-18 (2008)

4. Other Structures

ST-5, ST-20, ST-9, ST-8 and ST-7 (2007)

ST-13 (2007)

ST-33 and ST-22 (2007)

ST-40 (2008)

ST-41(2008)

5. Impressions

Ande (AMO-06) fishing (2007)

Apëhpïn (AMO-02) spinning cotton (2007)

Atinio (AMO-03) preparing smoked pacu for transport (2007)

Erijam (AMO-19) making a sifter (2008)

Marcel (a.k.a. 'Rocky', AMO-09) in the canoe with two backpacks of manioc (2007)

Marcel (AMO-09) and Erinalse (AMO-07) (2007)

Mereo (AMO-05) and Felitia (AMO-08) peeling manioc (2007)

Meriesa (AMO-14), Petinia (AMO-10) and Senairë (AMO-11) (2008)

Pirome (KWA-089), Paneshi (AMO-01), Pepu (RUS-01) and Atinio (AMO-03) drawing former villages on a map (2008)

Senairë (AMO-11) and Rosianne (AMO-04) rasping manioc (2007)

Setrick (AMO-13), Aterie (AMO-12) and Erijam (AMO-19) collecting fruits (2008)

Wawa (KWA-052) showing Mepi (AMO-16) how to plait a rattle. In the hammock left, captain Paneshi (AMO-01) (2007)

Appendix E

The horticultural band in Amotopo

Numbers refer to Fig. 3.31.

No.	Trio name	English name	Latin	Source
1	*Aanai (anai)*	*Corn*	*Zea mais*	Teunissen *et al.* 2003
2	*Amperei*	*Job's tears*	*Coix lacryma-jobi*	Teunissen *et al.* 2003
3	*Ëpamï ënuri*			
4	*Ëpërësina (Peresina)*	*Orange*	*Citrus sinensis*	Teunissen *et al.* 2003
5	*Irira*	*Soursop*	*Annona muricata*	Teunissen *et al.* 2003
6	*Kariwa*	*Calabash*	*(Crescentia cujete)*	
7	*Kawai*			
8	*Maru*	*Cotton*	*Gossypium barbadense*	Teunissen *et al.* 2003
9	*Maru tukujunpë*	*Cotton*		
10	*Majan*			
11	*Makasera*	*Sweet manioc*	*Manihot esculenta*	Teunissen *et al.* 2003
12	*Mapaja*	*Papaya*	*Carica papaya*	Teunissen *et al.* 2003
13	*Mopeimë*			
14	*Nana warïno*	*Pineapple*	*Ananas comosus*	Teunissen *et al.* 2003
15	*Oroi*	*Cashew*	*Anacardium occidentalis*	Hoffman 2009:328
16	*Pakïnoto*			
17	*Paruru maripa*	*Banana*	*Musa* sp.	Teunissen *et al.* 2003
18	*Paruru minina*	*Banana*	*Musa* sp.	Teunissen *et al.* 2003
19	*Paruru uranna*	*Banana*	*Musa* sp.	Teunissen *et al.* 2003
20	*Pëmëi ararawa*	*Crapeaud pepper*	*Physalis pubescens*	(van Andel 2000)
21	*Pëmëi kawaraimo*	*Crapeaud pepper*	*Physalis pubescens*	(van Andel 2000)
22	*Pëmëi kujari*	*Chili pepper*	*(Capsicum* sp.*)*	(Teunissen *et al.* 2003)
23	*Pïrëimë (Pereime)*	*Sugar cane*	*Saccharum officinarum*	Teunissen *et al.* 2003
24	*Remeki (Demeki)*	*Lime*	*Citrus aurantifolia*	Teunissen *et al.* 2003
25	*Sikiman napi*	*Sweet potato*	*(Ipomea batatas)*	(Teunissen *et al.* 2003)
26	*Soroso paruru*	*Plantain*	*Musa* sp.	Teunissen *et al.* 2003
27	*Tïkapiren napi*	*Sweet potato*	*(Dioscorea trifida)*	(Teunissen *et al.* 2003)
28	*Tuhka*	*Brazil nut*	*Bertholletia excelsa*	Teunissen *et al.* 2003
29	*Wïrawaito*	*Silk grass*	*Bromelia alta*	Teunissen *et al.* 2003
30	*Wïïse (Wihse)*	*Annoto*	*Bixa orellana*	Teunissen *et al.* 2003

Appendix F

Posts distances - floor area ratios

Inter-post and floor measurements for the communal structures (CMSs), the habitation structures (HSs) and the cooking structures (CSs).

1.1 The Communal Structures (CMSs)

CMS-1	RRS-RES (inter)	RRS-RES (floor)	RRS-RS (inter)	RRS-RS (floor)	RRS-RRS (inter)	RRS-RRS (floor)
1	1.90	2.33	2.13	2.84	8.35	13.22
2	1.83	2.31	2.16	2.97		
3			2.08	2.92		
4			2.24	2.82		
AVG	1.87	2.32	2.15	2.89	8.35	13.22
Ratio	×1.24		×1.34		×1.58	

CMS-2	RRS-RES (inter)	RRS-RES (floor)	RRS-RS (inter)	RRS-RS (floor)	RRS-RRS (inter)	RRS-RRS (floor)
1	1.56	2.02	1.81	2.73	7.10	11.11
2	1.80	2.14	1.57	2.39		
3			1.51	2.41		
4			1.73	2.45		
AVG	1.68	2.08	1.66	2.50	7.10	11.11
Ratio	×1.24		×1.51		×1.56	

1.2 The Habitation Structures (HSs)

HS-12	RRS-RES (inter)	RRS-RES (floor)	RRS-RS (inter)	RRS-RS (floor)	RRS-RRS (inter)	RRS-RRS (floor)
1	1.50	1.89	1.45	2.13	4.80	8.42
2	1.29	1.60	1.50	1.84		
3			1.57	2.49		
4			1.31	1.50		
AVG	1.40	1.75	1.46	1.99	4.80	8.42
Ratio	×1.25		×1.36		×1.75	

HS-20	RRS-RES (inter)	RRS-RES (floor)	RRS-RS (inter)	RRS-RS (floor)	RRS-RRS (inter)	RRS-RRS (floor)
1	1.43	1.82	1.65	2.41	4.45	8.58
2	1.52	2.09	1.80	2.32		
3			1.68	2.56		
4			1.70	2.32		
AVG	1.48	1.96	1.71	2.40	4.45	8.58
Ratio	× 1.33		×1.40		×1.93	

HS-25	RRS-RES (inter)	RRS-RES (floor)	RRS-RS (inter)	RRS-RS (floor)	RRS-RRS (inter)	RRS-RRS (floor)
1	1.01	1.24	1.91	2.44	6.20	9.26
2	1.70	1.83	1.93	2.11		
3			2.03	2.45		
4			1.99	2.42		
AVG	1.36	1.55	1.97	2.36	6.20	9.26
Ratio	×1.13		×1.20		×1.49	

HS-32	RRS-RES (inter)	RRS-RES (floor)	RRS-RS (inter)	RRS-RS (floor)	RRS-RRS (inter)	RRS-RRS (floor)
1	1.44	1.93	1.39	1.76	3.80	7.67
2	1.42	1.84	1.35	2.16		
3			1.40	2.08		
4			1.45	2.09		
AVG	1.43	1.89	1.40	2.02	3.80	7.67
Ratio	×1.32		×1.44		×2.02	

HS-35	RRS-RES (inter)	RRS-RES (floor)	RRS-RS (inter)	RRS-RS (floor)	RRS-RRS (inter)	RRS-RRS (floor)
1	1.01	1.59	1.25	1.82	3.66	6.68
2	1.04	1.34	1.12	1.67		
3			1.21	1.84		
4			1.14	2.00		
AVG	1.03	1.47	1.18	1.83	3.66	6.68
Ratio	×1.43		×1.55		×1.83	

HS-36	RRS-RES (inter)	RRS-RES (floor)	RRS-RS (inter)	RRS-RS (floor)	RRS-RRS (inter)	RRS-RRS (floor)
1	1.17	1.76	1.23	1.79	3.70	7.39
2	1.18	1.82	1.30	2.07		
3			1.23	1.99		
4			1.12	1.90		
AVG	1.18	1.79	1.22	1.94	3.70	7.39
Ratio	×1.52		×1.59		×2.00	

1.3 The Cooking Structures (CSs)

CS-10	RRS-RES (inter)	RRS-RES (floor)	RRS-RS (inter)	RRS-RS (floor)	RRS-RRS (inter)	RRS-RRS (floor)
1	1.63	2.08	1.36	1.76	4.15	8.33
2	1.59	2.08	1.45	1.96		
3			1.41	1.80		
4			1.47	1.93		
AVG	1.61	2.08	1.42	1.86	4.15	8.33
Ratio	×1.29		×1.31		×2.00	

CS-16	RRS-RES (inter)	RRS-RES (floor)	RRS-RS (inter)	RRS-RS (floor)	RRS-RRS (inter)	RRS-RRS (floor)
1	1.26	1.74	1.06	1.85		
2			1.10	1.87		
3			1.09	1.86		
4			1.13	2.02		
AVG	1.26	1.74	1.10	1.90		
Ratio	×1.38		×1.74			

CS-21	RRS-RES (inter)	RRS-RES (floor)	RRS-RS (inter)	RRS-RS (floor)	RRS-RRS (inter)	RRS-RRS (floor)
1	1.57	2.11	1.38	1.89	3.65	7.95
2	1.67	2.00	1.40	2.06		
3			1.26	1.86		
4			1.35	1.89		
AVG	1.62	2.06	1.35	1.93	3.65	7.95
Ratio	×1.27		×1.43		×2.18	

CS-26	RRS-RES (inter)	RRS-RES (floor)	RRS-RS (inter)	RRS-RS (floor)	RRS-RRS (inter)	RRS-RRS (floor)
1	1.59	2.01	1.25	1.71	3.39	7.80
2	1.71	2.17	1.32	1.69		
3			1.35	1.86		
4			1.34	1.87		
AVG	1.65	2.11	1.32	1.78	3.39	7.80
Ratio	×1.28		×1.35		×2.30	

1.4 Comparison and average of post and floor distances

	RRS-RES Inter-Floor Ratio	RRS-RS Inter-Floor Ratio	RRS-RRS Inter-Floor ratio
CMS-1	×1.24	×1.34	×1.58
CMS-2	×1.24	×1.51	×1.56
CMS	***×1.24***	***×1.60***	***×1.57***
HS-12	×1.25	×1.36	×1.75
HS-20	×1.33	×1.40	×1.93
HS-25	×1.13	×1.20	×1.49
HS-32	×1.32	×1.44	×2.02
HS-35	×1.43	×1.55	×1.83
HS-36	×1.52	×1.59	×2.00
HS	***×1.33***	***×1.42***	***×1.84***
CS-10	×1.29	×1.31	×2.00
CS-16	×1.38	×1.74	
CS-21	×1.27	×1.43	×2.18
CS-26	×1.28	×1.35	×2.30
CS	***×1.31***	***×1.46***	***×2.16***
CMS-HS-CS	***×1.31***	***×1.44***	***×1.88***

Appendix G

Key codes to the Trio of the Western Trio group exchange sphere

The ID used is the abbreviation of the place of residence in 2008 connected with a number.

ID	Name	Surname	Sex	Age	Subgroup	Place of birth
amo-01	Paneshi	Panekke	Male	56	Okomoyana	Panapipa
amo-02	Apëhpïn	Mami	Female	53	Sakëta	Waananpë (Braz.)
amo-03	Atinio	Panekke	Male	39	Okomoyana	Alalapadu
amo-04	Rosianna	Inesaahpë	Female	40	Okomoyana	Tëpu
amo-05	Mereo	Inesaahpë	Female	22	Okomoyana	Kwamalasamutu
amo-06	Ande	Sikïriphe	Male	24	Sakëta	Kwamalasamutu
amo-07	Erinalse	Inesaahpë	Male	8	*Moksi*	Kwamalasamutu
amo-08	Felitia	Inesaahpë	Female	14	Okomoyana	Kwamalasamutu
amo-09	Marcel	Inesaahpë	Male	6	Okomoyana	Kwamalasamutu
amo-10	Petinia	Panekke	Male	37	Okomoyana	Kwamalasamutu
amo-11	Senairë	Siruwinpë	Female	35	Sakëta	Alalapadu
amo-12	Aterie	Siruwinpë	Male	18	*Moksi*	Kwamalasamutu
amo-13	Setrick	Siruwinpë	Male	15	*Moksi*	Kwamalasamutu
amo-14	Meriesa	Siruwinpë	Female	10	*Moksi*	Kwamalasamutu
amo-15	Miseki	Siruwinpë	Male	3	*Moksi*	Kwamalasamutu
amo-16	Mepi	Panekke	Male	22	Okomoyana	Kwamalasamutu
amo-17	Sarita	Akarasa	Female	20	Okomoyana	Kwamalasamutu
amo-18	Terise	Akarasa	Female	1	Okomoyana	Kuruni
amo-19	Erijam	Numehpë	Male	21	Okomoyana	Kwamalasamutu
amo-20	Sarawa		Female	55	Sakëta	Jawa (Braz.)
apu-01	David		Male			
ber-01	Susumi		Male			
cas-01	Kenki		Male	57	*Moksi*	Guyana
cas-02	Sinajo	Kanahpa	Female	72	Pïropï	
cas-03	Kusipi		Female	54	Mawayana	Guyana
cas-04	Tina		Male	37	*Moksi*	Ako (Guy.)
cas-05	Dinia	Meu	Female	23	*Moksi*	Albina
cas-06	Karwin	Meu	Female	2	Mawayana	Georgetown (Guy.)
cas-07	Irai		Male	35	*Moksi*	Ako (Guy.)
cas-08	Sirika	Kuramite	Female	25	Pïropï	Kwamalasamutu
cas-09	Scot	Kuramite	Male	10	*Moksi*	Kwamalasamutu

ID	Name	Surname	Sex	Age	Subgroup	Place of birth
cas-10	Aken	Kuramite	Male	7	*Moksi*	Kwamalasamutu
cas-11	Tikiku		Male	26	*Moksi*	Ako (Guy.)
cas-12	Ameu	Watiri	Female	20	*Moksi*	Kwamalasamutu
cas-13		Watiri	Female	4	*Moksi*	Kwamalasamutu
cas-14		Watiri	Female	2	*Moksi*	Georgetown (Guy.)
cas-15		Watiri	Female	1	*Moksi*	Kuruni
cas-16	Eimu		Male			
cas-17	Waka					
jaw-01	Jositu					
kam-01	Pikuku		Male	51	Okomoyana	Panapipa
kam-02	Kuini	Meu	Female	51	Sakëta	Kuini
kam-03	Kal	Meu	Male	7	*Moksi*	Georgetown (Guy.)
kam-04	Sakawa	Meu	Female	6	*Moksi*	Georgetown (Guy.)
kam-05	Susia	Meu	Female	13	*Moksi*	Kwamalasamutu
kam-06	Senevan	Meu	Male	7	*Moksi*	Kwamalasamutu
kur-01	Santana	Wuruna	Male	62	Sakëta	
kur-02	Paririke	Tuhkanpë	Female	60	Sakëta	Tuhkanpë (Braz.)
kur-03	Koroni	Tuhkanpë	Male	40	Sakëta	Alalapadu
kur-04	Johanna	Tawari	Female	39	Sakëta	Alalapadu
kur-05	Deipïn	Tawari	Male	20	Sakëta	Kwamalasamutu
kur-06	Mitijan		Female	17	Aramayana	Kwamalasamutu
kur-07			Female	1	*Moksi*	
kur-08	Dehina	Tawari	Female	18	Sakëta	Kwamalasamutu
kur-09	Michael	Kaiware	Male	20	Pïropï	Kwamalasamutu
kur-10		Tawari	Female	1	*Moksi*	Kuruni
kur-11	Rozette	Tawari	Female	14	Sakëta	Kwamalasamutu
kur-12	Pono	Pirowë	Male	48	Pïropï	Alalapadu
kur-13	Tatuwi	Wono	Female	43	Sikïiyana	Wïrapa Ewepanpë (Braz.)
kur-14	Pïnsiri		Female	18	Pïropï	Missao (Braz.)
kur-15			Female	1	*Moksi*	Kuruni
kur-16			Female			
kur-17	Makius		Male	17		Potopo
kur-18	Rayman	Wasipi	Male	26		Alalapadu
kur-19	Mirasi	Aramiruru	Female	25		Missao (Braz.)
kur-20	Juju	Aramiruru	Male	13		Sipaliwini
kur-21	Risiman	Aramiruru	Female	9		Sipaliwini
kur-22	Tarïjasi	Tuhkanpë	Male	39	Sakëta	Alalapadu
kur-23	Erei	Takajana	Female			
kur-24	Aretasi	Takajana	Male	23	Sakëta	Kwamalasamutu
kur-25	Cindi		Female	20		Kwamalasamutu
kur-26	Enijan	Takajana	Male	16		Kwamalasamutu

ID	Name	Surname	Sex	Age	Subgroup	Place of birth
kur-27	Hendrik	Takajana	Male	12		Kwamalasamutu
kur-28	Mario	Takajana	Male	10		Kwamalasamutu
kur-29	Mesasi	Takajana	Female	3		Kwamalasamutu
kur-30	Akïpasi	Tuhkanpë	Male	27	Sakëta	Alalapadu
kur-31	Ira	Sinkaara	Female	28	Pïropï	Kwamalasamutu
kur-32	Otto	Sinkaara	Male	12	*Moksi*	Kwamalasamutu
kur-33	Woni	Sinkaara	Female	10	*Moksi*	Kwamalasamutu
kur-34		Sinkaara	Female	2	*Moksi*	Kwamalasamutu
kur-35	Awaime	Tawari	Female	64	Sakëta	Urunai (Braz.)
kur-36	Sera	Desude	Female	26	*Moksi*	Kwamalasamutu
kur-37	Tëpane	Paru	Male	27	*Moksi*	Kwamalasamutu
kur-38	Kayzer	Desude	Male	2	*Moksi*	Kwamalasamutu
kur-39	James		Male			
kur-40	Ankui		Female			
kur-41			Female			
kut-01	Wakuruman	Sonson	Male	48	Shereo	Kanasin (Guy.)
kut-02	Jakera	Sonson	Female	62	Shereo	Guyana
kut-03	Maasa	Sori	Female	40	Shereo	Guyana
kut-04	Airijan	Sori	Male	23	Shereo	Kwamalasamutu
kut-05	Sarome	Kuriman	Female	22	*Moksi*	Kwamalasamutu
kut-06	Kenia	Sori	Female	17	Shereo	Kwamalasamutu
kut-07	Valerio	Sori	Male	13	Shereo	Kwamalasamutu
kut-08	Lanthpel	Sori	Male	7	Shereo	Kwamalasamutu
kut-09		Sori	Male	1	Shereo	Kwamalasamutu
kut-10	Omhki	Wasimana	Male	60	Tunayana	Guyana
kut-11	Pïnkori	Sinkaara	Female	3	*Moksi*	Guyana
kut-12	Phinosje	Kuriman	Female			
kut-13	Jakuta		Male	54		Guyana
kut-14	Kusipi	Kuriman	Female	50		Pëname (Braz.)
kwa-001	Asongo		Male			
kwa-002			Female			
kwa-003	Paul	Ipajari	Male	19	Okomoyana	Alalapadu
kwa-004	Rokasi	Ipajari	Female	39	Okomoyana	Alalapadu
kwa-005	Asapa		Male	60	Aramayana	
kwa-006	Patarama	Numehpë	Male	40	Okomoyana	Alalapadu
kwa-007	Semei	Wïïperihpë	Male	10	Okomoyana	Kwamalasamutu
kwa-008	Mokai	Wïïperihpë	Male	8	Okomoyana	Kwamalasamutu
kwa-009	Kuhto		Male		Sikïiyana	Guyana
kwa-010	Kuriman		Female		Shereo	Ajarama (Braz.)
kwa-011	Suwiri	Kuriman	Male		*Moksi*	Guyana
kwa-012	Taina	Kuriman	Female		*Moksi*	Guyana
kwa-013	Inetasa	Kuriman	Male	26	*Moksi*	Alalapadu

ID	Name	Surname	Sex	Age	Subgroup	Place of birth
kwa-014	Rowise	Kuriman	Female	14	*Moksi*	Kwamalasamutu
kwa-015	Murihtë		Male	0		
kwa-016	Sawa	Siruwinpë	Male	48		Ajarama (Braz.)
kwa-017	Rija	Akarasa	Female	35		Alalapadu
kwa-018	Pijanpisi	Tëpuru	Female	47	*Moksi*	Kusare (Braz.)
kwa-019	Sopo	Tawari	Male	40	Sakëta	Kusare (Braz.)
kwa-020	Karosiwa		Male	60	Pïropï	Urunai (Braz.)
kwa-021	Tïpijuhpë	Tawari	Female	40	Sakëta	Kusare (Braz.)
kwa-022	Dipina	Tawari	Female	21	*Moksi*	Kwamalasamutu
kwa-023	Abraham		Male	42	Pïïtaon	Kusare (Braz.)
kwa-024	Miuka	Tëpuru	Female	37	*Moksi*	Alalapadu
kwa-025	Rija	Tëpuru	Female	42	*Moksi*	Alalapadu
kwa-026	Jonï	Reienïnpë	Male	42	Sakëta	Kusare (Braz.)
kwa-027	Ainijasë	Tëpuru	Male	28	*Moksi*	Alalapadu
kwa-028	Ripahrtë	Tawari	Female	27	Sakëta	Alalapadu
kwa-029	Pildas	Tawari	Male	25	Sakëta	Kwamalasamutu
kwa-030	Rida	Tëpuru	Female	20	*Moksi*	Kwamalasamutu
kwa-031		Aponsoko	Female	10		Kwamalasamutu
kwa-032	Pinki	Aponsoko	Female	27	*Moksi*	Alalapadu
kwa-033	Daini	Aponsoko	Female	16	*Moksi*	Kwamalasamutu
kwa-034	Andy	Aponsoko	Male	12	*Moksi*	Kwamalasamutu
kwa-035	Dezerin	Tawari	Female	13	Sakëta	Kwamalasamutu
kwa-036	Kepijo	Tawari	Male	40	*Moksi*	Alalapadu
kwa-037	Sameri	Tawari	Female	39	*Moksi*	Alalapadu
kwa-038	Akipësë	Sonson	Male	27	Shereo	Alalapadu
kwa-039	Masin	Watiri	Female	47	Sakëta	Alalapadu
kwa-040	Paro		Male	43		Guyana
kwa-041	Koirere	Watiri	Female		Sakëta	
kwa-042	Satu	Musë	Male		*Moksi*	Kwamalasamutu
kwa-043	Meiran	Tawari	Male	25	Sakëta	Kwamalasamutu
kwa-044	Rita	Metëri	Female	22	*Moksi*	Apetina
kwa-045	Takajana	Takajana	Male			Alalapadu
kwa-046	Kaiware	Kaiware	Male		Pïropï	Samuwaka
kwa-047	Tïnsi	Wono	Female	24		Kwamalasamutu
kwa-048	Nasairë		Male	26	*Moksi*	Alalapadu
kwa-049	Pisu	Aramiruru	Male	11		Sipaliwini
kwa-050	Sikijo	Sinkaara	Male	16		Kwamalasamutu
kwa-051	Elisame		Female	14		Kwamalasamutu
kwa-052	Wawa	Kumu	Male	55	Mawayana	Guyana
kwa-053	Ena	Desude	Female	54	Mawayana	Guyana
kwa-054	Names	Desude	Male	33	Mawayana	Alalapadu
kwa-055	Anick	Okimen	Female	24	*Moksi*	Kwamalasamutu

ID	Name	Surname	Sex	Age	Subgroup	Place of birth
kwa-056	Lucia	Desude	Female	22	Mawayana	Kwamalasamutu
kwa-057	Robert	Topopuru	Male	22	Sakëta	Kwamalasamutu
kwa-058	Airin	Desude	Female	18	Mawayana	Potopo
kwa-059	Kijohpani	Desude	Male	16	Mawayana	Kwamalasamutu
kwa-060	Wana-uru		Male		Pïropï	Paranpë (Braz.)
kwa-061	Melanie	Wiriphutu	Female	17	Sikïiyana	Kwamalasamutu
kwa-062	Juri	Wiriphutu	Male	50	Sikïiyana	Pëname (Braz.)
kwa-063	Taru	Wono	Female	50	Sikïiyana	Pëname (Braz.)
kwa-064	Peuru	Wono	Female		Sikïiyana	Pëname (Braz.)
kwa-065	Anturu	Topopuru	Male	48	Sakëta	Tapanani
kwa-066	Wenona	Topopuru	Female	37	Sakëta	Alalapadu
kwa-067	Enusasa		Female	65	*Moksi*	Paranpë (Braz.)
kwa-068	Deniels		Female	5		Kwamalasamutu
kwa-069	Annette		Female	8		Kwamalasamutu
kwa-070	Merenki		Female	5		Kwamalasamutu
kwa-071	Conseira		Female	4		Kwamalasamutu
kwa-072	Danista		Female	1		Kwamalasamutu
kwa-073	Elisa		Female	1		Kwamalasamutu
kwa-074	Kamerijo		Male	24		Kwamalasamutu
kwa-075	Mani		Male			
kwa-076	Suwi		Female			
kwa-077	Kupijas		Male			
kwa-078	Jure		Male			
kwa-079	Kujimpe		Male			
kwa-080						
kwa-081	Gilbert		Male			
kwa-082	Sopo					
kwa-083	Ijetipe		Male			
kwa-084	Amosu		Male			
kwa-085	Ria					
kwa-086	Serani					
kwa-087	Riri					
kwa-088	Ruuti		Male			
kwa-089	Pirome		Male			
kwa-090	Saripin		Female			
kwa-091	Suusan		Female			
kwa-092	Tinkapi		Male			
kwa-093	Arasa					
kwa-094	Rusia		Female			
kwa-095	Tani		Female			
kwa-096	Nemisi		Male			
kwa-097	Maseru		Female			

ID	Name	Surname	Sex	Age	Subgroup	Place of birth
kwa-098	Epenethe					
kwa-099	Sinkese					
kwa-100	Johanna					
kwa-101	Jenever					
kwa-102						
kwa-103	Asupa					
map-01	Eimmun		Male			
mek-01	Deri					
mek-02	Bona		Male			
mek-03	Jacobi		Male			
mek-04	Deel		Male			
mis-01	Paula		Female			
mis-02	Sandra		Female			
non-01	Eithne		Female			
non-02	Eagle		Male			
non-03	Tourist 1					
non-04	Tourist 2					
non-05	Tourist 3					
non-06	Jimmy	Mans	Male	26		Amsterdam
non-07	Tourist 4		Male			
non-08	Paul		Male			
non-09	Claude	Leavitt	Male			
non-10	Tourist 5					
non-11	Annie		Female			
non-12	Tourist 6					
non-13	Tourist 7					
non-14	Tourist 8					
non-15	Tourist 9					
non-16	Tourist 10					
non-17	Tourist 11					
non-18	Tourist 12					
non-19	Tourist 13					
non-20	Tourist 14					
pah-01	Gummels		Male			
pah-02	Clemens		Male			
pah-03	Winston		Male			
pah-04	Annick		Male			
pah-05	Jenever					
pot-01	Este	Antawa	Male	40	Sakëta	Alalapadu
pot-02	Rydia	Antawa	Female	42	*Moksi*	Alalapadu
pot-03	Rise	Antawa	Male	18	*Moksi*	Kwamalasamutu
pot-04	Bernise	Antawa	Female		*Moksi*	Kwamalasamutu

ID	Name	Surname	Sex	Age	Subgroup	Place of birth
pot-05	Erijasi		Male	40	Unknown	Missao (Braz.)
pot-06	Tarita	Ëtënpë	Female	39	Unknown	Missao (Braz.)
pot-07	Siku	Ëtënpë	Female	6		Sipaliwini
pot-08	Makome		Female	12	*Moksi*	Kwamalasamutu
pot-09	Toni		Male	7	*Moksi*	Kwamalasamutu
pot-10	Daniel	Kuriman	Male	30	*Moksi*	Alalapadu
pot-11	Sakïjasi	Kuriman	Male	24	*Moksi*	Alalapadu
pot-12	Sareni	Wono	Female	23		Kwamalasamutu
pot-13	Raisu	Siruwinpë	Male	40		Alalapadu
pot-14	Jape	Tëpuru	Male	32	*Moksi*	Alalapadu
pot-15	Deimi	Aponsoko	Male	20	*Moksi*	Kwamalasamutu
pot-16	Standy	Aponsoko	Male	17	*Moksi*	Kwamalasamutu
pot-17	Seisakë	Wono	Male	27		Missao (Braz.)
pot-18	Asarija	Wono	Male	22		Kwamalasamutu
pot-19	Sitë	Watiri	Female	16		Kwamalasamutu
pot-20	Akese	Takajana	Male	21		Kwamalasamutu
pot-21	Marieke	Okimen	Female	19	Pïropï	Kwamalasamutu
pot-22	Derdise		Female	15		Kwamalasamutu
pot-23	Andre		Male			
pot-24	Pawironare		Male			
pot-25	Bartje		Male			
pot-26	Nick		Male			
pot-27	Lex		Male			
pot-28	Diria					
pot-29	Maiki		Female			
pot-30	Ando		Female			
pot-31	Pake					
pot-50	VIDS					
pot-51	ACT					
pot-52	Government					
rus-01	Pepu	Ipajari	Male	63	Okomoyana	Kakaimë Eeku
rus-02	Toke	Tashapuu	Female	65	Okomoyana	
rus-03	Tusiki	Tashapuu	Male	43	Okomoyana	Palumeu
rus-04	Koronija	Shiekoihpë	Female	31	Sakëta	Alalapadu
rus-05	Usarë	Kuriman	Male	21	*Moksi*	Kwamalasamutu
rus-06	Konsita	Shiekoihpë	Female	16	*Moksi*	Kwamalasamutu
rus-07	Edmundo	Shiekoihpë	Male	13	*Moksi*	Kwamalasamutu
sak-01	Amakara		Male	65	Maipurisana	Ajarama (Braz.)
sak-02	Koirere	Watiri	Female	63	Sakëta	Marapi (Braz.)
sak-03	Petra	Watiri	Female	29	*Moksi*	Alalapadu
sak-04	Maku	Puju	Male	31	Sakëta	Marapi (Braz.)
sak-05	Terry	Watiri	Female	15	*Moksi*	Kwamalasamutu

ID	Name	Surname	Sex	Age	Subgroup	Place of birth
sak-06	Anserick	Watiri	Female	13	*Moksi*	Kwamalasamutu
sak-07	Maser	Watiri	Male	9	*Moksi*	Kwamalasamutu
sak-08		Watiri	Male	5	*Moksi*	Kwamalasamutu
san-01	Aisaki	Watiri	Male	45	Sakëta	Alalapadu
san-02	Panuweo	Kaiware	Female	39	Pïïtaon	Alalapadu
san-03	Nowe	Kaiware	Male	14	*Moksi*	Kwamalasamutu
san-04	Putu	Araraman	Male	59	Sakëta	
san-05	Pesuwi	Mukaru	Female	48	Sakëta	Paranpë (Braz.)
san-06	Meseo	Araraman	Female	23	Sakëta	Kwamalasamutu
san-07	Mirena	Araraman	Female	5	*Moksi*	Kwamalasamutu
san-08	Maita	Takajana	Male	41	*Moksi*	Paranpë (Braz.)
san-09	Rorosi	Numehpë	Female	35	Okomoyana	Alalapadu
san-10	Roberto		Male		Unknown	
san-11	Anweo	Tëpuru	Female	19	*Moksi*	Kwamalasamutu
san-12	infant	Tëpuru	Male		*Moksi*	
san-13	Mapu		Male		Okomoyana	
san-14	Kuwësai		Female		Okomoyana	
san-15	Presano		Male		Okomoyana	
san-16	Reinija	Tëpuru	Female	24	*Moksi*	Kwamalasamutu
san-17	infant	Tëpuru	Male		*Moksi*	Apura
san-18	infant	Tëpuru	Male		*Moksi*	Apura
san-19	infant	Tëpuru	Female		*Moksi*	Apura
san-20	Vansje	Tëpuru	Male	11	*Moksi*	Kwamalasamutu
san-21	Serendija	Morisi	Female	10	*Moksi*	Kwamalasamutu
san-22	Dadi	Tëpuru	Male	12	*Moksi*	Kwamalasamutu
san-23	Isereu		Male		Okomoyana	
san-24	Eira	Sokorohpë	Female		*Moksi*	
san-25	Marinise		Female			
san-26						
san-27						
san-28	Stephen		Male			
san-29						
san-30	Tamutu		Male		Sakëta	
san-31	Temeso					
san-32	Neko		Male			
tep-01	Saramony		Male			
tep-02	Karijo		Male			
tep-03	Rinse					
tep-04	Seserija		Female			
wan-01	Arapahtë	Tëpuru	Male	65	Aramayana	Pëname (Braz.)
wan-02	Atorije	Reienïnpë	Female	64	Sakëta	Pëname (Braz.)

ID	Name	Surname	Sex	Age	Subgroup	Place of birth
wan-03	Paulus	Tawari	Male	23	Sakëta	Kwamalasamutu
wan-04	Sajën	Morisi	Female	23	Okomoyana	Kwamalasamutu
wan-05	Sara	Morisi	Female	3	*Moksi*	Apura
wan-06	Infant	Morisi	Female	1	*Moksi*	Apura
wan-07	Jan-Jaap	Reienïnpë	Male	47	Sakëta	Kusare (Braz.)
wan-08	Reina	Tëpuru	Female		*Moksi*	
wan-09	Liesbeth	Tëpuru	Female		*Moksi*	
wan-10	Noeimi	Tëpuru	Female	40	*Moksi*	Alalapadu
wan-11	Kevin-Jan	Tëpuru	Male	1	*Moksi*	Apura
wan-12	Dorkas	Kaiware	Female	22	*Moksi*	Kwamalasamutu
wan-13	Teisë	Watiri	Male	25	Unknown	Alalapadu
wan-14	Infant	Kaiware	Male	1	*Moksi*	Apura
wan-15	Kasa		Female			
wan-16	Piitaon					

Appendix H

Observed Exchange in Amotopo during 2008

Date	Giver	Given Good(s)	Place	Receiver	Return good
14-05-2008	AMO-03	30 m Fish net	CAS	CAS-01	2x Manare (lizard motif)
14-05-2008	AMO-03	7 kg Tuhka	AMO	AMO-10	1x Jarijari
14-05-2008	AMO-03	10 kg Tuhka	AMO	POT-06	
14-05-2008	AMO-03	10 kg Tuhka	AMO	KWA-077	
14-05-2008	AMO-03	7x Fishheads (Tukunari)	AMO	TEP-01	
14-05-2008	AMO-03	10 kg Tuhka	AMO	NON-01	100 SRD
30-05-2008	AMO-03	50 kg Tuhka	AMO	TEP-02	5x 25 Bullets
30-05-2008	RUS-02	5 salted Wasitau	AMO	TEP-03	
30-05-2008	RUS-02	6 salted Wasitau	AMO	TEP-01	Maybe Bread
30-05-2008	AMO-04	1/2 smoked Kinoroime	AMO	TEP-04	Maybe Bread
		2 smoked Soke			
30-05-2008	AMO-10	12 salted Wasitau	AMO	POT-01	1 or 2x 25 Bullets (140 SRD)
30-05-2008	RUS-01	2x Wasitau	AMO	BER-01	Coffee, Sugar
		1x Iwana			
30-05-2008	AMO-02	4 kg Tuhka	AMO	BER-01	Medicine
30-05-2008	CAS-16	1x Jarijari	AMO	AMO-03	3x 25 Bullets (210 SRD)
		1x Picolette			
		1x Jaguar Tooth			
30-05-2008	AMO-03	(1x Jarijari)	AMO	PAH-02	35L Gazoline
		1x baby Howler Monkey			
09-06-2008	AMO-02	Fresh and dried peppers	WAN	WAN-01	
09-06-2008	CAS-01	Simari	WAN	SAN-05	Pasija
09-06-2008	AMO-03	4x branches Wïise	WAN	SAN-01	
12-06-2008	WAN-01	Tea, Sugar	WAN	AMO-02	
12-06-2008	WAN-03	2 Packages	WAN	KUR	
19-06-2008	AMO-03/04	Cassava	KUR	AMO-05 (KUR)	Simari (in return for Patu)
		4 kg salt			
		2x towels			

Date	Giver	Given Good(s)	Place	Receiver	Return good
		2x toothpaste			
		2x Branch Paruru			
		Napëkë			
		Patu			
		5 L Kasiri,			
		Wïise			
19-06-2008	AMO-02	4x Branch Paruru	KUR	AMO-05 (KUR)	
		Napëkë			
		Cassavabread			
19-06-2008	AMO-02	25 kg Rice	KUR	AMO-16 (KUR)	
		Napëkë			
		Cassavabread			
		Bow			
19-06-2008	RUS-05	1x Picolette	KUR	KUR-30	
19-06-2008	WAN-08	2 kg Sugar	KUR	KUR-41	
		5 kg Rice			
		Clothes			
19-06-2008	WAN-16	6 kg Rice	KUR	KUR-09	
		1 kg of Sugar			
		Onions			
20-06-2008	KWA-087	Simari	KUR	KUR-03	
20-06-2008	KWA-088	5 kg Cassava bread	KUR	AMO-04	
	AMO-04	(5 kg Cassava bread)	KUR	AMO-05 (KUR)	
20-06-2008	KWA-088	10 kg Kajama	KUR	AMO-01	
20-06-2008	KAM-01	35x Arrow reed	KUR	AMO-01	
	(AMO-01)	(5x Arrow Reed)	(KUR)	KWA-052 (PAH)	
20-06-2008	POT-52	300 L Gazoline	KUR	RUS-01	
20-06-2008	KWA-091	30x Arrow reed	KUR	RUS-01	
20-06-2008	KWA-092	60x Arrow reed	KUR	WAN-01	
20-06-2008	KUR-30	100 SRD	KUR		
02-07-2008	*AMO-03/04*	*1x Head of Kinoroime*	AMO	*KWA-088*	
		2x Liter Bottle Apohpe			
02-07-2008	*AMO-03/04*	*1x Soke*	AMO	*KWA-093*	
		1x Pone			
		1x Kinoroime belly			
		1x Kinoroime moot			
02-07-2008	*KWA-053 (AMO)*	*1x Kinoroime moot*	AMO	*KWA-094*	

Date	Giver	Given Good(s)	Place	Receiver	Return good
		1x Arimi arm			
		1x Soke			
02-07-2008	*KWA-053 (AMO)*	*1x Soke*	AMO	*KWA-095*	
		1x Kinoroime moot			
02-07-2008	*KWA-053 (AMO)*	*1x Taripi arm,*	AMO	*KWA-096*	
		1x Taripi leg			
		1x tail Kinoroime			
02-07-2008	*KWA-053 (AMO)*	*1x Kapai leg*	AMO	*KWA-097*	
		1x Taripi arm			
		1x Kinoroime head			
		1x Kinoroime belly (Imomihpë)			
02-07-2008	*AMO-10*	*2x Soke*	AMO	*KWA-016*	
		1x Pone			
02-07-2008	*AMO-10*	*4x Geelbek*	AMO	*POT-01*	*Accomodation in Par'bo,*
		1x Geelbek		*POT-28*	*5 kg bird seed*
02-07-2008	*RUS-02*	*2x Akuri legs*	AMO	*KWA-004*	
		1x Arimi tail			
		2x Arimi arms			
		1x Arimi leg			
		1x Wasitau			
		1x Pone			
		1x Pasona			
02-07-2008	*KWA-090 (RUS)*	*1x Kinoroime Moot*	AMO	*KWA-098*	
		3x Wasitau			
02-07-2008	*KWA-090 (RUS)*	*1x Aakëu leg*	AMO	*KWA-099*	
02-07-2008	*KWA-090 (RUS)*	*1x Aakëu arm*	AMO	*KWA-100*	
02-07-2008	*AMO-02*	*3x Pone*	AMO	*KWA-088*	
		1x Soke			
02-07-2008	*AMO-11*	*1x Bag with decoration seeds*	AMO	*POT-06*	
		(Makui ipana, piura, etc)			
02-07-2008	*AMO-04*	*1x Bag with decoration seeds*	AMO	*POT-06*	
		(Maramara)			
03-07-2008	AMO 01/02	1x Kinoroime	AMO	KWA-001	

Date	Giver	Given Good(s)	Place	Receiver	Return good
		1x Soke			
03-07-2008	AMO-04	1x Soke	AMO	KWA-088	
		1x Pone			
03-07-2008	AMO-04	1x Soke	AMO	KWA-093	
03-07-2008	AMO-10	2x Soke	AMO	KWA-016	
03-07-2008	AMO-03	1x Soke head (smoked)	AMO	KWA-101	Cassava bread
		1x Kinoroime moot			
		1x Kinoroime tail			
03-07-2008	RUS-05	2x Soke	AMO	KWA-102	
03-07-2008	AMO-03/04	2x Soke	AMO	TEP-04 (POT)	Bread, Milk
		1x Kinoroime head (smoked)			
		1x Kinoroime moot			
03-07-2008	AMO-03/04	1x Soke, 1x Pone	AMO	POT-31	Bread
13-07-2008	CAS-11	2x Geelbek	KUR	AMO-03	12 m Bird net
13-07-2008	KUR-22	1x Jarijari	KUR	AMO-03	
		1x Wïrapa			
13-07-2008	KUR-23	Kunani Seeds	KUR	AMO-04	
13-07-2008	KUR-39	1x Birdcage	KUR	RUS-01	
		1x Bird seed			
14-07-2008	AMO-02	5x Smoked Soke	AMO	AMO-10 (POT)	
		1x bottle(1.5 L) Akohpë			
22-07-2008	AMO-04	1x Smoked Kinoroime tail	AMO	POT-30	
		2x Soke			
22-07-2008	AMO-03	1x Smoked Kinoroime belly	AMO	KWA-103 (POT)	
		1x Soke			
25-07-2008	RUS-01	4x smoked Soke	AMO	POT-29	
25-07-2008	AMO-02	3x Smoked Soke	AMO	TEP-01	
		1x Pone			
		1x tail of Kinoroime			

Appendix I

Reported exchange of the accumulated *mobilia* in Amotopoan structures

Listed below are the objects of the six structures of Amotopo (ST-10, ST-12, ST-20, ST-21, ST-22 and ST-37). The types of objects that have been ascribed are 1: durable non-container, 2: durable container, 3: animal remains and 4: objects made of organic material. The '/' sign implies that the provider is also the receiver *i.e.*, he or she bought or procured the object her/himself.

Nr.	Object	Type of object	Provider	Village of exchange	Receiver
1	*Manare-pisi*	2	AMO-04	POT	/
2	*Ërimakë*	2	NON-02	-	AMO-03
3	*Patu tïpanaken*	2	AMO-04	POT	AMO-08
4	*Manare-pisi*	2	AMO-05	POT	/
5	*Ërimakë*	2	AMO-05	POT	/
6	*Ërimakë*	2	AMO-05	POT	/
7	*Ërimakë*	2	AMO-05	POT	/
8	*Ërimakë*	2	AMO-04	POT	/
9	*Ërimakë*	2	AMO-04	POT	/
10	*Ërimakë*	2	AMO-04	POT	/
11	*Ërimakë*	2	AMO-04	POT	/
12	*Ërimakë*	2	AMO-04	POT	/
13	*Caso*	2	MEK-01	-	AMO-03
14	*Parataime-pisi*	2	PAH-04	-	AMO-03
15	*Sipari*	4	WAN-01	WAN	AMO-03
16	*Kasipara-pisi*	1	AMO-04	POT	/
17	*Suwije-pisi*	2	AMO-04	POT	/
18	*Suwije-pisi*	2	AMO-04	POT	/
19	*Ërimakë mono*	2	-	-	AMO-20
20	*Patu tïpanaken*	2	AMO-04	POT	AMO-05
21	*Ërimakë Parataime*	2	KWA-076	KWA	AMO-04
22	*Wïi ënjoikato*	2	AMO-04	AMO	/
23	*Saka Simari*	1	MAP-01	MAP	AMO-04
24	*Tïponëken patu*	2	AMO-04	POT	/
25	*Parataime*	2	AMO-04	NIC	/
26	*Kariwa*	4	AMO-04	SAN	/

Nr.	Object	Type of object	Provider	Village of exchange	Receiver
27	*Parataime caso*	2	AMO-04	NIC	/
28	*Kïrï kïrï*	1	PAH-01	-	AMO-03
29	*Maja*	1	KWA-078	KWA	AMO-03
30	*Kasipara*	1	POT-50	-	AMO-03
31	*Taripi iputupe caso*	1	AMO-05	MIS	AMO-04
32	*Surina*	2	RUS-02	KWA	AMO-08
33	*Maja*	1	AMO-019	-	AMO-03
34	*Maja*	1	AMO-03	POT	/
35	*Maja*	1	NON-03	-	AMO-03
36	*Sorope-pisi*	1	POT-51	-	AMO-03
37	*Erina futu*	1	KWA-079	KWA	AMO-03
38	*Parataime emeri*	2	PAH-03	-	AMO-03
39	*Parataime emeri*	2	PAH-03	-	AMO-03
40	*Parataime emeri*	2	PAH-03	-	AMO-03
41	*Tïwaken-pisi*	2	CAS-05	CAS	AMO-08
42	*Tïwaken-pisi*	2	KWA-080	KWA	AMO-04
43	*Tïwaken patu*	2	POT-01	KWA	AMO-04
44	*Erina futu*	1	KWA-079	KWA	AMO-02
45	*Pari(npe)*	2	POT-51	-	AMO-03
46	*Tïwaken patu*	2	-	AR1	AMO-02
47	*Saparari Ërimakë*	2	AMO-05	NIC	/
48	*Saparari Ërimakë*	2	AMO-05	NIC	/
49	*Caso*	2	AMO-03	POT	/
50	*Tïwaken patu*	2	CAS-03	CAS	AMO-04
51	*Kuje*	1	AMO-04	POT	/
52	*Tijeken kuje*	1	AMO-04	POT	/
53	*Senki/Simari*	1	PAH-02	-	AMO-04
54	*Katari*	4	AMO-01	-	AMO-03
55	*Katari (Nopojame)*	4	AMO-01	-	AMO-03
56	*Katari (Nopojame)*	4	AMO-01	-	AMO-03
57	*Wïwï*	1	POT-052	POT	AMO-04
58	*Tomoikawarein*	1	POT-051	-	AMO-03
59	*Manare*	4	KWA-052	AMO	AMO-04
60	*Sipari*	4	AMO-03	KUR	/
61	*Patu tïwaken-pisi*	2	AMO-03	POT	/
62	*Patu tïpanake*	2	MIS-01	-	AMO-03
63	*Katari*	4	SAN-031	SAN	AMO-20
64	*Maano Peteri*	1	AMO-03	POT	/
65	*Tonoro Enï*	2	POT-23	POT	AMO-03
66	*Tonoro Enï*	4	AMO-10	AMO	AMO-03
67	*Tonoro Apëhto*	2	-	-	AMO-03

Nr.	Object	Type of object	Provider	Village of exchange	Receiver
68	*Tonoro Enï*	2	POT-23	POT	AMO-03
69	*Tonoro Enï*	2	POT-23	POT	AMO-03
70	*Tonoro Enï*	2	CAS-016	CAS	AMO-03
71	*Tonoro Enï*	2	KWA-075	-	AMO-03
72	*Tonoro Enï*	2	POT-24	POT	AMO-03
73	*Tonoro Apëhto*	2	MEK-02	-	AMO-03
74	*Tonoro Apëhto*	2	PAH-02	-	AMO-03
75	*Tonoro Enï*	2	NON-02	-	AMO-03
76	*Tuna Enï*	2	KWA-076	-	AMO-04
77	*Tuna Enï*	2	KWA-076	-	AMO-04
78	Bird net	1	POT-25	-	AMO-03
79	*Kuje*	1	AMO-01	POT	/
80	*Caso*	2	NON-02	-	AMO-03
81	*Sof Enïnpe*	2	NON-04	POT	AMO-03
82	*Sima ikuito*	1	PAH-01	POT	AMO-03
83	*Sof Enïnpe*	2	AMO-010	-	AMO-03
84	*Sof Enïnpe*	2	NON-05	POT	AMO-04
85	*Makui ipana*	4	AMO-04	AMO	/
86	*Cowsusu Enïnpe*	2	NON-06	POT	AMO-04
87	*Maramara/wetui ipukato*	1	AMO-04	-	/
88	*Maramara/wetui ipukato*	1	AMO-04	-	/
89	*Maramara/wetui ipukato*	1	AMO-04	-	/
90	*Maramara/wetui ipukato*	1	AMO-04	-	/
91	*Machien esikato*	1	AMO-03	POT	AMO-04
92	*Pakira ijerinpë*	3	AMO-03	AMO	AMO-04
93	*Chocolade Enïnpe*	2	MEK-01	-	AMO-04
94	*Kaikui ijerinpë*	3	-	-	AMO-04
95	Spool	1	-	-	AMO-04
96	Spool	1	-	-	AMO-04
97	Tulip Cable	1	-	-	AMO-04
98	Jewellry prefab	4	-	-	AMO-04
99	Jewellry prefab	4	-	-	AMO-04
100	*Pinda Enïnpe*	2	NON-06	POT	AMO-04
101	*Makui ipana*	4	AMO-04	AMO	/
102	*Sof Enïnpe*	2	AMO-03	POT	AMO-04
103	*Sof Enïnpe*	2	-	-	AMO-04
104	*Maramara*	4	-	-	AMO-04
105	*Putupe ikainerinpë*	1	AMO-03	POT	AMO-04
106	*Wetui*	4	-	AMO	AMO-04

Nr.	Object	Type of object	Provider	Village of exchange	Receiver
107	*Pinda Enïnpe*	2	POT-26	POT	AMO-04
108	*Puira*	4	-	AMO	AMO-04
109	*Enïnpe*	2	AMO-03	POT	AMO-04
110	*Wetui*	4	-	Un	AMO-04
111	*Tokiriman*	4	-	Un	AMO-04
112	*Wetuime*	4	AMO-03	GUY	AMO-04
113	*Wanapan*	4	WAN-07	WAN	AMO-04
114	*Putupe ikainerinpë*	1	AMO-03	POT	AMO-04
115	*Kumataimë*	4	-	-	AMO-04
116	*Irira*	4	-	-	AMO-04
117	Bag	2	AMO-04	POT	/
118	Spool	1	-	-	AMO-04
119	*Mokoko Enu*	4	AMO-04	AMO	AMO-04
120	*Sof Enïnpe*	2	-	-	AMO-04
121	Iron wire	1	-	-	AMO-04
122	Jewellry prefab	4	-	-	AMO-04
123	Jewellry prefab	4	-	-	AMO-04
124	*Enïnpe*	2	-	-	AMO-04
125	*Enïnpe*	2	-	-	AMO-04
126	*Enïnpe*	2	PAH-04	-	AMO-04
127	*Sipari arokiphë*	3	AMO-03	-	AMO-04
128	*Sopu enïnpe*	2	CAS-05	-	AMO-04
129	*Maramara*	4	-	AMO	AMO-04
130	*Putupe ikainerinpë*	1	AMO-012	-	AMO-04
131	*Wanapan*	4	-	AMO	AMO-04
132	*Wetui*	4	-	AMO	AMO-04
133	Spool with nylon	1	AMO-04	POT	/
134	*Boter patu*	2	MEK-03	KWA?	AMO-04
135	*Maramara*	4	-	AMO	AMO-04
136	*Enïnpe*	2	-	-	AMO-04
137	*Maramara*	4	-	-	AMO-04
138	*Enïnpe*	2	-	-	AMO-04
139	*Maramara*	4	-	-	AMO-04
140	*Enïnpe*	2	-	-	AMO-04
141	*Maramara*	4	-	-	AMO-04
142	*Enïnpe*	2	-	-	AMO-04
143	*Maramara*	4	-	-	AMO-04
144	*Enïnpe*	2	-	-	AMO-04
145	*Maramara*	4	-	-	AMO-04
146	Iron wire with maramara	1	-	POT	AMO-04

Nr.	Object	Type of object	Provider	Village of exchange	Receiver
147	*Caso*	2	POT-27	-	AMO-04
148	*Satara*	1	AMO-03	POT	AMO-04
149	*Maru epu*	4	SAN-32	SAN	AMO-04
150	Pot	2	AMO-04	POT	/
151	*Samura*	1	AMO-04	POT	/
152	Container	2	AMO-04	POT	/
153	*Samura*	1	AMO-04	POT	/
154	Box	4	AMO-019	SAN	/
155	Jaguar bones	3	AMO-03	AMO	/
156	*Enïnpe*	2	-	-	AMO-03
157	*Enïnpe*	2	-	-	AMO-03
158	Half a Barrel	2	-	-	AMO-03
159	Half a Barrel	2	-	-	AMO-03
160	Pot	2	-	-	AMO-03
161	Pot	2	-	-	AMO-03
162	Nails (2.5 kg)	1	KWA-075	PAH	AMO-03
163	*Sa*	1	PAH-01	PAH	AMO-03
164	*Gasolin inuhto*	2	APU-01	SAN	AMO-03
165	*Enï*	2	-	-	AMO-03
166	*Enïnpe*	2	-	-	AMO-03
167	*Poketi*	2	CAS-05	CAS	AMO-04
168	*Tonoro Enï*	1	AMO-03	AMO	/
169	*Pïwa*	1	PAH-01	PAH	AMO-03
170	*Tomoikaware*	1	POT-51	POT	AMO-03
171	*Tonoro Enï*	2	AMO-03	AMO	/
172	*Simari*	1	AMO-04	AMO	/
173	*Tasi*	2	-	-	AMO-19
174	*Sorope*	1	POT-51	POT	AMO-03
175	*Pireu*	4	KAM-01	KWA	AMO-03
176	*Wïrapa*	4	KUR-022	KUR	AMO-09
177	*Sanpa*	1	POT-51	POT	AMO-03
178	*Petei pata*	1	AMO-03	POT	/
179	*Petei pata*	1	AMO-03	POT	/
180	*Tasi*	2	AMO-01	-	AMO-03
181	*Petei pata*	1	AMO-03	POT	/
182	*Petei pata*	1	AMO-03	POT	/
183	*Lolli enïnpe*	2	-	POT	AMO-04
184	Container	2	AMO-03	POT	AMO-04
185	*Enïnpe*	2	-	-	AMO-04
186	*Tasi*	2	-	POT	AMO-03
187	*Tasi*	2	-	POT	AMO-03

Nr.	Object	Type of object	Provider	Village of exchange	Receiver
188	*Arkebusa*	1	KWA-081	KWA	AMO-03
189	*Turuman sopu enïnpe*	2	PAH-01	PAH	AMO-03
190	*Poketi*	2	CAS-05	CAS	AMO-04
191	Container	2	PAH-01	PAH	AMO-03
192	*Tenïsen enï*	2	-	-	GUY-012
193	Container	2	-	-	AMO-04
194	*Smeerolie enï*	2	PAH-01	PAH	AMO-03
195	*Parataime*	2	PAH-01	PAH	AMO-03
196	Container	2	PAH-01	PAH	AMO-03
197	Pan	2	-	-	AMO-04
198	Pan	2	-	-	AMO-04
199	*Tenïsen enï*	2	NON-08	WAN	AMO-03
200	Bottle	2	NON-07	-	AMO-02
201	Container	2	PAH-01	-	AMO-02
202	Container	2	TEP-01	POT	AMO-01
203	Oil	4	TEP-01	POT	AMO-01
204	Container	2	PAH-01	-	AMO-01
205	*Patu mono*	2	NON-09	AR1	AMO-01
206	*Mono kariwa*	4	CAS-017	CAS	AMO-02
207	Bottle	2	AMO-01	PAH	/
208	*Caso*	2	AMO-04	-	AMO-02
209	*Pata*	1	MIS-01	MIS	AMO-02
210	*Pata*	1	MIS-01	MIS	AMO-02
211	*Pata*	1	-	MIS	AMO-02
212	*Pata*	1	AMO-03	MIS	AMO-02
213	Pot	2	-	-	AMO-02
214	*Kumata*	4	-	-	AMO-02
215	*Sipari*	4	WAN-015	WAN	AMO-02
216	*Parataime emeri*	2	KWA-052	PAH	AMO-02
217	*Parataime emeri*	2	KWA-052	PAH	AMO-02
218	*Sipari*	4	KUR-01	KUR	AMO-02
219	*Suwije Patu*	2	NON-09	AR1	AMO-01
220	*Erïpo-pisi*	1	-	-	AMO-02
221	*Tïwaken patu*	2	-	AMO	AMO-02
222	*Tïwaken patu*	2	-	AMO	AMO-02
223	*Poketi*	2	POT-051	POT	AMO-01
224	Bottle	2	NON-10	-	AMO-02
225	Salt	4	AMO-04	-	AMO-02
226	*Suwije Patu*	2	AMO-03	POT	AMO-02
227	*Erimaka isiri*	2	AMO-01	POT	AMO-02
228	*Patu*	2	PAH-05	PAH	AMO-02

Nr.	Object	Type of object	Provider	Village of exchange	Receiver
229	*Patu tïpanaken*	2	AMO-020	Un	AMO-02
230	*Maja*	1	KWA-079	POT	AMO-02
231	*Pasija*	2	KWA-079	POT	AMO-02
232	*Suwije mono*	2	AMO-03	POT	AMO-02
233	*Tïwake patu*	2	KWA-082	POT	AMO-02
234	*Tïpanaken patu*	2	CAS-05	CAS	AMO-02
235	Bucket	2	AMO-03	POT	AMO-02
236	*Emeri*	2	AMO-03	NIC	AMO-02
237	*Sipari (Wayana)*	4	KUR-039	KUR	AMO-17
238	*Suwije tïwaken*	2	AMO-04	POT	AMO-02
239	*Tïpanaken patu*	2	SAN-09	SAN	AMO-02
240	*Piwa (Kumuime)*	4	AMO-01	AMO	/
241	*Piwa (Kumu)*	4	AMO-01	AMO	/
242	*Piwa (Kumu)*	4	AMO-01	AMO	/
243	*Parinpë*	2	AMO-01	AMO	/
244	*Parinpë*	2	AMO-01	AMO	/
245	*Pindakaas enïnpe*	2	POT-02	POT	AMO-02
246	*Caso*	2	MEK-04	-	AMO-02
247	*Tïpanaken patu*	2	AMO-020	-	AMO-02
248	*Tïpanaken-pisi patu*	2	SAN-05	-	AMO-02
249	*Tïpanaken patu*	2	AMO-020	-	AMO-02
250	*Tïpanaken-pisi patu*	2	SAN-05	-	AMO-02
251	*Parataime tikorojae*	2	KWA-075	PAH	AMO-02
252	*Gazolin enï*	2	POT-051	POT	AMO-02
253	*Simari*	1	CAS-03	CAS	AMO-02
254	Bottle	2	-	-	AMO-02
255	*Pënti*	4	KWA-083	-	AMO-02
256	*Pënti*	4	AMO-01	-	AMO-02
257	*Pënti mono*	4	RUS-01	-	AMO-02
258	*Manare*	4	SAN-08	-	AMO-02
259	*Katari*	4	AMO-01	-	/
260	*Katari*	4	AMO-01	-	/
261	*Katari*	4	AMO-01	-	/
262	*Eri futu*	1	AMO-01	POT	AMO-02
263	*Manare isiri*	2	AMO-01	AMO	AMO-02
264	*Mani*	4	MAP-01	MAP	AMO-01
265	*Barata*	4	MAP-01	MAP	AMO-01
266	*Maru epurunpë*	2	NON-11	-	AMO-02
267	Matches	4	-	-	AMO-02
268	*Manare*	4	SAN-08	-	AMO-02
269	*Manare*	4	SAN-08	-	AMO-02

Nr.	Object	Type of object	Provider	Village of exchange	Receiver
270	*Manare*	4	WAN-15	-	AMO-02
271	*Manare*	4	AMO-016	AMO	AMO-17
272	*Sipari (Wayana)*	4	KUR-039	KUR	AMO-17
273	*Sipari*	4	KUR-01	KUR	AMO-02
274	*Sipari*	4	KWA-052	PAH	AMO-02
275	*Manare*	4	KUR-039	KUR	AMO-17
276	*Manare*	4	AMO-016	PAH	AMO-17
277	*Pënti*	4	RUS-01	RUS	AMO-02
278	*Sipari mono*	4	KWA-052	PAH	AMO-02
279	Sakanpë	1	-	-	AMO-02
280	*Manare parataime*	2	AMO-03	POT	AMO-02
281	*Sokopepa*	4	AMO-01	-	AMO-02
282	*Pemei itunkato*	4	AMO-01	-	AMO-02
283	*Turi*	4	AMO-01	AMO	AMO-02
284	*Parataime*	2	NON-12	-	AMO-02
285	*Pemei*	4	AMO-02	-	/
286	*Parataime*	2	NON-13	-	AMO-02
287	*Pemei*	4	AMO-02	-	/
288	*Parataime*	2	NON-14	-	AMO-02
289	*Pemei*	4	AMO-02	-	/
290	*Parataime*	2	NON-15	-	AMO-02
291	*Pemei*	4	AMO-02	-	/
292	*Siripana*	2	AMO-01	AMO	/
293	*Apophe enï*	2	-	-	AMO-02
294	*Apophe*	3	AMO-01	AMO	/
295	*Kasipara*	1	KWA-052	PAH	AMO-01
296	*Kasipara*	1	KWA-052	PAH	AMO-01
297	*Kasipara*	1	KWA-052	PAH	AMO-01
298	*Kasipara*	1	KWA-052	PAH	AMO-01
299	*Kasipara*	1	KWA-052	PAH	AMO-01
300	*Kasipara*	1	KWA-052	PAH	AMO-01
301	*Kasipara*	1	KWA-052	PAH	AMO-01
302	*Kasipara*	1	KWA-052	PAH	AMO-01
303	*Ariwe iputupe*	3	AMO-02	AMO	/
304	*Pakira ifufe*	3	AMO-02	AMO	/
305	Container	4	-	AMO	/
306	Bottle	2	-	-	AMO-02
307	Flipflop	1	-	-	AMO-02
308	Flipflop	1	-	-	AMO-02
309	Piece of plastic	2	-	-	AMO-02
310	*Parataime manare*	2	KWA-081	-	AMO-02

Nr.	Object	Type of object	Provider	Village of exchange	Receiver
311	*Parataime*	2	NON-16	-	AMO-02
312	*Parataime*	2	NON-17	-	AMO-02
313	*Parataime*	2	NON-18	-	AMO-02
314	*Parataime*	2	NON-19	-	AMO-02
315	*Wïrapa*	4	KWA-084	KWA	AMO-03
316	*Pïreu*	4	KAM-01	KWA	AMO-03
317	Arrow head	1	-	AR1	AMO-03
318	*Pïreu*	4	KAM-01	KWA	AMO-03
319	Arrow head	1	-	AR1	AMO-03
320	*Ako*	4	AMO-01	AMO	AMO-02
321	*Apei*	4	MEK-04	-	AMO-02
322	*Apei*	4	MEK-04	-	AMO-02
323	*Container*	2	AMO-01	APE	/
324	*Tuna enï*	2	AMO-01	KWA	/
325	*Tuna enï*	2	AMO-04	POT	AMO-02
326	*Erimake (Saparari)*	2	MEK-04	-	AMO-02
327	Machete	1	AMO-01	-	/
328	*Erimake (Saparari)*	2	AMO-03	-	AMO-02
329	*Saparari*	2	AMO-03	POT	AMO-02
330	*Saparari-pisi*	2	AMO-03	POT	AMO-02
331	*Tëpëhtohken caso*	2	SAN-05	KWA	AMO-02
332	*Saparari*	2	AMO-03	POT	AMO-02
333	*Erimake*	2	AMO-03	POT	AMO-02
334	*Erimake*	2	AMO-03	POT	AMO-02
335	*Tëpëhtohken caso*	2	MIS-02	KWA	AMO-02
336	*Erimake*	2	AMO-03	POT	AMO-02
337	*Caso*	2	AMO-04	POT	AMO-02
338	*Maja*	1	AMO-013	POT	/
339	*Kuje*	1	-	-	AMO-02
340	*Kuje*	1	-	-	AMO-02
341	Container	2	-	-	AMO-02
342	*Erimake*	2	KWA-085	-	AMO-17
343	*Kuje mono*	1	KWA-081	KWA	AMO-02
344	*Kuje*	1	-	-	AMO-02
345	*Parataime manare*	2	AMO-03	POT	AMO-02
346	*Manare*	4	AMO-06	AMO	AMO-02
347	*Soko pepa*	4	AMO-01	-	AMO-02
348	*Soko pepa*	4	AMO-01	-	AMO-02
349	*Parataime*	2	PAH-04	-	AMO-02
350	*Parataime piwa*	1	AMO-03	POT	AMO-02
351	Dustpan	1	AMO-03	POT	AMO-02

Nr.	Object	Type of object	Provider	Village of exchange	Receiver
352	*Tïwaken patu*	2	AMO-01	KWA	AMO-02
353	Container	2	-	-	AMO-02
354	*Patu-pisi tïwaken*	2	-	-	AMO-02
355	*Patu tïpanaken*	2	-	-	AMO-02
356	*Patu mono-pisi*	2	JAW-01	JAW	AMO-02
357	Can	2	POT-52	-	AMO-02
358	Can	2	POT-52	-	AMO-02
359	Bag	2	POT-52	-	AMO-02
360	*Parataime (yellow)*	2	PAH-01	PAH	AMO-02
361	*Parataime (white)*	2	NON-02	-	AMO-02
362	*Parataime (blue)*	2	NON-20	-	AMO-02
363	*Parataime (red)*	2	-	-	AMO-02
364	*Parataime*	2	PAH-01	PAH	AMO-02
365	*Parataime*	2	PAH-01	PAH	AMO-02
366	*Parataime*	2	PAH-01	PAH	AMO-02
367	*Parataime*	2	PAH-01	PAH	AMO-02
368	*Parataime*	2	PAH-01	PAH	AMO-02
369	*Parataime*	2	PAH-01	PAH	AMO-02
370	*Parataime*	2	PAH-01	PAH	AMO-02
371	*Parataime*	2	PAH-01	PAH	AMO-02
372	*Parataime*	2	PAH-01	PAH	AMO-02
373	*Parataime*	2	PAH-01	PAH	AMO-02
374	*Tïpanaken patu*	2	-	-	AMO-02
375	*Poketi*	2	PAH-01	-	AMO-02
376	*Manare*	4	CAS-04	CAS	AMO-02
377	*Tïwaken-pisi patu*	2	-	-	AMO-02
378	*Tïpanaken patu*	2	AMO-01	NIC	AMO-02
379	*Caso*	2	AMO-03	POT	AMO-02
380	*Parataime tïwaken*	2	PAH-01	PAH	AMO-02
381	Can	2	-	-	AMO-02
382	Container	2	-	-	AMO-02
383	*Kariwa*	4	AMO-01	SAN	AMO-02
384	*Poketi*	2	AMO-03	NIC	AMO-02
385	Barrel	2	-	-	AMO-02
386	*Sopu enï*	2	AMO-01	POT	AMO-02
387	Caso	2	AMO-03	POT	AMO-02
388	*Saparari*	2	AMO-01	POT	AMO-02
389	Large water container	2	POT-52	POT	AMO-02
390	Can	2	POT-52	POT	AMO-02
391	*Tïpanaken patu*	2	AMO-20	AR1	AMO-02
392	*Patu tïwaken*	2	AMO-01	KWA	AMO-02

Nr.	Object	Type of object	Provider	Village of exchange	Receiver
393	*Patu tïwaken-pisi*	2	CAS-03	CAS	AMO-02
394	*Arquebusa*	1	AMO-03	POT	AMO-01
395	*Wïrapa*	4	KWA-084	-	AMO-01
396	*Sanpu*	1	KWA-081	-	AMO-01
397	*Sorope*	1	POT-52	POT	AMO-04
398	Bottle	2	-	-	AMO-01
399	Bag	2	-	-	AMO-01
400	*Matapi*	4	WAN-01	WAN	AMO-02
401	*Matapi*	4	SAN-08	SAN	AMO-02
402	*Matapi*	4	RUS-01	RUS	AMO-02
403	Large container	2	AMO-03	NIC	AMO-02
404	Large container	2	SAN-05	-	AMO-02
405	Large container	2	AMO-03	KWA	AMO-02
406	Poketi	2	PAH-01	-	AMO-02
407	Poketi	2	AMO-03	POT	AMO-02
408	*Patu mono*	2	AMO-01	KWA	AMO-02
409	Bag	2	-	-	AMO-01
410	*Siripana*	2	AMO-01	-	/
411	*Plasti*	2	AMO-01	PAH	/
412	Machete	1	PAH-01	PAH	AMO-01
413	Machete	1	PAH-01	PAH	AMO-01
414	*Kirikiri*	1	AMO-01	POT	/
415	Barrel	2	-	AMO	AMO-01
416	Barrel	2	-	AMO	AMO-01
417	*Can*	2	-	-	AMO-01
418	*Simari*	1	CAS-03	CAS	AMO-04
419	*Simari*	1	CAS-03	CAS	AMO-04
420	*Simari*	1	CAS-03	CAS	AMO-04
421	*Matapi*	4	CAS-01	CAS	AMO-04
422	*Matapi*	4	CAS-01	CAS	AMO-04
423	*Manare*	4	AMO-019	AMO?	AMO-04
424	*Manare*	4	CAS-04	CAS?	AMO-04
425	*Simari*	1	AMO-04	AMO	/
426	*Erimake*	2	NON-02	-	AMO-02
427	*Pasijo*	2	AMO-03	POT	AMO-04
428	*Matapi*	4	KUR-01	KUR	AMO-02
429	*Matapi*	4	KUR-01	KUR	AMO-02
430	*Simari*	1	-	-	-
431	*Manare*	4	RUS-01	AMO	AMO-02
432	*Suwije*	2	AMO-03	POT	AMO-02
433	*Poketi*	2	POT-51	POT	AMO-02

Nr.	Object	Type of object	Provider	Village of exchange	Receiver
434	*Suwije*	2	AMO-03	POT	AMO-02
435	*Manare*	4	AMO-06	AMO	AMO-02
436	*Topipa manare*	4	AMO-019	AMO	AMO-04
437	*Kasipara*	1	POT-50	POT	AMO-04
438	*Patetema Manare*	4	AMO-016	KUR	AMO-04
439	*Eri futu*	1	MEK-04	-	AMO-02
440	*Mono suwije*	2	AMO-03	POT	AMO-04
441	*Sipari*	4	KWA-075	PAH	AMO-04
442	*Simari*	1	KWA-087	KWA	AMO-04
443	*Katari*	4	AMO-01	AMO	AMO-02
444	*Waruma sipari*	4	KUR-01	KUR	AMO-02
445	*Pënti mono*	4	AMO-01	AMO	AMO-02
446	*Pasija*	2	SAN-05	-	AMO-02
447	*Piwa*	4	-	AMO	-
448	*Wïwï*	1	-	-	-
449	*Soko pepa*	4	AMO-01	AMO	AMO-02
450	*Ako injo*	4	AMO-01	AMO	AMO-02
451	*Erimake*	2	KWA-079	JAW	AMO-02
452	*Piwa*	4	AMO-03	AMO	AMO-04

Appendix J

The Western Trio group and their geological signatures

No.	ID	Place of Birth	Geology of origin	Geology of present village
1	amo-01	Panapipa	Acid plutono-volcanism	Granulite/Gneiss
2	amo-02	Waananpë (Braz.)	Acid plutono-volcanism	Granulite/Gneiss
3	amo-03	Alalapadu	Acid plutono-volcanism	Granulite/Gneiss
4	amo-04	Tëpu	Granitic plutonism	Granulite/Gneiss
5	amo-05	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
6	amo-06	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
7	amo-07	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
8	amo-08	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
9	amo-09	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
10	amo-10	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
11	amo-11	Alalapadu	Acid plutono-volcanism	Granulite/Gneiss
12	amo-12	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
13	amo-13	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
14	amo-14	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
15	amo-15	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
16	amo-16	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
17	amo-17	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
18	amo-18	Amotopo [Kuruni]	Granulite/Gneiss	Granulite/Gneiss
19	amo-19	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
20	amo-20	Jawa (Braz.)	Acid plutono-volcanism	Granulite/Gneiss
21	amo-21	Amotopo [Kuruni]	Granulite/Gneiss	Granulite/Gneiss
22	cas-04	Akotono (Guy.)	Undefined plutono-volcanism	Granulite/Gneiss
23	cas-05	Kwamalasamutu [Albina]	Acid plutono-volcanism*	Granulite/Gneiss
24	cas-06	Casuela [Georgetown (Guy.)]	Granulite/Gneiss	Granulite/Gneiss
25	cas-07	Akotono (Guy.)	Undefined plutono-volcanism	Granulite/Gneiss
26	cas-08	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss

No.	ID	Place of Birth	Geology of origin	Geology of present village
27	cas-09	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
28	cas-10	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
29	cas-11	Akotono (Guy.)	Undefined plutono-volcanism	Granulite/Gneiss
30	cas-12	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
31	cas-13	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
32	cas-14	Casuela [Georgetown (Guy.)]	Granulite/Gneiss	Granulite/Gneiss
33	cas-15	Casuela [Kuruni]	Granulite/Gneiss	Granulite/Gneiss
34	kur-02	Tuhkanpë (Braz.)	Acid plutono-volcanism	Granulite/Gneiss
35	kur-03	Alalapadu	Acid plutono-volcanism	Granulite/Gneiss
36	kur-04	Alalapadu	Acid plutono-volcanism	Granulite/Gneiss
37	kur-05	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
38	kur-06	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
39	kur-08	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
40	kur-09	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
41	kur-10	Kuruni	Granulite/Gneiss	Granulite/Gneiss
42	kur-11	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
43	kur-12	Alalapadu	Acid plutono-volcanism	Granulite/Gneiss
44	kur-13	Wïrapa Ewepanpë (Braz.)	Acid plutono-volcanism	Granulite/Gneiss
45	kur-14	Missao (Braz.)	Acid plutono-volcanism	Granulite/Gneiss
46	kur-15	Kuruni	Granulite/Gneiss	Granulite/Gneiss
47	kur-17	Kwamalasamutu [Paramaribo]	Acid plutono-volcanism*	Granulite/Gneiss
48	kur-18	Alalapadu	Acid plutono-volcanism	Granulite/Gneiss
49	kur-19	Missao (Braz.)	Acid plutono-volcanism	Granulite/Gneiss
50	kur-20	Sipaliwini	Acid plutono-volcanism	Granulite/Gneiss
51	kur-21	Sipaliwini	Acid plutono-volcanism	Granulite/Gneiss
52	kur-22	Alalapadu	Acid plutono-volcanism	Granulite/Gneiss
53	kur-24	Kwamalasamutu	Acid plutono-vulcanism*	Granulite/Gneiss
54	kur-25	Kwamalasamutu	Acid plutono-vulcanism*	Granulite/Gneiss
55	kur-26	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
56	kur-27	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
57	kur-28	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
58	kur-29	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
59	kur-30	Alalapadu	Acid plutono-volcanism	Granulite/Gneiss
60	kur-31	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss

No.	ID	Place of Birth	Geology of origin	Geology of present village
61	kur-32	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
62	kur-33	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
63	kur-34	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
64	kur-35	Urunai (Braz.)	Acid plutono-volcanism	Granulite/Gneiss
65	kur-36	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
66	kur-37	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
67	kur-38	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
68	rus-01	Kakaimë Eeku	Acid plutono-volcanism	Granulite/Gneiss
69	rus-03	Palumeu	Granitic plutonism	Granulite/Gneiss
70	rus-04	Alalapadu	Acid plutono-vulcanism	Granulite/Gneiss
71	rus-05	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
72	rus-06	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
73	rus-07	Kwamalasamutu	Acid plutono-volcanism*	Granulite/Gneiss
74	san-01	Alalapadu	Acid plutono-volcanism	Greenstone belt/cont. cover
75	san-02	Alalapadu	Acid plutono-volcanism	Greenstone belt/cont. cover
76	san-03	Kwamalasamutu	Acid plutono-volcanism*	Greenstone belt/cont. cover
77	san-05	Paranpë (Braz.)	Acid plutono-vulcanism	Greenstone belt/cont. cover
78	san-06	Kwamalasamutu	Acid plutono-volcanism*	Greenstone belt/cont. cover
79	san-07	Kwamalasamutu	Acid plutono-volcanism*	Greenstone belt/cont. cover
80	san-08	Paranpë (Braz.)	Acid plutono-volcanism	Greenstone belt/cont. cover
81	san-09	Alalapadu	Acid plutono-volcanism	Greenstone belt/cont. cover
82	san-11	Kwamalasamutu	Acid plutono-volcanism*	Greenstone belt/cont. cover
83	san-16	Kwamalasamutu	Acid plutono-volcanism*	Greenstone belt/cont. cover
84	san-17	Sandlanding [Apura]	Greenstone belt/cont. cover	Greenstone belt/cont. cover
85	san-18	Sandlanding [Apura]	Greenstone belt/cont. cover	Greenstone belt/cont. cover
86	san-19	Sandlanding [Apura]	Greenstone belt/cont. cover	Greenstone belt/cont. cover
87	san-20	Kwamalasamutu	Acid plutono-volcanism*	Greenstone belt/cont. cover
88	san-21	Kwamalasamutu	Acid plutono-volcanism*	Greenstone belt/cont. cover
89	san-22	Kwamalasamutu	Acid plutono-volcanism*	Greenstone belt/cont. cover
90	wan-01	Pëname (Braz.)	Acid plutono-volcanism	Acid plutono-volcanism
91	wan-02	Pëname (Braz.)	Acid plutono-volcanism	Acid plutono-volcanism
92	wan-03	Kwamalasamutu	Acid plutono-volcanism*	Acid plutono-volcanism
93	wan-04	Kwamalasamutu	Acid plutono-volcanism*	Acid plutono-volcanism
94	wan-05	Wanapan [Apura]	Acid plutono-volcanism	Acid plutono-volcanism
95	wan-06	Wanapan [Apura]	Acid plutono-volcanism	Acid plutono-volcanism
96	wan-07	Kusare (Braz.)	Acid plutono-volcanism	Acid plutono-volcanism

No.	ID	Place of Birth	Geology of origin	Geology of present village
97	wan-10	Alalapadu	Acid plutono-volcanism	Acid plutono-volcanism
98	wan-11	Wanapan [Apura]	Acid plutono-volcanism	Acid plutono-volcanism
99	wan-12	Kwamalasamutu	Acid plutono-volcanism*	Acid plutono-volcanism
100	wan-13	Alalapadu	Acid plutono-volcanism	Acid plutono-volcanism
101	wan-14	Wanapan [Apura]	Acid plutono-volcanism	Acid plutono-volcanism

Appendix K

Amotopoan perceptions on Rivière's data of Alalapadu

The 'R' refers to Rivière's identification numbers, the 'X' to Alalapadu.

ID	R	Pre-3	Pre-2	Pre-1		Post-1	Post-2	Post-3	Deceased
aja-01	119			Panapipa	X	Kwamalasamutu	Ajarama (Braz.)		
amo-01	36			Panapipa	X	Kwamalasamutu	Amotopo		
api-01	67			Inkapiru	X	Kwamalasamutu	Apijeeku		
apu-13	171		Inkapiru	Panapipa	X	Kwamalasamutu	Apura		
apu-14	86		Samuwaka	Panapipa	X	Kwamalasamutu	Apura		
ar2-01	9		Tapanani	Panapipa	X	Kwamalasamutu	Alalapadu 2		
ar2-02	6			Panapipa	X	Kwamalasamutu	Alalapadu 2		V
ar2-03	9		Tapanani	Panapipa	X	Kwamalasamutu	Alalapadu 2		
ar2-04	29		Samuwaka	Panapipa	X	Kwamalasamutu	Alalapadu 2		V
ar2-05	79		Samuwaka	Panapipa	X	Kwamalasamutu	Alalapadu 2		
ara-03	61		Pehkëtë	Panapipa	X				V
ara-04	62		Tukuimïn	Panapipa	X				V
ara-05	81		Tukuimïn	Panapipa	X				V
ara-06	89		Samuwaka	Panapipa	X				V
ara-07	116			Kanazin (Guy.)	X				V
ara-08	133				X				V
ara-09	134			Kakaimë Eeku	X				V
ara-10	180				X				V
ara-11	201			Paikarekahpë	X				V

ID	R	Pre-3	Pre-2	Pre-1		Post-1	Post-2	Post-3	Deceased
ara-12	203			Kakaimë Eeku	×				V
ara-13	204			Kakaimë Eeku	×				V
ara-14	246			Panapipa	×				V
ara-15	273			Kakaimë Eeku	×				V
ink-02	170	Inkapiru	Maraka	Pirukaimë	×	Inkapiru			V
jaw-01	127			Panapipa	×	Kwamalasamutu	Kusare (Braz.)	Jawa (Braz.)	
jaw-02	218			Panapipa	×	Kwamalasamutu	Jawa (Braz.)		
kai-01	95			Panapipa	×	Kwamalasamutu	Kaikui Tëpu		
kai-02	98		Samuwaka	Panapipa	×	Kwamalasamutu	Kaikui Tëpu		
kai-03	101				×	Kwamalasamutu	Kaikui Tëpu		
kai-04	154			Kakaimë Eeku	×	Kwamalasamutu	Kaikui Tëpu		V
kai-05	157			Kakaimë Eeku	×	Kwamalasamutu	Kaikui Tëpu		
kam-01	37			Panapipa	×	Kwamalasamutu	Kamani (Maha 1)		
kaw-01	195		Kakaimë Eeku	Panapipa	×	Kwamalasamutu	Sipaliwini	Kawemakan	
kaw-02	198		Paikarekahpë	Aaro	×	Kwamalasamutu	Kawemakan		
kaw-03	200			Aaro	×	Kwamalasamutu	Kawemakan		
kus-01	8	Pehkëtë	Paikarekahpë	Panapipa	×	Kwamalasamutu	Kusare (Braz.)		
kus-02	17			Panapipa	×	Kwamalasamutu	Kusare (Braz.)		
kus-03	20			Panapipa	×	Kwamalasamutu	Kusare (Braz.)		
kus-04	121				×	Kwamalasamutu	Kusare (Braz.)		
kus-05	122			Panapipa	×	Kwamalasamutu	Kusare (Braz.)		
kwa-100	88		Samuwaka	Panapipa	×	Kwamalasamutu			V
kwa-101	93		Samuwaka	Panapipa	×	Kwamalasamutu			V
kwa-102	96				×	Kwamalasamutu			V
kwa-103	99		Samuwaka	Panapipa	×	Kwamalasamutu			V

ID	R	Pre-3	Pre-2	Pre-1		Post-1	Post-2	Post-3	Deceased
kwa-104	105		Paikarekahpë	Panapipa	X	Kwamalasamutu			
kwa-105	107			Panapipa	X	Kwamalasamutu			
kwa-106	109		Tapanani	Panapipa	X	Kwamalasamutu			
kwa-107	110			Panapipa	X	Kwamalasamutu	Kusare (Braz.)	Kwamalasamutu	
kwa-108	117			Panapipa	X	Kwamalasamutu			V
kwa-109	118			Panapipa	X	Kwamalasamutu			
kwa-110	120		Torononi	Panapipa	X	Kwamalasamutu			V
kwa-111	123		Inkapiru	Panapipa	X	Kwamalasamutu			
kwa-112	126		Kakaimë Eeku	Panapipa	X	Kwamalasamutu			V
kwa-113	130		Inkapiru	Panapipa	X	Kwamalasamutu			
kwa-114	131			Kakaimë Eeku	X	Kwamalasamutu			V
kwa-115	139		Samuwaka	Panapipa	X	Kwamalasamutu			
kwa-116	140	Samuwaka	Panapipa	Mahka	X	Kwamalasamutu			V
kwa-117	144			Panapipa	X	Kwamalasamutu			
kwa-118	145		Paikarekahpë	Panapipa	X	Kwamalasamutu			V
kwa-119	151		Paikarekahpë	Panapipa	X	Kwamalasamutu			V
kwa-120	152		Paikarekahpë	Panapipa	X	Kwamalasamutu			V
kwa-121	153		Paikarekahpë	Panapipa	X	Kwamalasamutu			V
kwa-122	155			Kakaimë Eeku	X	Kwamalasamutu			V
kwa-123	156	Paranpë (Braz.)	Tapanani	Panapipa	X	Kwamalasamutu			
kwa-124	158			Kakaimë Eeku	X	Kwamalasamutu			
kwa-125	160		Torononi	Kanazin (Guy.)	X	Kwamalasamutu			
kwa-126	161		Paikarekahpë	Panapipa	X	Kwamalasamutu			
kwa-127	162		Paikarekahpë	Panapipa	X	Kwamalasamutu			V
kwa-128	164		Paikarekahpë	Panapipa	X	Kwamalasamutu			

ID	R	Pre-3	Pre-2	Pre-1		Post-1	Post-2	Post-3	Deceased
kwa-129	165			Inkapiru	X	Kwamalasamutu			
kwa-130	173			Inkapiru	X	Kwamalasamutu			V
kwa-131	174			Inkapiru	X	Kwamalasamutu			V
kwa-132	175			Inkapiru	X	Kwamalasamutu			
kwa-133	178		Paikarekahpë	Panapipa	X	Kwamalasamutu			
kwa-134	182		Paikarekahpë	Panapipa		Kwamalasamutu			V
kwa-135	189		Tarawa Eeku	Inkapiru	X	Kwamalasamutu			
kwa-136	190				X	Kwamalasamutu			
kwa-137	207			Panapipa	X	Kwamalasamutu			
kwa-138	210		Samuwaka	Panapipa	X	Kwamalasamutu			V
kwa-139	215			Panapipa	X	Kwamalasamutu			
kwa-140	216			Inkapiru	X	Kwamalasamutu			
kwa-141	217			Panapipa	X	Kwamalasamutu			
kwa-142	228			Maripanpë	X	Kwamalasamutu			V
kwa-143	237			Inkapiru	X	Kwamalasamutu			V
kwa-144	252		Pehkëtë	Panapipa	X	Kwamalasamutu			V
kwa-145	253			Torononi	X	Kwamalasamutu			
kwa-146	256			Torononi	X	Kwamalasamutu			
kwa-147	274			Pono Eeku	X	Kwamalasamutu			
kwa-148	282			Torononi	X	Kwamalasamutu			
kwa-75	1		Paikarekahpë	Panapipa	X	Kwamalasamutu			V
kwa-76	13		Tapanani	Panapipa	X	Kwamalasamutu			V
kwa-77	14			Panapipa	X	Kwamalasamutu			V
kwa-78	19			Panapipa	X	Kwamalasamutu	Kusare (Braz.)	Kwamalasamutu	
kwa-79	21			Matïtïkiri	X	Kwamalasamutu			

ID	R	Pre-3	Pre-2	Pre-1		Post-1	Post-2	Post-3	Deceased
kwa-80	23	Kakaimë Eeku	Samuwaka	Panapipa	X	Kwamalasamutu			V
kwa-81	24		Pehkëtë	Panapipa	X	Kwamalasamutu			V
kwa-82	28			Panapipa	X	Kwamalasamutu			V
kwa-83	43		Pono Eeku	Panapipa	X	Kwamalasamutu			V
kwa-84	46		Kakaimë Eeku	Inkapiru	X	Kwamalasamutu			V
kwa-85	52		Pehkëtë	Panapipa	X	Kwamalasamutu			V
kwa-86	53			Panapipa	X	Kwamalasamutu			V
kwa-87	58			Panapipa	X	Kwamalasamutu			
kwa-88	59			Inkapiru	X	Kwamalasamutu	Sipaliwini		
kwa-89	70		Samuwaka	Panapipa	X	Kwamalasamutu			V
kwa-90	74		Samuwaka	Panapipa	X	Kwamalasamutu			V
kwa-91	75			Makarakara	X	Kwamalasamutu			
kwa-92	77			Panapipa	X	Kwamalasamutu	Kuruni		
kwa-93	78			Panapipa	X	Kwamalasamutu			
kwa-94	80		Samuwaka	Panapipa	X	Kwamalasamutu			
kwa-95	82		Tukuimïn	Panapipa	X	Kwamalasamutu			V
kwa-96	83		Samuwaka	Panapipa	X	Kwamalasamutu			
kwa-97	84		Karamiri Eeku	Panapipa	X	Kwamalasamutu			
kwa-98	85		Samuwaka	Panapipa	X	Kwamalasamutu			
kwa-99	87		Samuwaka	Panapipa	X	Kwamalasamutu			
mat-01	73		Samuwaka	Panapipa	X	Matïtïkiri			V
mat-02	112			Kakaimë Eeku	X	Matïtïkiri			V
mis-01	30		Pehkëtë	Panapipa	X	Kwamalasamutu	Sipaliwini	Missao	
mis-02	32		Samuwaka	Panapipa	X	Kwamalasamutu	Sipaliwini	Missao	
mis-03	72		Samuwaka	Panapipa	X	Kwamalasamutu	Missao		

ID	R	Pre-3	Pre-2	Pre-1		Post-1	Post-2	Post-3	Deceased
mis-04	100		Paikarekahpë	Panapipa	X	Kwamalasamutu	Missao		
mis-05	141			Mahka	X	Missao			
mis-07	269			Pono Eeku	X	Kwamalasamutu			V
oko-01	142		Samuwaka	Panapipa	X	Kwamalasamutu	Okomokë		
pot-23	115			Panapipa	X	Kwamalasamutu	Potopo		V
pot-24	208		Makuimë	Panapipa	X	Kwamalasamutu	Potopo		
rus-01	22	Kakaimë Eeku	Samuwaka	Panapipa	X	Kwamalasamutu	Lucie		
sip-01	16			Panapipa	X	Kwamalasamutu	Sipaliwini		
sip-02	31			Panapipa	X	Kwamalasamutu	Sipaliwini		
sip-03	44		Pehkëtë	Panapipa	X	Kwamalasamutu	Sipaliwini		
sip-04	48			Panapipa	X	Kwamalasamutu	Sipaliwini		
sip-05	57			Panapipa	X	Kwamalasamutu	Sipaliwini		
sip-06	63			Tarawa Eeku	X	Kwamalasamutu	Sipaliwini		
sip-07	69			Tapanani	X	Kwamalasamutu	Sipaliwini		
sip-08	76		Samuwaka	Panapipa	X	Kwamalasamutu	Sipaliwini		
sip-09	94			Mahka	X	Kwamalasamutu	Sipaliwini		
sip-10	136		Paikarekahpë	Panapipa	X	Kwamalasamutu	Sipaliwini		
sip-11	143			Panapipa	X	Kwamalasamutu	Sipaliwini		
sip-12	168		Paikarekahpë	Panapipa	X	Kwamalasamutu	Sipaliwini		
sip-13	169			Inkapiru	X	Kwamalasamutu	Sipaliwini		
sip-14	181			Mahka	X	Kwamalasamutu	Sipaliwini		

ID	R	Pre-3	Pre-2	Pre-1		Post-1	Post-2	Post-3	Deceased
sip-15	199			Aaro	X	Kwamalasamutu	Sipaliwini		
sip-16	206		Tapanani	Panapipa	X	Kwamalasamutu	Sipaliwini		
tep-01	7	Pehkëtë	Paikarekahpë	Panapipa	X	Kwamalasamutu	Tëpu		V
uru-01	179		Kakaimë Eeku	Panapipa	X	Kwamalasamutu	Urunai (Braz.)		
uru-02	254			Torononi	X	Kwamalasamutu	Urunai (Braz.)		
uru-03	255			Torononi	X	Kwamalasamutu	Urunai (Braz.)		

Appendix L

Deceased fellow inhabitants of Alalapadu

According to Pepu Ipajari (R-22), Paneshi Panekke (R-36) and Apëhpïn Mami. The 'R' refers to Rivière's identification numbers.

No.	R	Place of Birth	Geology of origin	Geological context of burial
1	6	Panapipa	Acid plutono-volcanism	Acid plutono-volcanism
2	29	Samuwaka	Acid plutono-volcanism	Acid plutono-volcanism
3	61	Pehkëtë	Granulite/Gneiss	Acid plutono-volcanism
4	62	Tukuimïn	Acid plutono-volcanism	Acid plutono-volcanism
5	81	Tukuimïn	Acid plutono-volcanism*	Acid plutono-volcanism
6	89	Samuwaka	Acid plutono-volcanism*	Acid plutono-volcanism
7	116	Konashen (Guy.)	Acid plutono-volcanism*	Acid plutono-volcanism
8	133	Alalapadu	Acid plutono-volcanism*	Acid plutono-volcanism
9	134	Kakaimë Eeku	Acid plutono-volcanism*	Acid plutono-volcanism
10	180	Alalapadu	Acid plutono-volcanism*	Acid plutono-volcanism
11	201	Paikarekahpë	Acid plutono-volcanism	Acid plutono-volcanism
12	203	Kakaimë Eeku	Acid plutono-volcanism*	Acid plutono-volcanism
13	204	Kakaimë Eeku	Acid plutono-volcanism*	Acid plutono-volcanism
14	246	Panapipa	Acid plutono-volcanism*	Acid plutono-volcanism
15	273	Kakaimë Eeku	Acid plutono-volcanism*	Acid plutono-volcanism

Appendix M

Pepu Ipajari (RUS-01) speaks on the movements of the Okomoyana

(Amotopo 15-06-2008, translated by Eithne B. Carlin)

Pepu Ipajari:

"Ma wapo nai Makuiwaka Entu patarën, ipatarë, Okomojana ipata wapono, waporën kurenkërë ahtaoto, Makui-Waka-Entutao Akawarepo, Akawarepo pata teese. Irënpëpëe Wara-Apërijarëhpë Alalaparu-Ituru Wara-Apërijarëhpë kaeto. Irë pata irëpo Okomojana. Irënpëpëe Awareruhpo Okomojana ipata. Irënpëpëe Kurere-Ahkëtëhpë**,** Kwamara, irëpo teese Okomojana. Ma irë apo teese. Irëmao tïjanmae namoro, namoronpë Tarënoja Aturaija. Aturaija tïjanmae. Aturai eka siwarapa-pëkën Aturai, Maruwaikë, nna tuweime, Maruwaikë. Namoja tïjanmae Tarënoja. Samuwakapëe, Samuwakapëe tïwëese namoro ijanmatohkon-me Okomojana janmatome tïwëese. Irëme tïtïkae ija, tara namoronpë, këpëewa tuweime tënose sarë, tuweime tënose sarë tënose ija, Tarënoja tënose. Irënpëpëepa tëpainjepa namonpë serëporo tëpainjepa. Tapïïmepa teese, irëme teese Akëtërï, inmuku Siikim, namo senpo teese. Irëme serëtae tïïtëe Lusitae, taanë kaisaponarën. Kaisaponarën tïïtëe, irëpëe teramaepa, irëme tïïtëe Wanapanpona (Siikim). Irëpo wëri tëkantëe ija akïhpe eka, kaewa nai panpira. Irëpo teese nkanërëkën wëri. Irëpëepa tïwëese, Kasipara tïïtëe taanë amohkïi tïïtëe. Irëme pataton teese Manipo wïkasan, Manipo teese. Irëpëe tïïtëe taanë Marawinipo irëpo teese kaamanipopa. Irëpëe Kutaritae, Kutari-Kentë teese pata. Patapa tïrëe ijane taanë atïna sakurutae aramatau nkanto. Irëtae tïïtëe irëpëe taanë taanë tïïtëe waraku eekupo-na, irë amotïpona tïïtëe. Irëpo pata tïrëe iijane Pahpaman nkan, pata eka pahpaman. Irëpo teese tapïïme Okomojana. Ma irëpëe tïïtëe taanë kuru-nitae tïïtëe Kasipara, tïïtëe, taanë amohkïi Araraparuponapa. Ma irëme tïïtëe Eemainan, taanë amohkïi tïïtëe Mamijapona. Irëpo nai Kujari Oota, pïï totake Kujari Oota, irëpo tepatantëe namoro. Irënpëpëe tïïtëe atïnapona mërë kïtojoipona irëpo tepatantëe namoro. Irëmepato tïwëe-pose Tarënoton Tarëno tamuton tïwëeposepato, namoro marëpa. Tïïtëe nai Suriwa, Okomojana Suriwa, nërë tïtëe Samuwakapona, Okoimëpona tuna okoimë tuna irëpopato tïwëepose Tarënoton marëpa. Irëmepa ëi-htaopato teese ëtakërëpato teese. Irëmepa tïwërikon tëpëse ijane ëiwërike-pato tepïtïntëe namoro, irëme ësepato teese ëijakenpato teese Tarënoton, Okomojana marëpa. Irëme ëtakërëpa weinën ësepa weinën nnato teese namoro. Irëme kurepato teese. Irë apo iwehtoponpëkon, Tarënoton. Wapo tïwëiratoemae wapopitë tïwëiratoemaeto. Akïjo marëto tïwëiratoemae wapo. Ëija tëmae ijane pïrëu, Kantanipëe tëmae ijane, ma nonopëe tëmae ijane. Irëme tïwëhtëeto, sentae nkan, ijokomïtae tïwëpoe ija Tarënoja nkan. Akïjo tïwëe ijane. Ma serë ënarë Tapanani inkapo ënare serë. Ma serë ënarë Paru inkapo tïkaeto tïwëhtëkonme ëija. Irëme tïwëtaije wïtotonpë. Ma irëpëe tïwëtajakaepato ma sarë tïtëe Tapananipona, ma mïjaja iratonpona mëinjanpona iratonpona oipona tïtëe. Irëpëe taanë tïtëe arena tïtëe, taanë namo tïtëe Kusarepona. Irëme papomepato teese, kurepato teese, naka siwarapa tïïkaeto Okomojanaton, naka siwarapa tïïkae Tarëno ëija, serapato tïwëturëe: naka jako siwarapa naka kïtïïkan kïpïmetïkan siwarapa. Irëme naka tïïkaeto ëija ma maka irëme tïnontae ijane. Pena ëire, pïrëu einjao, siwarapa imotapo, kasipara einjao pïrëu tërime, pïrëu, siwarapa, kasipora tïmotapo narën epëe ahtao, tïwarë, ëire iweike. Ma nejanpa tara ehkataorë tëhkatao taran kasipara të siwarapa tara imotapo ëire. Irë apo teese Tarëno Okomojana marë irëpo ëireto teese. Meinjarë waken, siwarapa waken, menen waken isiwarapanna wï kasipara jeinjao nai ikuhpara, këpëewa senpo inruhkaewa tapa tëe nna. Sehken siwarapa inïrëewa wï jimotapo. Irë apo teese wapo meta? Irë apo. Irëme meinjarë kure ainja." (Jimmy niponohpon Pëpuja)

Atinio Panekke: "Eeke tïrëe senpo Okomojana irënpëpëe eeke iwehtopë… irë apo teese, akï marëto senpo irë apo teese, irë etase marë wae nkan."

Pepu Ipajari: "Eeke?"

Atinio Panekke: "Ëtakërë, nkan, ëtakërë senpo, ene Akïjo tahken, Aturai tahken, ma Okomojana, Tarëno ma nna tahkento teese, eeketo tïwëiratoemae irënpëpëe? nkan."

Pepu Ipajari: "Mërë tïpïtëe atïnaporo Samuwakaporo, samuwakporoto tïpïtëe ijane, tïwëiratoematohkon Samuwakapo. Irëme sarë tënose ijane, sarë tënose ijane tuweimanton kïrï, wëri, nna, sarë tënose. Irëme senpo teese Okomojanarëken Okomojanamene senpo. Irëmepa tïtëe onipona Samuwakaponapato tïtëe Tarënoton epohtomepa, ma "naka siwarapa" katomepa. Irëme onipohkasan ëihtao teese Samuwakapo. Irëpo, senpo owa Tarëno marë senpo waken. Okomojanamenerëken teese senpo. Ma itëtuwepa onipona Samuwakapona irëpopato tïwëepose Tarëno itamu marëpa. Irëme ëtakërëpato teese onipopa. Ma irëme sarërënpa ëihtaopa weinën serëponarënpa awaintao?"

Jimmy Mans: "Aha, pijasa."

Pepu Ipajari: "Irë apo."

Jimmy Mans: "Atïtome Samuwakapona tïtëe Okomojana? Atïtome?"

Pepu Ipajari: "Owa, ësepa tïwehtohkonmepa tïtëe, tïmoitï, eeke, ëiretahpa tïwehtome. Ma wïkae jijomi, tïwëtakamatohkonmepato tïtëe: 'Ma jako meinjarë naka siwarapa' Tarëno, Tïrijo kato, 'naka siwarapa meinjarë', wï naka wae siwarapa naka, wï ëirato wï Okomojaname jiweike ëire wï, këpëewa naka meinjarë jïwarapa naka wemae tëmaija siwarapa naka pïrëu naka kasipara naka waken weinën serarëken weinën einjaononna tïwetohkonme tïtëepato. Atïtome namoja ipitëhpëke wapo Okomojanatomoja irëmepa tïtëeto Tarëno tamutomojapa naka meinjarë katome. Meta? Awaintao? Irëme meinjarë onken nai ainja. Irërëjanme, ainja itamu Okomojana itamupa tïtëe Tarënojapa. Wapo tïpitëe ija Okomojana itamuruja siwarapa. Tarëno onken teese, Tarëno ëireta teese wapo. Okomojanahkasan ëire teese. Irëme watïrëe ija watïrëe ija watirëe ija irëme tïkarautae Tarëno itamu, irëme Okomojana watïrëe ija. Ma irëmepa tïtee Okomojana tïwëikaraumaepa. Ma wëehpa jakotëtomo siwarapapë weine, ëmoitï wawïrïne, ëkuhtu wawïrïne, piipi, papa wawïrïne, tïïkae Okomojana Tarëno itamuruja. Irëme naka meinjarë wï, tïïkae, naka jiwarapa, ëire jiwehto naka tïïkae Tarëno itamuruja. "Tee ma manpa, naka, tïnontae ija tïwarapa tïnontae ija tïïreton tïkasipara naka. Irë apoto teese Tarënoton, tïtëepa Okomojana serëpëepa. Irëme nakato meinjarë."

Translation

Pepu Ipajari:

"At first there was Makuiwaka Entu, the original village, the first Okomoyana village, at a time when they were still in a good state (not decimated). It was at the foot of the Makuiwaka mountain, at Akaware, there was the village. After that there was Wara-Apërijarëhpë on the Araraparu creek. That was a village, that's where the Okomoyana were. After that there was Awareruhpo, an Okomojana village. After that there was Kurere-Ahkëtëhpë which is near Kwamala. This is where we then stayed. Then those ones got into war with Aturai (from the Trio). Aturai's name was 'the one with the club', there were two of them, Maruwaike was also there. Aturai en Maruwaike came from Samuwaka with clubs to fight the Okomojana. Maruwaike and Aturai killed off all the Okomoyana. But two of them were sent off to here [Pehkëtë], the Trio sent them off. After that, the Okomoyana grew in number again around here and they became many again, so there was Akëtërï and his son Siikim, those two were here. So they went along this river, the Lucie, they went right up to the Kayzer mountain and afterwards went back to Wanapan, Siikim did. There was a woman there, I do not recall her name, the letter doesn't say, it just says there was a woman there. Kasipara, brother of Siikim, went upstream to Mani. From there he went to Marawini. Kamani was there. From there he went along the Kutari, near the confluence of the rivers [Kutari and Kuruni]) there was a village. They made a village there again far, along the Sakuru (river Aramatau). Then they went along that river really far upstream to the Waraku creek. They made a village there, it was called Pahpaman, the village was. There were many Okomoyana there. Well, from there Kasipara went far along the Kuruni, upstream to Araraparu. Then Emainan went far upstream to Mamija. Over there there is Kujari Oota, that's a mountain with caves, they lived there. Then they moved to Kïtoijoi where they lived. So then they met some Trio leaders, they all met up. Suriwa, an Okomoyana, went to Samuwaka, they went to Okoimë, to the river, and there they again met up with the Trio. So they were all there living together. So they (the Trio and the Okomoyana) gave each other wives and married each other's sisters, and so they lived in peace with each other and loved each other, the Trio and the Okomoyana. They grew to like each other with time and both groups flourished. Such is the history of the Amerindians. At first they fought a while, at first they fought, and waged war, those ones with the Akïjo. They shot each other with bows and arrows, from Mount Kantani they shot down arrows. Fom the ground too they shot with arrows. So they besieged each other and the Trio shot them in the neck, they were shooting at the Akïjo. 'Carry this on the back of the Tapanahoni' they said 'Carry this on the back of the Paru' the Trio said as a warning. And so the Akïjo were exterminated. Then they mixed again, they went to the Trio on the Tapanahoni. They went far to the other side of the savannah. From there they went downstream to the Kusare. They got along well together again. The Okomojana and the Trio both said that's enough and decided to stop fighting with their clubs and came to an agreement to cease warfare, and so they laid down their weapons. In former times the Okomoyana were fierce, they had arrows in their hand, a club on their back and a machete in their hand, these three things, arrow, club, machete, they used to carry them with them even when they went bathing, just to be sure, that's how fierce they were. And they would come back from bathing keeping beside each other with their arrows, clubs, and machetes. That's how they were, the Trio and the Okomoyana, they were fierce there. But nowadays that's not the case, look at me, I don't carry around a club or a machete in my hands, nor do I carry a club on my back, you see? That's just the way it was at first, long ago. Nowadays we're no longer fierce.

Atinio Panekke: "What did the Okomoyana do after that? How were they? Who was with them? That's what I want to hear, he says."

Pepu Ipajari: “What?”

Atinio Panekke: “Who was with them here? he says. Look, maybe the Akïjo, maybe Aturai, or just the Okomoyana and the Trio? How did they wage war after that? he says.”

Pepu Ipajari: “All that started there, in whatyemacallit, Samuwaka, their fighting started there. So they sent two people, a man and a woman to here. So here there were just Okomoyana, ones like the Okomoyana. So then they went back there to Samuwaka to meet up with the Trio again, to say, ‘let’s stop fighting now. So there, in Samuwaka, they were mixed. Here there were no Trio, only ones like the Okomoyana. Only after they went back there to Samuwaka did they meet up with the Trio again, so there they were together. So is that clear now, about how and where they were together?

Jimmy Mans: “Yes, a bit.”

Pepu Ipajari: “That’s how it was.”

Jimmy Mans: “Why did the Okomoyana go back to Samuwaka?”

Pepu Ipajari: “Just because. They went back to make peace with their relatives, so that they wouldn’t wage war again. In my language ‘to protect themselves’. So the Trio said ‘Brother, no more clubs now. I have finished now with clubs, I’m fierce because I’m an Okomoyana but now I’m laying down my club and my arrows and my machete.’ That’s why they went back, to make peace and lay down their arms. Why? Because they, the Okomoyana, had started it first, so they went back to the Trio leaders to make peace. Is that clear now? So now we are quiet and peaceful. That’s why the Okomoyana leaders went back to the Trio leaders. The Okomoyana leaders were the ones who had started the war, the Trio were peaceful, at first they weren’t fierce. The Okomoyana, on the other hand, they were fierce, they killed and killed and killed. So the Trio leaders got really angry and killed the Okomoyana. And so then the Okomoyana got angry too. So they said: ‘My people, I have come back. At first I was clubbing people, I killed your relatives, your brothers, your fathers, I killed them” the Okomoyana said to the Trio leaders. ‘So now I have stopped’ they said. ‘I have stopped being fierce and have stopped fighting,’ they said to the Trio leaders. ‘Well, all right, we’re finished’ the Trio said. So they abandoned their clubs and machetes and weapons, that was the end of that. That’s the way the Trio were, the Okomoyana went back from here.“

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Summary

This thesis is a contribution to the conceptualisation of mobility on a micro-level for Caribbean and Amazonian archaeology. In the greater part of the 20th century, archaeologists of these regions had to base their interpretations on data extracted from a small number of archaeological excavations, which did not allow them to speculate further than crude and homogenous archaeological cultures, the changes in which were predominantly ascribed to large migrations. Due to the progress made in fine tuning archaeological methodologies in the beginning of the 21st century, the archaeology of these regions has benefitted from new high resolution data which, in turn, requires different lines of interpretation. As regards the topic of mobility, the theoretical frame of interpretation has shifted over the years from a focus on migrations by large population groups, to a more complex history of movements by smaller groups of people. Since it is now possible to trace the individual trajectories of both people and goods, a demand has arisen for conceptual tools to interpret these micro-level movements.

In this study, the assumption is made that one needs to perceive matter in action to conceptualize it. In order to understand mobility and movement, also from an archaeological point of view, one first needs to observe it. Archaeology, however, appears to be the antonym of 'movement'. Everything archaeologists unearth is 'dead' in the sense of no longer moving. Therefore archaeologists normally rely heavily on socio-cultural anthropological theories and concepts for their interpretations. Decades ago the interests of socio-cultural anthropology were largely in sync with archaeology, but today these are often too un-situated (multi-site, non-material and abstract) and simply not designed to meet archaeological needs. The discipline of archaeology operates in a different epistemic domain, in which the default is working with extremely fragmented data and in which interpretations are all inferences by definition. In order to theorize in archaeology, therefore, it is argued here that archaeologists need to observe actions in the present themselves.

In the empirical part of this study, 'restrictive' archaeological parameters were adopted to conceptualize contemporary mobility. This means that, first of all, the same unit of observation was applied, namely, the empirical focus was set on one single village: the Trio village of Amotopo in Midwest Suriname. Subsequently the mobility of the village came to be perceived as the movements of matter in and out of the village, making and shaping the village in the process. As the movements of both people and objects can be traced in contemporary archaeology, both moving people and objects were labelled *mobilia*. The objects that stopped moving in

the village, or which left irreversible traces in the soil, were termed *immobilia.* One can think here of rubbish being tossed away, but also posts and hearths of present-day houses. Seen from an archaeological perspective, an immobilisation process could be witnessed in which *mobilia*, brought to the village, were either perpetuated to other villages or would find their final destiny within the boundaries of the village. Based on the *immobilia* of the village, three spheres of movement were postulated: a sphere of subsistence *mobilia* (procurement of crops, firewood, fish and game), a sphere of exchange *mobilia* (perishable and durable objects) and a sphere of residential *mobilia* (hearths, posts and stakes) each representing different types of movement occurring in different spaces and temporalities.

Combining Amotopoan interest in their history, with my own in the history of their archaeological movements, I began to trace the movements of the Amotopoans and those of their ancestors in a timeframe of up to a century (2008-1907). The period of a century has been divided up into three periods, each revolving around a specific village of one of the Amotopoan ancestors. Subsequently, the three villages have been compared with one another in terms of their different characteristics as regards their earlier defined spheres of *mobilia*. The direction adopted was counter-chronological – following the asymmetry of perception. This means that the closer to one's own observation, the more justified knowledge is, while the further away from it, the more speculative it becomes. That said, the contrasts the villages from the past provide serve also to highlight the unique characteristics of the present village. One example of this is that the present day village, Amotopo, through these very contrasts, is characterised by a large number of exchange *mobilia* (the new accumulation of plastic and metal objects) and residential *mobilia* (separate domestic cooking and storage structures), the hypothetical remains of which would normally be accredited to a larger number of people in archaeological reconstructions than the extended family that actually inhabits Amotopo.

Taking these three periods together, a century of Trio movements can be interpolated, which teach us of the dynamics that unfold in such a short period of time. This period of a hundred years, chosen here because of the individuals that could be traced in the historical sources, can at the same time considered to be the blind spot in contemporary archaeology. This is because the present-day dating (predominantly radiocarbon) does not yet enable us to establish the contemporaneity of actions and interactions between sites within this time frame. Hopefully new methodologies and future research will provide the means to grasp the contemporaneity or sequentiality of archaeological sites in the same region, a practice that is presently – inevitably – based more on speculative assumption than on fact. That said, Amotopo shows clearly the differences between how present-day Trio live now, compared with how they used to live. It shows

that we need both present and past case studies to elucidate the differences. Therefore, above all, this study of the Amotopoan village should be seen as a specific, recent archaeology of the Surinamese-Trio. Documented in archaeological detail, this book will also provide a platform for contrast with future data from proto-historical Trio sites, and in this way contribute to an as yet largely unknown post-1492 history of the Surinamese-Amerindian interior.

Samenvatting

Amotopo's Sporen: Een recente archeologie van Trio bewegingen

Dit proefschrift is een bijdrage aan de conceptualisering van mobiliteit op micro-niveau voor de archeologie van het Caribische en het Amazone gebied. In het grootste gedeelte van de 20ᵉ eeuw moesten de archeologen in dit gebied hun interpretaties baseren op de data van slechts enkele opgravingen. Deze beperking zorgde ervoor dat zij niet verder konden speculeren dan het bestaan van grote homogene archeologische culturen en de veranderingen in deze werden voornamelijk toegeschreven aan migraties van deze archeologische culturen. Dankzij de vooruitgang die is geboekt door het creëren van nieuwe archeologische methodes, kan de Caribische archeologie aan het begin van de 21ᵉ eeuw gezien worden als gekenmerkt door een fijnere dataresolutie welke, op hun beurt, ook weer een nieuw soort interpretaties vereisen. Aangaande het thema mobiliteit, ziet men dat de theoretische interpretatie over de jaren is veranderd van een focus op migraties van grote groepen en volkeren, naar een meer complexere geschiedenis van bewegingen van kleinere groepen. Nu het mogelijk is geworden individuale trajecten van zowel mensen als objecten te traceren, ontstaat nu ook de vraag voor een geschikter interpretatiekader voor het kunnen begrijpen en verklaren van deze bewegingen op micro-niveau.

Deze studie is gebaseerd op de aanname dat het noodzakelijk is om materie in actie te zien om het te kunnen conceptualiseren. Om mobiliteit en beweging te kunnen begrijpen is het, ook voor archeologen, van belang om het te kunnen observeren. Archeologie blijkt echter juist het tegenovergestelde van 'beweging' te zijn. Alles wat archeologen blootleggen is 'dood' in de zin van dat het niet meer beweegt. Dit is dan ook de reden waarom archeologen veelal zwaar leunen op antropologische theorieën en concepten voor hun interpretaties. Enkele decennia terug waren de interesses van antropologen en archeologen nagenoeg gelijk, maar vandaag de dag zijn antropologische theorieën vaak niet 'gegrond' genoeg (multi-site, non-materieëel en abstract) en simpelweg niet ontworpen om archeologen tegemoet te komen. De discipline archeologie opereert in een ander epistemisch veld, waarin het werken met extreem gefragmenteerde data de standaard is en de interpretaties per definitie allemaal gevolgtrekkingen zijn. Het argument wordt gemaakt dat om in archeologie te kunnen theoretiseren, is het ook voor de archeologen nodig om acties in het heden te bestuderen.

In het empirische gedeelte van deze studie zijn 'beperkende' archeologische parameters gevolgd om hedendaagse mobiliteit te conceptualiseren. Dit betekent in eerste instantie dat hetzelfde observatiekader is overgenomen, namelijk dat de empirische focus zich richt op een enkel dorp: het Trio dorp Amotopo in het midwesten van Suriname. Vervolgens is de mobiliteit van het dorp benaderd als bewegingen van materie in en uit het dorp, de processen van welke het dorp maken en vormen. Sinds het in de hedendaagse archeologie mogelijk is de herkomst van zowel mensen als objecten te kunnen bepalen, zijn in deze studie beiden *mobilia* genoemd. De objecten waarvan de bewegingen tot een einde komen in het dorp, of waarvan onuitwisbare sporen in de bodem achterblijven, worden hier *immobilia* genoemd. Men moet dan denken aan afval wat is weggegooid, maar ook aan palen en vuurplaatsen van de hedendaagse huizen. Vanuit een archeologisch perspectief beschouwd, kan er een immobilisatieprocess geobserveerd worden, waarin naar het dorp gebrachte *mobilia* uiteindelijk een bestemming vinden in een ander dorp, of ze eindigen als *immobilia* binnen de grenzen van het dorp. Gebaseerd op de *immobilia* van het dorp, zijn er drie bewegingssferen gepostuleerd: een sfeer van bestaans-*mobilia* (de dagelijkse vergaring van gewassen, vuurhout, vis en wild), een sfeer van uitwisselings-*mobilia* (van zowel vergaanbare als onvergaanbare objecten) en een sfeer van huis-*mobilia* (vuurplaatsen, palen en staken). Deze sferen verwijzen naar verschillende vormen van beweging welke plaatsvinden in verschillende tijdperiodes en ruimtes.

Door het combineren van de interesses van de Amotopoëers in hun geschiedenis met mijn eigen interesse in hun archeologische bewegingen, ben ik begonnen met het traceren van hun bewegingen en die van hun voorouders tot een eeuw terug (2008-1907). Deze eeuw heb ik opgedeeld in drie periodes elke behorende tot een specifiek dorp van één van de voorouders van Amotopo. Vervolgens heb ik de drie dorpen vergeleken met elkaar aan de hand van hun eerder gepostuleerde, verschillende *mobilia*-sferen. Een contra-chronologische richting is hier aangehouden welke de asymmetrie van perceptie volgt. Dit betekent dat hoe dichter men bij zijn of haar eigen observatie is, des te gerechtvaardiger de kennis is. Hoe verder men ervan verwijderd is, des te speculatiever de kennis wordt. Dit gezegd hebbende, de contrasten die de oudere dorpen genereren met het hedendaags geobserveerde dorp, tonen op haar beurt ook weer de specifieke eigenschappen van het hedendaagse dorp. Een voorbeeld hiervan is, dat door het contrast met de twee oudere dorpen, het hedendaagse dorp Amotopo nu gekenmerkt wordt als het hebben van een zeer grote sfeer van uitwisselings-*mobilia* (de nieuwe accumulatie van plastic en metale objecten) en huis-*mobilia* (aparte kook- en opslagstructuren). In archeologische reconstructies zouden de veronderstelde overblijfselen van al deze *mobilia* met alle waarschijnlijkheid dan ook leiden tot een hoger inwoneraantal dan de grootfamilie die sinds enkele jaren in Amotopo woont.

Aan de hand van deze drie periodes kan er een eeuw aan Trio bewegingen geïnterpoleerd worden. Het beeld wat ontstaat leert ons de dynamiek die zich in dit korte tijdsbestek kan afspelen. Een periode van honderd jaar, hier gekozen omdat voor deze periode specifieke individuen getraceerd konden worden in de historische bronnen, moet gezien worden als een blinde vlek van de hedendaagse archeologie. Wij kunnen wel specieke acties herleiden van een bepaalde site, maar kunnen met de huidige dateringstechnieken (voornamelijk koolstofdatering) bijvoorbeeld geen gelijktijdigheid van acties en interacties tussen verschillende sites met zekerheid aantonen. Hopelijk zullen nieuwe methodologieëen en toekomstig onderzoeken de middelen verschaffen om duidelijkheid te krijgen in de gelijktijdigheid en opeenvolging van archeologische sites in een bepaalde regio, welke vooralsnog onvermijdlijk is gebaseerd op een speculatieve aanname. Dit gezegd hebbende, het dorp Amotopo toont zichtbaar hoe hedendaagse Trio tegenwoordig anders leven dan vroeger. Het toont aan dat we zowel case studies uit het heden als verleden nodig hebben om de verschillen ten opzichte van elkaar te kunnen duiden. Gezien in dit licht moet deze studie van het dorp Amotopo bovenal gezien worden als een specifieke, recente archeologie van de Surinaamse Trio. Gedocumenteerd in archeologisch detail zal deze publicatie ook een platform bieden welke contrast op zal leveren met toekomstige data van proto-historische Trio sites, en zal op deze manier een bijdrage leveren aan de grotendeels onbekende, post-1492 geschiedenis van het Surinaams-Indiaanse binnenland.

Curriculum vitae

Jimmy Mans was born in 1982 in Amsterdam, the Netherlands. A part of his childhood was spent in Curaçao. After attending secondary school in Geleen, this led him to move to Leiden in 2001 to study Caribbean Archaeology (Faculty of Archaeology, Leiden University). There he combined his interest in archaeology and the Caribbean with courses on journalism, courses in the academy of arts, visual ethnography and the Trio language. As a student he was able to participate in several archaeological fieldwork campaigns conducted by Leiden University (St. Lucia, Saba, Dominican Republic) and the University of Florida (New Providence, Bahamas). Both his BA and MPhil theses were based on film projects and the use of film in archaeology (St. Lucia 2004, and Saba 2006). After graduation in 2006, he was given the opportunity to start a PhD project in the Caribbean section at the Faculty of Archaeology (Leiden University). In this project he investigated the movements of the Trio on a micro-level in Midwest-Suriname (in the village of Amotopo) and the wider Trio movements in the Sipaliwini basin in Suriname over the course of a century. In 2009 he collaborated on a community consultation project at the National Museum of Ethnology (Leiden, the Netherlands) in which both Trio and Kari'na representatives from Suriname visited the museum to study their overseas heritage. Upon conclusion of his PhD contract in 2010 he was employed by the same museum as researcher on the Surinamese collections. In that year another consultation round was being hosted by the museum, this time with Lokono and Wayana representatives, which was followed by an evaluation meeting in Suriname in 2011. He is currently working with interns and volunteers on the transcription of the recently rediscovered Penard Encyclopedia manuscript (on Kari'na cosmology), which will also be the subject of community consultation in the future. Alongside his work at the museum, he recently started work as a postdoctoral researcher in the Caribbean section of the Faculty of Archaeology (Leiden University), where he will continue his work on the concept of mobility, this time in a more comparative setting.

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Amotopoan Trails

In this book the concept of mobility is explored for the archaeology of the Amazonian and Caribbean region. As a result of technological and methodological progress in archaeology, mobility has become increasingly visible on the level of the individual. However, as a concept it does not seem to fit with current approaches in Amazonian archaeology, which favour a move away from viewing small mobile groups as models for the deeper past.

Instead of ignoring such ethnographic tyrannies, in this book they are considered to be essential for arriving at a different past. Viewing archaeological mobility as the sum of movements of both people and objects, the empirical part of *Amotopoan Trails* focuses on Amotopo, a small contemporary Trio village in the interior of Suriname. The movements of the Amotopoans are tracked and positioned in a century of Trio dynamics, ultimately yielding a recent archaeology of Surinamese-Trio movements for the Sipaliwini River basin (1907-2008).

Alongside the construction of this archaeology, novel mobility concepts are introduced. They provide the conceptual footholds which enable the envisioning of mobility at various temporal scales, from a decade up to a century, the sequence of which has remained a blind spot in Caribbean and Amazonian archaeology.

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